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Reinhabiting the land: A postmodern gardener's perspective on ecosystem management

Ashley L. Preston

The University of Montana

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REHABITING THE LAND:  
A POSTMODERN GARDENER'S PERSPECTIVE ON ECOSYSTEM MANAGEMENT

By
Ashley L. Preston
B. A., St. John's College, 1984

Presented in partial fulfillment of the requirements for the degree of
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Approved by:

[Signature]
Chairperson

[Signature]
Dean, Graduate School

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Date
In academia as well as practice, there is a longstanding schism between the arts and sciences that lends a high degree of specialized knowledge, but little in the way of a complete or "holistic" understanding of the world. Increasingly, it is recognized that this atomization, invented at the conceptual level and realized at the effective level, prevents us from adequately addressing issues that permeate all levels of existence, irrespective of disciplinary or management boundaries.

This paper explores the discourse (and some might say practice) known as postmodern deconstruction in the liberal arts and discusses its implications for practice and theory in the conservation sciences. Far from being some esoteric discourse restricted only to ivory-tower academics and marginalized artists, postmodern deconstruction is a pervasive phenomena that has had profound and irrevocable effects on how we perceive and relate to nature.

The premise of postmodern deconstruction is that "nature" (like the rest of the phenomenological world) is a construct — one particular, culturally determined, manifestation of the "real." As such, it is subject to both deconstruction and reinvention. The discourse known as ecosystem management engages in just such an exercise. It proposes to reconfigure not only the nature of "nature," but to reinvent our relationship to it by reorganizing the economic, social, and political institutions that formalize those relations.

I culminate my argument with the suggestion that gardening, in a broad understanding of the activity, might serve as a useful paradigm in which to ground our reconstruction of nature. It is a broad based activity that encompasses both art and science, desire and necessity, and accounts for the role of culture and that of the real in the design of space.

If, as Stan Rowe contends, ecosystem management is not merely about managing some impersonal biophysical unit, but about re-inventing the "home place," then gardening, as the art and science of "place-making" will have much to say about how we might go about the construction of these multi-dimensional, dynamic home places.
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CHAPTER ONE

INTRODUCTION

Wildland resource management is currently undergoing what some call a paradigm shift: a radical reconceptualization of the frameworks that define both nature and culture. It is called "ecosystem management." This "paradigm" shift is not restricted to the discourse of resource conservation; it parallels movements in the humanities and other sciences that have produced alternative world views such as ecofeminism, deep ecology, fractal geometry, chaos theory, and postmodern deconstruction. It is not simply that traditional paradigms are incapable of accommodating new theories, but that new theories subvert the fundamental presuppositions of the paradigms themselves.

Feminist theory critiques the hegemony of patriarchy; deep ecology the anthropocentric, industrial-utilitarian complex; and chaos theory the modernist notion of determinacy and predictability. Postmodern deconstruction challenges Western logocentrism; that is, it explores the biases of our particular epistemological foundations that determine how we construct and then relate to the world. In doing so, it effectively undermines our dearly held notions of objectivity, knowledge, absolute truth, Authenticity, and, most importantly for this paper, our ideas of nature. The discourse known as ecosystem management in resource conservation implicitly acknowledges these alternative positions when it adopts a "holistic" rather than an atomistic approach to nature and culture and concedes that management is largely an experimental endeavor based on provisional rather than absolute knowledge.

This paper investigates the points of convergence between the discourses of ecosystem management and postmodern deconstruction. First impressions would indicate that these two theories are not only incompatible, but that postmodernism, by insisting on "relativism," actually undermines the entire project of resource
conservation. I wish to suggest that a more careful reading of both theories with a view to consensus rather than conflict will discover significant areas of agreement. Further, I believe that contrary to being the threat that some scientists, managers, and conservationists might judge it, postmodern theory actually strengthens the position that ecosystem management adopts toward the environment: one that is interactive, in which activities are contingent and knowledge provisional, and wherein humans are situated squarely in the midst of a world largely of our own making. Postmodern deconstruction presents new opportunities for creativity and inquiry that are unavailable within the scope of traditional scientific frameworks or approaches. Ecosystem management, one could say, is a wildland "operationalization" of postmodern theory.

The thesis culminates with an examination of gardening since the activities and perspective advocated by ecosystem management are similar to those practiced by the gardener. The rubric of gardening exemplifies both the deconstructive nature of postmodernism and the participatory, adaptive approach of ecosystem management. The investigation focuses on the evolution of nature as chronicled by gardening "grammar" and "syntax;" in other words, it reads the garden as if it were a text that explicates the relationship of nature to culture. The intent is to elucidate our evolving constructions of "nature" and the roots of our ambivalence about our place in the world.

The first hypothesis of my thesis is that "nature" and the "natural" — indeed, the whole known world — are sociolinguistic constructs. My second hypothesis is that the transgressive activities advocated by ecosystem management are consistent with viewing nature and culture not as immutable absolutes, but as constructs in the human mind that evolve over time and place. And, finally, I will argue that gardening embodies the ethos sought by both postmodern deconstruction and ecosystem management.
Chapter Two is devoted to an explanation of postmodern deconstruction, specifically as it affects our notions of nature and culture. It also investigates how postmodern theory has been interpreted by some in the conservation community and responds to their more negative criticisms. Finally, I will suggest that far from foreclosing options for conservation management, postmodern deconstruction presents a myriad of new opportunities to re-vision ourselves and nature, and to reconfigure the pattern of our relationship.

Chapter Three takes a closer look at ecosystem management, defining it in broad, theoretical terms and responding to criticism that it is arrogant and humanist. The discussion focuses on similarities between ecosystem management and postmodern theory, and suggests that humanism is the only possible frame of reference and that ecosystem management might be construed even more broadly in light of what deconstructionism has to say about how we organize the world we inhabit.

Chapter Four examines the history of gardens and gardening with the intent to point out several things: first, that the idea of nature (and hence the respective realms of nature and culture) has changed over the centuries; second, and most importantly from my perspective, that the position adopted by gardeners with respect to the land is one that might be adopted by land managers today; and finally, that the spirit in which the activity of gardening is conducted is in many ways similar to that advocated by ecosystem management. Managing ecosystems is about directing the inevitable changes that occur in the construction and evolution of the "home place." Gardening is about "place-making," about consciously and artistically combining and re-combining the found with the made in the "home place." The gardener is able to reinhabit the landscapes from which the land manager has been dispossessed because he is able to inhabit his own creativity while accepting the biophysical limitations to its application.
A Word About Methodology

Since the thesis of this paper was of a theoretical nature, the bulk of research consists in critical analyses of relevant literature. Readings were widely varied to include selections from landscape architecture and gardening, art and social history, appropriate texts in postmodernism and deconstruction, environmental history, recent publications in the theory of ecosystem and adaptive management, and the texts of some of the more prominent figures in the history of forestry, landscape gardening, wilderness preservation, and resource conservation. To the extent possible, original sources were used in preference to secondary interpretations.
CHAPTER TWO

NATURE DECONSTRUCTED

It seems reasonable to say that the postmodern's initial concern is to de-naturalize some of the dominant features of our way of life: to point out that those entities that we unthinkingly experience as 'natural' (they might even include capitalism, patriarchy, liberal humanism) are in fact 'cultural'; made by us, not given to us. Even nature, postmodernism might point out, doesn't grow on trees.

Linda Hutcheon
The Politics of Postmodernism

Introduction

"Nature" in a postmodern, deconstructionist world is considered by some to be at grave risk. At issue is the purported tendency of "armchair or coffeehouse" deconstructionists to dismiss the whole of "nature" or objective reality as naught but a product of language and culture, a construction that has more to do with social convention and convenience than with biophysicality. There is a widespread conception, particularly among those concerned with the environment, that the entire project of nature conservation is undermined by the view that nature is merely a text authored by the human mind, with relevance only to other texts, subject to critique and manipulation without reference to any a priori ecological truth. After all, if the only thing we know of "nature" is a "construction emerging from historically specific discursive, social, and cultural conditions... why fight hard to preserve it?" This interpretation of the implications of postmodern, deconstructionist thinking and experience is not entirely unfounded.

There is textual evidence to suggest that in a postmodern view all representations and simulations are "valid" because each is equally devoid of the real:

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2 Ibid., pp. 20-21.
3 Ibid., p. 47.
the value of the representation lies only in its "striking resemblance" to the real "from which has fled all meaning and charm."\textsuperscript{4} Jack Turner in his essay \textit{The Abstract Wild} expresses the same sentiment from a different perspective when he states that "If anything is endangered in America it is our experience of wild nature — gross contact."\textsuperscript{5} At issue — in a world obsessed with production and reproduction, with copies and duplicates and replicates — is the "nature of authenticity and the authenticity of nature."\textsuperscript{6} Some of the fear and disgust of postmodern views of nature held by "anti-postmodernists," may, however, stem from a misreading of such words as \textit{nature}, \textit{reality}, the \textit{real}, and the \textit{Other} as they are used in a deconstructionist context. The discussion in this chapter will attempt to elucidate a postmodernist "position" on \textit{nature}, one that need not be antithetical to conservation, and to explore the hypothesis that a more careful — or perhaps just different — reading of this position may actually inform the discourse of conservation.

The first order of business, then, is to define the terms \textit{postmodern} and \textit{deconstruction}, since these words and concepts, while widely used in the humanities, are little understood in the context of resource conservation. This discussion will revolve around the ongoing changes in the relative positions of humans to the world and of the sciences to humanities. It also explores the central role of language in constructing the \textit{real} and questions our tendencies to attribute absolute \textit{truth} to logical constructs. The second order of business is to identify the meaning of \textit{nature} in the context of postmodernist deconstructionism. This entails an examination of the function and "proper" arenas of artifice and technology, and of origins and authenticity in the context of nature. Finally, I will suggest that the picture of humans and nature that emerges from postmodern deconstruction parallels that advocated by the discourse of ecosystem

\textsuperscript{6}Soulé, p. 18.
management. (This connection will be suggested in this chapter, but pursued at greater length in Chapter Three when I discuss ecosystem management.)

Postmodernity and Deconstructionism

Postmodernism

The term postmodernism originated in architecture as a description of the new eclecticism pervading architectural thought and practice in the 1950s. Postmodern architecture was a response to the rigid formalism of modern architecture wherein "form followed function" and sterile, unadorned, "inhuman" boxes proliferated in the urban and suburban landscape (cf. the Bauhaus and relentless rectilinearity of forest management units). The postmodern architect, in contrast, selected and combined elements from a host of genres including the classic, gothic, romantic, baroque, rococo, and modern. Modernistic glass and steel skyscrapers were crowned with odd, seemingly incongruous domes, fronted with Grecian pillars and crenellated with gothic battlements and gargoyles. The new eclectic style transgressed all formalized, traditional boundaries, taking what it liked and leaving the rest, creating a structure that defied any serious attempts at explanation and categorization within traditional frameworks. From architecture — in the restricted sense of the design of buildings and structures — postmodernism spread to other disciplines wherein "figurative" space (i.e.; the space in which the activity of art is realized: the printed page, the stage, the canvas, sculpting material, etc.) was reconfigured into a free-style combination that mirrored the metamorphosis taking place in physical space. Within a discipline, the rules that governed creative acts were being ignored or transgressed: in music computers generated entire symphonies and in dance a duet could consist of one fat man and a teapot.

7Hugh J. Silverman, ed., Postmodernism — Philosophy and the Arts, (New York: Routledge, 1990), p. 85. Also see Chapter 1 of Charles Jencks' Postmodernism in which he discusses the roots of various postmodern movements. Assigning a specific date is virtually impossible; some have postmodernism cropping up in the 1930s, others as late as the 1980s.
Boundaries between seemingly distinct and disparate disciplines like poetry and physics (cf. Fritjof Capra’s *The Tao of Physics* or Gary Zukav’s *The Dancing WuLi Masters*), literature and biology (cf. Douglas Chadwick’s *A Beast the Color of Winter*), music and technology (cf. the performance techno-art of Laurie Anderson), or sociology and forestry (see articles in the August, September, and October 1994 *Journal of Forestry*) were also becoming less rigid.

Expertise and specialization, while still perhaps inordinately valued, were increasingly viewed as insufficient in themselves to address issues that cut across a variety of disciplines. Another important aspect or characteristic of postmodernism is the sense of irony and humor with which the postmodernist constructs the literal and figurative spaces of the world. It is not that nothing is taken seriously, but rather that creativity and imagination are freed from the constraints of rigid frameworks that dictate appropriate material, style, form, function, and subject matter. The postmodernist is irreverent (think of Edward Abbey), recognizing no "sacred cows," no impermeable boundaries in science, philosophy, the arts, or literature.

Charles Jencks, in his book *Postmodernism: The New Classicism in Art and Architecture* presents (to the dismay of postmodernists who consider themselves to be beyond rules) what he terms the "emerging rules" or principles of postmodernism. Developed within the context of architecture, many of these principles apply equally well to the broader spectrum of human behavior and experience. It is not surprising that the language bears a remarkable resemblance to that being employed in such diverse discourses as ecosystem management, conservation biology, fractal geometry and chaos theory. Jencks lists eleven tenets, some of which are relevant here. First among them is the "dissonant beauty" or "disharmonious harmony" of the new "convention" in which a "fragmented unity" is privileged over the "perfectly finished totality" of classical or modernist traditions. (Compare this with Daniel Botkin’s choice of title for a text on "a
new ecology for the twenty first century," *Discordant Harmonies*). Disharmonious harmony" emphasizes "complexity and richness," favoring a "juxtaposition of tastes and world views" over monotonizing consensus and integration. The second rule, pluralism, follows directly from (conceptually it precedes it) the first, and not only acknowledges but also celebrates "difference, 'otherness' and irreducible heterogeneity." (Compare this with the notion of "complexity" and diversity in ecology and conservation biology.) His third and fourth principles concern contextuality and anthropomorphism of space. That is to say, postmodernism allows for a construction of space in a manner that is commensurate with its locale, functions, and the desires of its human inhabitants without an appeal to some singular external ideal; it accounts for extant patterns and historical patterns while incorporating new technologies and designs. (An example might be found in the current concentration on bioregionalism.) In doing so, it locates us within time, within the "historical continuum:" we are at once reminded of the past (for which we develop a nostalgia) and thrust into the future (for which we have an enthusiasm). It also legitimates our inevitable tendencies — without limiting us to them — to organize space in human terms and in scales perceptible to the human senses. Another quality of postmodernism is its double coding or use of "irony, ambiguity and contradiction" wherein the dilemma of "either...or" that is the necessary consequence of a dichotomous exclusive framework is expanded to include a fluid multiplicity characterized in the affirmation

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10Ibid., p. 335.
12Jencks, p. 336.
"both...and." The final "rule" of interest to us is that of multivalence, a quality that permits a variety of simultaneous interpretations, values, and meanings to be ascribed to any one phenomenon. (It accounts for the probability, for example, that a particular landscape will be valued for a variety of reasons and will be expected to produce a multitude of goods and services.) In doing so, it also provides for a "continual discovery of new meaning" that accords with the "adaptive management" strategies now being explored in some areas of resource conservation.15

_Deconstructionism_

While architecture was undergoing its metamorphosis, a concomitant movement was occurring in linguistics and the literary arts. Known as deconstructionism or post-structuralism, it was a reaction against (perhaps merely an outgrowth of...?) the structuralism of linguists such as Ferdinand de Saussure. Structural linguistics, in keeping with the tradition of western classical philosophical and scientific thought, posits an underlying framework or _logos_ that exists independently of the human experience of language and the text (i.e.: it assumes that rules of thought existed before people started thinking).16 _Logos_ is presumed to be an _a priori_ condition of thought, and, as the necessary precondition for thought, it cannot also be a product thereof. Structuralists "discovered" (hypothesized) rules that governed the texts' "underlying system of meaning." These rules were themselves considered to be autonomous and took no account of the author's or reader's experience. The "aim" was to "define

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16 David Crystal, _The Cambridge Encyclopedia of Language_, (Cambridge: Cambridge University Press, 1987), p. 79. _Text_ here is not confined simply to literary texts — the sort one buys in a bookstore like poetry, essays, scientific articles, novels, etc. — but is extended to include social, cultural, philosophical, political, or scientific orders. The term _logos_ is alternately translated as "word," "language," "logic" or "reason." For a more complete definition and analysis of the role of _logos_, keep reading.
universal principles of literary structure" in the hope of making literary studies into a scientific discipline that need not attend to "the role of the human mind or social reality." The attempted rationalization of literature was but one small movement in an ongoing effort to systematize those human institutions and endeavors that seem continually to defy limits. Structuralism is "logocentric" — a position which arbitrarily privileges logic, reason, or language over other modes of experience in much the same way that ethnocentrism privileges one race, or anthropocentrism privileges one species. In this framework logos/language is a static structure with fixed meanings that is impervious to existing "social, historical, or personal considerations." Meaning is assigned and absolute; there is a one to one correspondence, an equality, between a word and the "thing" it signified, between language and reality. Basically, structuralists attribute to language and logic the same transcendent autonomy that Christianity attributes to God, that Kantian morality attributes to Ethics, that classical philosophy attributes to Truth, and that Romantics attribute to Nature.

Post-structuralism, or deconstructionism, is a response to this idealized rigidity and autonomy granted to language, and by implication, to meaning and value. Jacques Derrida, writing in the 1960's took textuality to its furthest extremes when he said that language/logos was only a text, a construct subject to the same vicissitudes as any other human creation. The meaning and value of words, their inter-relations, and their connection with the real is continually shifting. Logos itself has no privileged connection to reality, it offers a unique view of the world, but certainly not the only one. It is, in the end, a constructed medium through which we experience ourselves and the world; a human-generated, human-specific vehicle through which we impose order upon and assign value to reality. Indeed, the only sensible experience we have of reality is

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17Ibid.
18Ibid.
19Postmodernism does not deny that these ideals, structures, or concepts may exist. It simply says that we have absolutely no empirical way of verifying their existence, because we can never be outside of the frameworks that we use to prove their existence.
through language, the only things we know about the world are the things available to our sensations, perceptions, and finally, our words. Unlike structuralism or classical philosophy which seeks a transcendent Ideal model or external viewpoint from which to analyze, normalize, and finally justify human thought and activity, postmodernism takes as its starting point the multiplicity of personal experience that informs meaning, valuation, and communication. It calls into question "the validity of the sets of oppositions [we] use to think about the world" and draws "attention to the multiple and overlapping meanings of words."²⁰ It leads finally to the inevitable conclusion that if language/logos is but a construct and if it is true that we experience ourselves and the world through language, then we, as well as the known world, are constructs.

Language and the construction of the real

Language, for the postmodernist, is perhaps the single most powerful tool available to the human species; it is after all, the "creator" of the world. Language makes rational thought possible; not because it is primary, but because it is simultaneous. It is through language that the self constitutes itself as subject ('I'), objectifying the world, delineating object from subject and defining relationships. Language is the generative as well as the organizing principle of our universe; it is how we identify and then locate ourselves in space and time.

Looking more closely at the nature of language and at its relationship to reality, Robert Pogue Harrison in his book *Forests: The Shadow of Civilization* says that language "does not belong to the order of nature;" it is a manifestation of the "discontinuity between humanity and nature:"

²⁰Crystal, p. 79.
Language is a differential, a standing-outside of nature, an *ecstasis* that opens a space of intelligibility within nature's closure. Understood not merely as the linguistic capacity of our superior intelligence but as the transcendence of our manner of being, language is the ultimate "place" of human habitation. Before we dwell in this or that locale, or in this or that province, or in this or that city or nation, we dwell in the *logos.*

The standard translation for the Greek word *logos* is "language," though it is also translated as "thought" or "reason" and is the root of our own word "logic." In some instances, *logos* is also translated as "word" as it is in the well known passage from the Gospel of Saint John, "In the beginning was the *Word:* the *Word* was with God and the *Word* was God." And while the simplistic reading of this verse equates "word" with the "Bible," a common alternative interpretation is that language or logic exists in the beginning. This need not mean that it exists before there is a human mind, but rather that language and thought are simultaneous, that *logos* is there at the beginning of consciousness. In fact, we cannot "think" without language.

Less commonly known, however, is the original meaning of the term *logos,* from *lego,* which means to "pick out," "bind," or "gather together." (In keeping with the postmodern spirit it seems only appropriate to mention that "Legos" are also those little plastic colored things that kids stick together to make all kinds of monsters, machines, buildings, and figures.) The familiar term "ecology" is from the Greek *oikos* meaning "house" or "abode" and *logos* with its dual sense of "language" and "gathering." One might then say that "ecology" is far more than just the science of ecosystems or habitats, but rather that language is the first home of humanity; and that it is through words that we gather together and order the world in such a way as to constitute an abode for humanity. Again Harrison:

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23 Saint John 1:1.
24 A cursory glance at Genesis also informs the reader that God created the world by *speaking* it into existence: "And God said, let there be..."
25 Liddell and Scott, p. 466-7.
[Logos] is that wherein we dwell and by which we relate ourselves to this or that place. Without logos there is no place, only habitat; no domus, only niche; no finitude, only the endless reproductive cycle of species-being; no dwelling, only subsisting. In short, logos is that which opens the human abode on earth.²⁶

Language organizes the world for us, it locates us and defines our relationship to "nature." It clearly differentiates humanity from the world, but it also just as clearly serves as the connector or mediator. For when reason/logos slips wildness comes rushing in to fill the gap; the mind in turn hastens to repair the rent by filling it with words, i.e., to babble. An unexpected encounter with wildlife has just such an effect: one rounds a bend on the trail to come face to face with a grizzly bear, or while out for a swim in the ocean one is astonished to see a large fin surfacing a few yards away. It is generally in moments of utter terror or sublime ecstasy that "words fail us," literally. We find ourselves in the midst of an "unmediated" experience that exceeds our abilities to comprehend it linguistically or rationally; it is only in retrospect that we find ourselves able to describe or explain it (usually imperfectly) to ourselves or others. Without the binding properties of language and the organizing principles of reason all we know of the world is chaos and formlessness — a condition which if prolonged leads finally to madness.

But for some postmodernists language is also a tool of power and of irrevocable violence. In psychoanalytic terminology, the constitution of the subject "I" is an act of violence. In saying "I" one is forever separated from everything that is "not I." There is now an irreducible gap between subject and object, between I and "Other." (In the Lacanian cosmology, this separation results in a "lack" which sets up the necessary conditions for desire, which is the motive force behind all subsequent human activities — another topic altogether.)²⁷ For Jacques Derrida and the prominent anthropologist

²⁶Harrison, p. 200.
Claude Lévi-Strauss, the very act of naming something, of speaking about it, perpetrates a violence. 28 When we name (as Adam did in the Garden of Eden) we engage in an act of distinction and separation, of abstraction; of objectification that in the end smooths the way (according to ecofeminists) for dismemberment and consumption. 29 When one names something, one defines it, limits it, assigns it a linguistic equivalent, a meaning, and a value. The rational act of circumscription and appropriation precedes and makes possible the political/physical act of mapping it out on or inscribing it into the landscape. In this conceptualization of human interactions with nature, the act of violence begins with language and only finishes (inevitably) with "harvesting" the resources from the land. We are reminded that the referent, the real thing that is named, ultimately eludes our attempts at linguistic appropriation: all we get for our efforts is a word. (Although nature qua the "real" obviously does not escape our physical acts of appropriation.) Roquentin, a character in a novel by Jean-Paul Sartre encounters a tree in his wanderings that inspires in him the following desperate thoughts:

This root — there was nothing in relation to which it was absurd. Oh how can I put it into words? Absurd: in relation to the stones, the tufts of yellow grass, the dry mud, the tree, the sky, the green benches. Absurd, irreducible; nothing — not even a profound, secret upheaval of nature — could explain it. Evidently I did not know everything, I had not seen the seeds sprout, or the tree grow. But faced with this great wrinkled paw, neither ignorance nor knowledge was important: the world of explanation and reasons is not the world of existence. A circle is not absurd, it is clearly explained by the rotation of a straight line segment around one of its extremities. But neither does a circle exist. This root, on the other hand, existed in such a way that I could not explain it. . . This root, with its colour, shape, its congealed movement, was. . .below explanation. 30

Roquentin's soliloquy expresses eloquently what Robert Pogue Harrison calls the "humanist's terror of a world that transcends human grounding." 31 That is, the fact of existence exceeds the limits of language and hence the grasp of our knowledge:

29 See Carol Adams' The Sexual Politics of Meat for an expansion of this argument.
31 Harrison, p. 147.
child we are shown a rock and told "rock," shown a tree and told "tree," shown the
world and told "world" as if knowing the name gives us access into the real. Being, while
conceivable, is neither demonstrable nor representable. The sheer volume of our
collective knowledge can sometimes effectively obscure the "abyss of non-
comprehension" quieting our fears and belying our ignorance. But at other times all
the available information cannot hide the fact of our tremendous ignorance about the
world we live in. The "terror" that we experience when confronted with the inexplicable
opacity and irreducibility of existence, however, need not reduce us to nihilistic despair
or resignation or even to a frenzied undirected accumulation of data. It can instead
stimulate directed curiosity, thoughtful observation, reflection, imagination and
creativity. Imagine how boring the world would be if it were fully known.

Postmodern Deconstruction

A postmodern deconstructionist position then is one that does not reject the
possibility of absolutes, but seeks to broaden the context to include the multiplicity of
experiences. "Irreducible" concepts and irreconcilable categories like mind-body, reason-
emotion, man-woman, right-wrong, civilization-wilderness, and nature-art are exclusive
ideals that fail to account for the majority of experience. Dualisms are not rejected, they
are contextualized, located at the extreme ends of a spectrum that is inclusive of varying
degrees of reality. In this sense postmodernity also moves away from the reductionist
thinking so common in Western culture; it accepts that while rules and abstractions are
helpful, even necessary and inevitable, there are exceptions, variables which in the "real"
world cannot be ignored, disregarded, or reduced to zero. It tends to celebrate
complexity, difference, and uncertainty. It adopts an ironic stance with regard to the
self-reflective/reflexive activities of the artist and the author who recognize the
contingency of all their creative acts with respect to "reality," yet continue to create in

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the face of the uncertainty that arises out of this contingency. Frameworks are constructed, but with ironic acknowledgment that they are all approximations, illusions, products of the human mind, subject to modification and refinement over time, some of which will prove more workable or desirable than others, but none of which have an objective, independent existence. Postmodernism allows for, indeed insists upon, operation within the grey areas that exist between the extreme absolutes of black and white. It does not say that absolutes do not exist — they are, after all, the subject of the sublime, philosophy, and science — but rather that since, for the average human, life takes place in the space between the absolutes, one might as well develop a discourse to account for those experiences.

Postmodernist Readings of Nature

To those who predicate their argument for the salvation of nature on its absolute existence, its separation from humanity, or on "inherent value" and "natural or immutable laws" a postmodernist perspective that challenges or qualifies that absoluteness is extremely threatening. But what is the nature of nature in postmodern theory and how does it differ from or coincide with the real? By those who are persuaded in advance of its existence, the idea of doubting the reality of nature is not only absurd, but dangerous. In the book Reinventing Nature: Responses to Postmodern Deconstruction, ecologists, naturalists, biologists, historians, and philosophers take issue with what Michael Soulé characterizes as the "deconstruction of both nature and wilderness" by social critics who go so far as to question even "their existence and essential reality." Soulé's misrepresentation of the postmodernist position stems from his misunderstanding of the function of the word "nature" in a postmodern context. A

33In this chapter, we are concerned with establishing a postmodernist position with respect to nature and its existence; chapter four addresses the evolution of the concepts of nature and wilderness through the course of civilization and our relationship to them.
34Soulé, p. 137.
deconstructionist does not "deconstruct" the real (which Soulé conflates with nature), (this is better done with bulldozers and backhoes) but rather deconstructs the construction of the real that we call "nature" and the social conventions which we use to determine our relative position to it. As Chapter Four will reiterate, nature, as a text, is under continual de-construction and re-construction as is our valuation of and our relationship to it. A postmodernist may quibble about the existence of the real — it is, finally, a question to which the answer can never be verified, so why bother — but it is rather more interesting and certainly more fruitful to explore the ramifications of deconstructing the conceptual, social, and political frameworks that posit the existence of an objective, essential, absolute nature.

In support of the suggestion that postmodernists do not altogether disavow the existence of a biophysical reality and our dependence upon it, I look to Jean-François Lyotard who is often quoted in support of precisely the opposite view. In an essay entitled, appropriately enough, "Can Thought go on without a Body?" he berates "philosophers" for wasting time asking insoluble questions while "the sun is getting older. It will explode in 4.5 billion years" at which time all the "insoluble questions will be done with too."

He elaborates:

It will be too late to understand that your passionate endless questioning always depended on a "life of the mind" that will have been nothing else than a covert form of earthly life. A form of life that was spiritual because human, human because earthly — coming from the earth of the most living of living things. Thought borrows a horizon and orientation, the limitless limit and the end without end it assumes, from the corporeal, sensory, emotional and cognitive experience of a quite sophisticated but definitely earthly existence — to which it is indebted as well.

His passionate support of "embodiment," while it does not lead him to an environmentalist stance, (his concern is ultimately for the preservation of "thought" beyond the death of the body) locates humanity in a corporeal body which is in turn

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36 Ibid., p. 9.
inseparable from the specific, if transitory, configuration of matter and energy that is the Earth. Having done so, he next directs us to the "obvious fact of there being no nature" which he defines as a seductive and comforting "congruence of mind and things." Yet in the same sentence he reconfirms his belief in the existence of the "material monster of D'Alembert's Dream, the chôra of the Timeaus" or what we might call the real. At no point in his essay does he deny that there is something "out there," something whose specific configuration of matter and energy is essential to life, to what it is to be human, and without which all discussion is not only pointless, but impossible. That we think and how we think are an inevitable result of our embodiment; to presume that one could be disembodied, the task of classical as well as modernist philosophers and scientists, is to be no longer human. Based on the above excerpts we might justifiably hesitate to enlist Lyotard in any conservation efforts; he apparently envisions the supernova of the sun as the only possible obstacle to the survival of humanity — all other catastrophes are but "pale simulations" of this one final "pure event" and that is a good 4.5 billion years in the future. What is important, however, is that he is a postmodernist who is clearly convinced not only of the existence of a real but of its essential importance to "living creatures." Of interest to us later on will be his discussion of matter and energy, entropy, complexity, and his vision of the role of technology in facilitating and effecting survival.

Jean Baudrillard, too, is often cited as an example of one of those fellows who "have about them no glimmer of the earth, of leaves or soil," who "seem to live entirely in the made world rather than the grown world," and who mistake the making of language as analogous to the making of plastic trees. My understanding of Baudrillard is that his texts are descriptive of the postmodern condition rather than prescriptive and as such might even be read as a warning to civilization about the state of its relationship to the real. When taken out of context, such remarks as "the great referent Nature, is

37Ibid., p. 11.
38Soulé, p. 20.
dead" are certainly cause for alarm. Baudrillard's criticism is not so much that nature does not exist, but rather that it does not exist for modern society in any real way. Contrary to indicating any significant awareness of nature, our voluminous discourse on the "environment" points instead to our awareness of its absence and our growing unease with this state of affairs. The increasing frenzy to "save" the environment, to enter into an "industrial contract" that offers "protection and security" is measured by the number of nations, organizations, groups, and individuals who have added their voices to the discourse. To Baudrillard the environmental disciplines take on the aspect of but one branch of "mass communication, a gigantic ramification of human and social engineering . . . a network of messages and signs" whose laws are those of communication. In this sense, twentieth century notions of "environment" differ radically from nineteenth century notions of "nature" which made reference to the physical or biological — "determinism of substance, of heredity and of species"— laws. In a later telling passage he remarks that

the mystique of the environment is proportionate to the moat between man and nature which the system digs deeper every day, whether it likes it or not. This split, this fundamentally broken and dissociated relationship...between man and his environment is the raison d'être and the site of design. There it tries desperately to restore meaning, to restore transparency by means of a great deal of information, and "comprehension" by means of a great number of messages.

Hence "nature" is lost in the cultural abstraction of "the environment" and "to speak of ecology is to attest to the death and total abstraction of nature." In other words, once we begin to speak about something, to render it linguistically, we tend to lose the

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40Ibid., p. 201.
41Ibid., p. 200.
42Ibid.
43Ibid., p. 201.
experience of that something, i.e., we discourse on nature in the comfort of our climate controlled homes and offices. Ultimately, it seems his message is that we no longer have (perhaps have never had) knowledge or experience of nature but rather a "multitude of signs," a "discourse of the environment," that has lost all connection with the "great referent Nature." Nature, it seems, has gone the way of Truth, Ethics, and the Platonic Forms and "saving" it has become an exercise in scientific rhetoric and political savvy.

A symptom of this cleavage is modern culture's fascination with simulacra, or representations of reality, and particularly of nature. In his book *Simulations*, Baudrillard mentions three orders of appearance: counterfeit, production, and simulation. For our purposes the most relevant order of appearance is that of simulation. We live in an era where the presence of simulacra are so pervasive, so ubiquitous that the absence of the real is virtually undetected, and its passing is mourned by only a handful of true believers. According to Baudrillard, America is ground zero for the reign of the simulacra, and America is the fate of the world. Disneyland is considered to be the prototypical postmodernist simulation, the last and final commentary on the fate of nature in the American mind and landscape. Amusement and theme parks like Busch Gardens, Epcot Center, and Seaworld; the fake western town near Gardiner, Montana whose name I forget; the fake, indoor ski hills in Los Angeles and Dallas; or the wave pool in a Phoenix water park are all examples of simulations. To those who are particularly cynical, Yellowstone and Yosemite are not far behind; they differ in degree, not kind. In an irreverent society cocooned in simulations, the very areas that were once established in a sincere effort to retain at least the possibility of "nature" or the "wild" become fodder for parody in a process that belittles them by virtue of association. The effect of the parody is two-fold: it points up the absence of the real at the same time that it presents us with a technological marvel that seemingly makes the real redundant. We are at once nostalgic for what is lost and

45Baudrillard, *Simulations*, p. 83.
seduced by the beauty and intricacy of our technologically generated hyperperfect, hyperreal simulations.

Examples of what Baudrillard means surround us. As predominantly urban dwellers we are inundated with carefully choreographed images of nature in the media. Cable television brings the wonder of nature into the living rooms of thousands. How can a stroll through Glacier National Park ever hope to exceed the visual orgy so deftly choreographed in an episode of "Nature," "National Geographic," or "Wild Kingdom?" In the preface to his book of animal photographs, *La Fête Sauvage*, renowned photographer Frédéric Rossif remarks of the contents that "each of these pictures lasted in real time less than three hundredths of a second, they are far beyond the capacity of the human eye. What we see here is something never before seen, because it is totally invisible." Digitized compact discs surround house- or car-encased nature lovers with the truer-than-life sounds of whales, loons, and croaking frogs. Imagine listening to the perfectly reproduced sounds of howling wolves while trapped at a standstill on a Los Angeles freeway. What might have been a totalizing visceral experience is reduced to a one dimensional sensory interlude that ends up being merely pleasant and diversionary — in Kantian terms, we trade in the sublime for the beautiful. We are in awe only incidentally of the sounds of a world to which we have previously been deaf, but primarily of the technological breakthroughs that make it available to us in the comfort of our own homes. The media — with the aid of science and technology — provides us with a hyperreal composite of the world that far "out-natures" anything we might experience on our own. Interactive television is already on line; virtual reality is just around the corner. "Nature" becomes entertainment, spectacle, a showcase for the latest technological advancements.

The nature of technology

Which brings us to the hotly debated issue of the proper role of technology in the environmental and conservation movements. Skirting the issue of whether technology alone can "save" the environment or the human species, it is ironic that one of the most common uses to which human technology is put is saving or restoring nature. The extensive use of computers in the natural sciences is but one example. Whereas in the "olden days" one simply relied on the five senses and solid logic to ferret out nature's "truths," one now relies heavily on complex sophisticated devices of observation (satellite imagery and global positioning systems), measurement (parts per billion), data management (Geographic Information Systems), and analysis (simulation models and multi-variate statistics). Contrarily, the increasing sophistication of our instruments (and this can be construed to include the human brain) only yields an increasingly complex picture of the world, bombarding us with information. The more we know, the more we realize what we don't know; knowledge only brings awareness of the depths of our ignorance. In keeping with our love and faith in technology, we are often inclined to find more information in a computer generated landscape derived from a series of coordinates than from a photograph of that same landscape or the view through a pair of binoculars or the sensations of standing in a forest on a cold dark night. Field work now requires a thorough background in computer technology and the latest software systems, since the researcher is likely to spend as much time in front of the terminal constructing models, generating systems, and plugging in data as out under the big sky communing with the conifers. And when we do venture out into the real, it is usually to collect observations and samples for analysis in the lab and to verify the correlation of our simulations to the observed world. We have what Bertrand Russell describes as knowledge by description rather than knowledge by acquaintance. In another formulation, the more we know about the world, the less it is. Like it or not, our lives and our landscapes have become inextricably intertwined with technology. Whether
one features technology as the destroyer or the savior of "nature" is in the final analysis a moot point. For better or worse, the presence of technology shapes our perceptions of nature and affects our modes of interaction with it. Already we and our world have about us the look of cybernetic organisms: indivisible amalgamations of organic matter and energy, technology and artifice.

While some locate technology outside of nature and even consider it to be antithetical to the natural, others are beginning to rethink this position. In a novel perspective on the origins and proper location of technology, Lyotard asserts that "technology wasn't invented by us humans. Rather the other way around." He continues:

As anthropologists and biologists admit, even the simplest life forms, infusoria (tiny algae synthesized by light at the edges of tide pools a few million years ago) are already technical devices. Any material system is technological if it filters information useful to its survival, if it memorizes and processes that information and makes inferences based on the regulating effect of behaviour, that is, if it intervenes on and impacts its environment so as to assure its perpetuation at least.48

In this formulation technology, long considered an act exclusive to humans, is attributed to nature and to natural organisms at large.49 Understood in this way, the question of the application of technology in the service of nature and humanity becomes one of how much, what sort, and where, rather than one of "if" or of polarized opposites that cannot exist in the same space lest one be canceled out (i.e.; the notion that a thing cannot be simultaneously natural and artificial). In a statement that posits an even stronger affiliation between the human activity of techne and the creation or maintenance of complexity, Lyotard remarks "that technological-scientific development is, on the surface of the earth, the present-day form of a process of negentropy or

47Lyotard, p. 12.
48Ibid.
49From Liddell-Scott Lexicon: techne: art, skill, craft; the way, manner, or means whereby a thing is gained or achieved without any sense of art or craft.
complexification that has been underway since the earth began its existence.\textsuperscript{50} We could stretch the idea even further to suggest that technology is simply an extension of the activity that began with language or logos.

\textit{Authenticity, or the problem of bear forgeries}

Given the postmodern understanding of how it is that we construct nature and wildness, basing environmental conservation or preservation on authenticity, "the myth of the pristine," becomes almost impossible. It may be beyond our abilities to reinvest managed "wilderness" with "wildness" in perhaps the same way that the reintroduced wolves in Yellowstone and the captive-bred condors in California are thought to have somehow lost, through human intervention, ideal wildness. We are saving their lives and the species (maybe), at the cost, some would argue, of diminishing our perceptions of those lives, of circumscribing them within the bounds of science and language and submitting them to a political agenda. In the more militant environmental fields, one of the strongest arguments against the use of technology, against "restoration, repair, redesign, sustainable development, and management of natural ecological systems and habitats" is that of "authenticity."\textsuperscript{51} Eric Katz, in his article \textit{The Ethical Significance of Human Intervention in Nature}, calls it "faking nature," the equivalent of an "art forgery," "an unrecognized manifestation of the insidious dream of the human domination of nature."\textsuperscript{52} In his estimation, any efforts at management, mitigation, or restoration indicate supreme arrogance, an unqualified faith in the power of technology to fix all, a presumption in the wisdom of humanity to know what needs fixing, and a license to continue doing business as usual.\textsuperscript{53} Rather than take issue with his indictment of

\textsuperscript{50}Lyotard, p. 22.
\textsuperscript{52}Ibid., pp. 90-91. The terms "faking nature" and "art forgery" are actually attributable to Robert Elliot who is quoted by Eric Katz. The use of the analogy of an art forgery may be ill-conceived: art, as Plato reminds us, is already an imitation of an imitation, a simulation of the second order, an imitation twice removed from reality.
\textsuperscript{53}Ibid., p. 92.
land management practices and human behavior, a postmodernist would remind him that authenticity is a moot point; we always have and always will "fake nature." It is simply a matter of how well we fake it and how desirable the fake is: does it do what it is supposed to do or what we want it to do?

But questions of authenticity aside: is a planted tree or an entire forest really different from one that is grown "naturally?" a trapped, tranquilized, vetted, tagged, radio-collared, satellite-tracked and monitored wolf, elk, or grizzly different from one that is not? Can a wolf, a tree, a forest be anything other than what it is despite questionable origins or attachments? I would answer no. What is it about technology and the "artificial" that leaves us feeling "outraged," dispossessed, and dissatisfied with what we have made of ourselves and the world? What if our fakes were perfect simulations so that no one could tell the difference? For modern, linguistically bound, self-aware, humans there is no chance of recovering an authentic or original "nature" that might serve as a template against which to gauge the appropriateness or "rightness" of our actions. The preservationists fear that nature might become naught but one great cultural artifact is not unfounded, because from the postmodern perspective, "nature" is already a product of the human imagination. There is, however, ample empirical evidence to suggest that there are "biophysical" (again, with the understanding that what is ecological or biological is also a human value-judgment) limitations to our actions. What we do within the constraints of those parameters becomes a question of aesthetics; to the best of our current knowledge, we can either have no wolves or we can have radio-collared, satellite-tracked, "fake" wolves. The gap between what we know of the world and what it actually is irreducible and unknowable; it presents a dilemma as well as an opportunity; it is a measure of our ignorance and uncertainty as well as that which makes possible our free will. In that space between what we know and what is real, we have glissement, or slippage. It is this slippage that affords us an opportunity to
play, to create meaning, and to exercise choice. It can be the space of utter failure or that of success.

Conclusion

Land managers today are faced with the onerous, seemingly impossible task of meeting all the growing human needs and desires of a world that expects goods and services from a landscape that apparently has to remain pristine at the same time that it yields more timber, more wildlife, and more water and minerals. Traditional management methods are considered to have failed to maintain the supposed original integrity of the landscape while meeting the growing demands of an increasing human population. The demand for wood and wood products has increased and will likely continue to do so. We seem to have an insatiable appetite for energy in the form of electricity and fossil fuels, as well as for water and space. And yet, more people than ever are heading back to this same nature for spiritual renewal and recreation with the expectation of "untrammeled" landscapes. We enthusiastically apply our industry, technology, and energy in the project of building a civilization or in harvesting resources, but we exercise a peculiar squeamishness in then applying that same industry and technology in re-constructing the fragmented landscape into something aesthetically pleasing, biologically viable, but frankly and inevitably artificial.

While a significant portion of this reluctance is admittedly economic, as noted above at least some of it is attributable to our confusion and ambivalence about "the nature of authenticity and the authenticity of nature." As a culture, we hold firm to our ideas of the possibility of a pure unsullied wilderness, despite all the evidence to the contrary. We are particularly resistant to the idea that art, commonly considered to be a human activity, and technology, a human product, might have any part in its construction and maintenance. In view of the above discussion wherein "nature" and

54Soulé, p. 18.
"wildness" are already always linguistic and social constructions, the human presence in "nature" becomes a matter of degree, rather than one of mutually exclusive extremes. Jack Turner insists that "[w]e lost the wild bit by bit for 10,000 years and forgave each loss and then forgot."^55 In its stead we have politically determined management units: federal, state, or city parks and forests, wilderness areas, wildlife reserves, sanctuaries, or refuges all of which contain within their boundaries some degree of wildness, of the real. The only experience we have of the wild is through these simulations. The only reason we are even cognizant that they are wild and that we experienced them is that we are capable of apprehending them linguistically and organizing them as thoughts, memories or reflections — an exercise which simultaneously creates and nullifies the wild.

Wildness and wilderness are ideals to be desired, and that is finally the way we like it best; as an idea it is great, but by God don't let the wildlife snatch the poodle off the porch nor the wildfirebum down the house. All of these politically designated areas are more or less managed pieces of real estate, some of them might even be considered as products, carefully packaged for consumption by special interest sectors in the commercial market of human aspirations. Natural areas, for example, may not be roaded, but they are trailed, their rivers bridged, the trails patrolled, signed, mapped, and well traveled by nature enthusiasts. Jets fly overhead, as do satellites. They are bounded on all sides by other management units, some of which are populated and "civilized." Travel within these areas is restricted and often requires a permit; hikers are advised to stay on existing paths and to camp in designated spots only. Lawsuits are forthcoming when land managers neglect to inform Discovery-Channel-nature-lovers that the dangers of wilderness are not simulated: unexpected flooding happens and bears actually do kill and eat hikers.

So, what does postmodern deconstructionism have to do with resource conservation or the management of forests and wild lands? My sense is that it not only

^55J. Turner, pp. 82-3.
provides a different perspective from which to assess current and historical patterns in the human-nature relationship but also offers a language and perhaps even a viable "philosophical" framework within which to situate ecosystem approaches to the management of people, land, and resources. Postmodern deconstruction allows us to entertain a wide variety of perspectives, relationships, and activities; it accounts for and reconciles technology, art, and "nature;" the real, imitations, and simulations; rampant consumerism, conservation, and preservation; and an irrational nostalgia for a pristine nature-that-never-was that gets projected into a "desired future condition." It can accommodate contradictory, diametrically opposed truths: that humans are both a part of and distinct from "nature;" that nature is a construct within which we determine our actions but that our actions have real consequences in the real world; that we cannot ever know the real but that there are some "axioms" of existence that for all practical purposes might just as well be real. And finally, that within the irreducible gap between what we know and what is real there is space for the exercise of creativity and imagination, or if you will, for art and management.
CHAPTER THREE

MANAGING AN "IMAGINED WORLD"

The first creative accomplishment of the mind is the world itself, the world it constructs from the buzzing, blooming confusion of stimuli with which from birth we are bombarded. Some unknown mind-quality affiliated with ourselves, but not necessarily so confined, builds mental models of a universe into which we enter as our common-sense world, finding it furnished (though we have had a hand in the interior decorations) with constructs such as "mind" and "body," "spirit" and "matter." Rather than accepting these constructs as artistic accomplishments, we objectify them as realities that exist apart from our perceptions and set out with the confidence of science to explain what makes them tick! We are naive realists chasing will-o'-the-wisps that may or may not prove to be the light.

Stan Rowe
Home Places: Essays on Ecology

Introduction

Ecosystem management has recently emerged in resource conservation discourse and practice as the preferred choice for land management. In its short tenure, it has garnered both considerable praise and scorn. Supporters hail it as a more holistic, integrated, and ultimately a more ecologically, socially, ethically, and economically viable approach to nature and resource conservation. Detractors variously denounce it as being "more of the same," mere rhetoric, or categorically impracticable and quixotic. One of the more damning critiques articulated by one detractor is that ecosystem management is simply yet another manifestation of the "arrogance of humanism."^1 Thomas Stanley, basing his accusations on David Ehrenfeld's book entitled The Arrogance of Humanism, contends that the anthropocentric interpretation of ecosystem management, as expressed by authors like W. B. Kessler, James K. Agee, and Daryll Johnson, and practiced by the various federal land management agencies, presumes to "manipulate and manage ecosystems to satisfy human needs and desires while protecting ecosystem integrity."^2 Unlike the "biocentric view" of ecosystem management

^2 Ibid., p. 256.
favored by those like R. Edward Grumbine, Reed Noss, and Alan Cooperrider in which, according to Stanley, "human use is considered as a goal, perhaps achievable or perhaps not, which is constrained by the overall goal of protecting ecological integrity," the humanist or anthropocentric view subordinates the protection of ecological integrity to the overriding goal of "human use of resources or sustainability."^3 In short, Stanley condemns ecosystem management because it presumes to "actively manage" a system in order to "achieve both multiple use and sustainability," all the while considering both the ecological and social aspects of its management.4 In Stanley's view, this "belief in our ability to meet the assumptions of ecosystem management is unwarranted" and the whole project of ecosystem management is simply "another example of the arrogance of humanism."5

This chapter examines the ways in which ecosystem management reflects our changing attitudes both toward the world and ourselves, and the implications of those changes for management practices. I will suggest that not only does the bulk of literature on ecosystem management not support Stanley's accusations of "arrogance," but that in addition, as argued in Chapter Two, there is no alternative position from which to operate than that of "humanism." Further, in direct opposition to Stanley's critique of ecosystem management as yet another symptom of the human will to dominate and control nature, I will argue that by encouraging human interaction and participation in nature, and by accepting aggressive, intentional management as a legitimate creative activity, we are thus granted the right, one might say, to "reinhabit" both our world and our own natures. I begin with an examination of what Stanley (and Ehrenfeld) understand by *humanism* and its arrogance. From there, I proceed to examine ecosystem management as it is characterized in the literature — its definitions, goals and assumptions — in hopes of countering Stanley's criticisms of arrogance and arrogance and

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3Ibid.
4Ibid.
5Ibid., p. 255.
presumption. In doing so, I will not attempt to argue that ecosystem management is not humanist, but rather start from the position that it can never be anything other than humanist despite all misguided hopes to the contrary. Further, while some have undoubtedly adopted an attitude toward nature that borders on arrogance, a great many practitioners and theorists in the field of resource conservation are at least partially cognizant of the contingency of their activities, the limitations of knowledge, and the variable nature of human institutions and values. Finally, while ecosystem management may indeed have set itself too grand and comprehensive a goal, I submit that it will fare better for having construed its mission and object too broadly than it would had it maintained a strict adherence to the predominantly reactive, narrowly disciplined, and largely divisive approach historically taken to resource conservation.

The Arrogance of Humanism

Humanism, as noted in Chapter Four, and as acknowledged by both Ehrenfeld and Stanley, is a product of the Renaissance, or the "age of humanism." It is also, as alluded to in Chapter Two, a necessary and inescapable fact of life for those of us who are despite all efforts, human. Stanley, following Ehrenfeld's lead, "sets aside" the better parts of the humanist doctrine in order to concentrate more fully on its destructive assumptions and developments. For instance, Ehrenfeld acknowledges that humanism is responsible for the positive notions of "human worth and dignity," and that it further (according to Webster's Third New International Dictionary) "rejects supernaturalism, regards man as a natural object, and asserts...[man's] capacity to achieve self-realization through the use of reason and the scientific method." 6 The most fundamental principle of humanism, along with that of "final causes," is a "supreme faith in human reason — its ability to confront and solve the problems that humans face, its ability to rearrange both the world of Nature and the affairs of men and women so that human life will

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prosper." The doctrine of final causes, as Ehrenfeld understands it, "asserts...that the features of the natural world — mountains, deserts, rivers, plant and animal species, climate — have all been arranged by God for certain ends, primarily the benefit of mankind." The primary assumption of humanism is that "all problems are soluble," from which optimistic beginnings a series of secondary, equally "euphoric" assumptions derive: 1) many problems are soluble by technology; 2) those not soluble by technology, have solutions in the social sphere; 3) we will always act in concert in a timely manner to resolve problems; 4) some resources are infinite, but those that are not have substitutes; and finally, 5) human civilization will survive. These assumptions manifest the "arrogance of humanism" but are no means adopted by all, or perhaps even most, humanists.

Ehrenfeld's critique of humanism is supported by examples of ill-conceived efforts to control and alter nature. In George Stanley's view, ecosystem management perpetuates and even expands this tradition of human arrogance since it presumes to manage the whole of nature not only for the betterment of mankind but of nature itself. He takes issue with our right to manage, with the necessity of doing so, with our willingness to do what is required when it is contrary to what is desired, and with our ability to manage effectively. For example, he claims that ecosystem management "takes as a given" our right to "use" nature for our own benefit. He further asserts that it takes as another given our right to "control" nature because "effective stewardship mandates control." Ecosystem management assumes, despite centuries of evidence to the contrary, "that we will be stewards of the land because we can be, and because it is the only way to ensure that our multiple demands for resources, stable economies, recreation, biodiversity, ecosystem health, and so forth, are met." Stanley lists what he considers to be the four basic assumptions of ecosystem management: "(1) that

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7 Ibid.
8 Ibid., p. 7.
9 Ibid., pp. 16-7.
10 Stanley, p. 257. Italics added.
science can determine how ecosystems function; (2) that once function is known, the
social/political system will be able to protect ecosystems to the extent needed for the
survival of human society; . . . (3) that reality will take precedence over political
expediency because Mother Nature cannot be fooled; . . . [and (4)] that humans possess
or can develop the technology needed to manage ecosystems."\(^{11}\) (It should be noted
that his list of assumptions differs considerably from those of others more directly
connected with the implementation of ecosystem management. See below for a partial
listing.\(^{12}\) Stressing the similarities between these tenets and those of humanism,
Stanley takes issue with each individually, demonstrating how they have failed us
historically and thus how ecosystem management is doomed to repeat the mistakes of
the past. The cure for this, he suggests, is the adoption of the "biocentric view" of
ecosystem management and a concomitant rejection of the "anthropocentric-based"
view and its corollary "the doctrine of final causes."\(^{13}\)

Stanley's argument rests on several questionable assumptions of his own. First,
he assumes that ecosystem management indisputably relies exclusively on science and
technology to successfully manage ecosystems. Second, he assumes that ecosystem
management — since it asserts that ecosystems will be managed for human benefit —
will therefore disregard ecological constraints and the needs of other species. Third, in
demanding that we adopt a biocentric position, he not only assumes that there is an
authentic, objectively verifiable, intrinsically valuable nature out there, but that we
might somehow have access to it without the mediating prejudices of our own peculiarly

\(^{11}\)Stanley, p. 257. The first three assumptions are from J. Cairns, Jr., "The Emergence of
Global Environmental Awareness" in *Journal of Environmental Science* (China: 1990), 2:
1-18. The last is Stanley's own addition to the list.

\(^{12}\)Some of the basic assumptions of ecosystem management expressed by Hal Salwasser
are as follow: 1) all life on earth depends on and results from processes that occur in
ecosystems; 2) all life gets its basic resources from ecosystems and returns its "wastes"
to ecosystems for "recycling"; 3) the perpetuation of human life depends on prudent
management of ecosystems to produce needed resources and to sustain capacity to
renew productivity; 4) since we can never know everything and are constantly
confronting "surprises," adaptive management is more rational than "control"
management; 5) all choices on what, how, where, and why to manage ecosystems are

\(^{13}\)Ibid., p. 261.
human epistemic limitations and constructions. By denying humans the right to operate from within a "humanist" perspective, Stanley quite literally denies us the possibility of any legitimate participation in nature. In doing so, he perpetuates the very dichotomies against which he claims to argue. After all, we can only operate from within the confines of our unique mental pathways and linguistic peculiarities. There is, finally, no such thing as a bio- or ecocentric position, except in so far as it is constructed, interpreted, defined, and valued by humans.

In my estimation, ecosystem management does not appear to harbor the same "euphorically optimistic" arrogant assumptions with respect to nature and the activity of management that modern, Western culture has traditionally held. It does, however, manifest a singularly humanist (in the sense of anthropocentric) perspective of the world, but in doing so it seeks to "regard man as a natural object" distinct, but not separate, from nature. It seeks, in other words, to overcome the conceptual barriers that have effectively separated humans from nature in traditional paradigms. It does indeed presume to manipulate large tracts of nature for the betterment of mankind, but with the explicit understanding that the fate of nature, the final salvation of those natural processes and landscapes we hold so dear, is inseparable from the fate of humankind. Ecosystem management does not claim that management for the sake of management is inherently a good thing, that science and technology can "fix all," nor that we will always act together in a timely and appropriate fashion to ensure our survival and the quality of our environment, but rather that given population and consumption trends, aggressive and creative management of both ourselves and our habitat at a variety of scales and across a variety of time frames is a preferable alternative to the proliferation of irreparably degraded ecosystems and an attendant decrease in the quality of life.14 The following discussion of ecosystem management addresses, among other things, the four

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major "assumptions" that Stanley accuses it of harboring: that ecosystems are fully knowable through science; that possession of knowledge ensures appropriate action; that "reality" will supersede efficiency; and that technology is a "fix all" for environmental and social impasses. It will also consider the additional concerns raised by Stanley regarding our rights to manage, the necessity of doing so, our willingness to do what is required over what is desired, and our ability to manage effectively.

Ecosystem Management

In direct contradiction to Stanley's understanding of it as a perpetuation of humanist hubris, ecosystem management requires a "fundamental reconceptualization" of what natural areas and ecosystems are or "ought to be."\(^{15}\) It requires that we re-vision our "approach [to] nature, science, and politics" and that "we ask ourselves what kind of society, and correspondingly, what kind of relationship with nature we want."\(^{16}\) In attempting to answer these questions, ecosystem management is, ideally, committed to seeking an approach to resource conservation that will "transcend arbitrary political and administrative boundaries."\(^{17}\) It aims to reconfigure the face of nature and in doing so demands that we restructure the social, political, academic, and economic institutions that formalize our relationship with it. Ecosystem management further proposes to redirect the course of environmental management by reforming the power and participatory structures, as well as the ends, the means, and the nature of the managed object. In essence, what began in the 1970's and 1980's as a simple effort to reform management practices and to redraw the lines of a few management units, has evolved into a full scale critique of the fundamental epistemological and phenomenological structures that make us who we are and nature what it is.


\(^{16}\)Ibid., p. 1.

\(^{17}\)D. Scott Slocombe, *From Theory to Practice for Ecosystem-based Management,* (Waterloo, ON, CA: Wilfred Laurier University, 1995), p. 2.
Ecosystem management, like postmodern deconstruction (and, as will be suggested in Chapter Four, gardening), is transgressive; it seeks to move beyond traditional, modernist paradigms of nature and culture, to breach the effective and conceptual barriers that inhibit creative approaches to solving environmental problems while at the same time meeting human needs and desires.

Precisely because of its transgressive and holistic nature, ecosystem management is difficult to define. In fact, one of the major criticisms of the concept is that, despite a brisk discourse and volumes of literature on the topic — to say nothing of numerous ongoing projects — it "continues to be vague and to mean different things to different people."\(^{18}\) Indeed, it seems as though no article on the subject is complete without mentioning somewhere in its introduction that it is amorphous, too theoretical, clarifies little, or is perceived and interpreted too loosely, etc.\(^{19}\) So I shall continue the tradition and agree that (happily) current definitions of ecosystem management are rather more inclusive than exclusive, more suggestive than interpretive, and more inspirational than commanding. This quality, incidentally, is aided in no small part by the fact that the phenomena themselves ("ecosystems" and "adaptive management") are inherently indefinite and resistant to rigid quantification.

Even a cursory survey of the literature suffices to demonstrate the diversity of circulating interpretations. Definitions of ecosystem management range from being purportedly "ecocentric" in orientation to more or less unabashedly anthropocentric. For example, the Society of American Foresters Task Force contends that "ecosystem management is an ecological approach to forest resources management" which "attempts to maintain the complex processes, pathways and interdependencies of forest


ecosystems.\textsuperscript{20} The "condition of the forest landscape is the dominant focus" with all
other uses being subordinated to this one.\textsuperscript{21} Robert T. Lackey, deputy director of the
Environmental Protection Agency's Environmental Research Laboratory, offers an
explicitly anthropocentric or humanist perspective when he suggests that ecosystem
management is the "application of ecological and social information, options, and
constraints to achieve desired social benefits within a defined geographic area and over a
specified period."\textsuperscript{22}

These definitions fail to offer anything new to the discourse of resource
conservation in that they sustain the old paradigms in which culture is irreducibly
separated from nature; ecology, economy, and community are considered discreet
entities; and conservation is antithetical to preservation. Since the purpose of this
paper it to demonstrate how ecosystem management differs from traditional
interpretations, how it moves beyond the "false" dichotomies erected in Western thought
and sustained by our practices, I have chosen to focus on the broader, more integrated
perspectives on management expressed in definitions like the following. Alan Savory, for
example, defines holistic resource management (frequently allied with ecosystem
management) as "an approach that treats people and their environment as one whole. .
. . It derives from a view of ourselves and our planet as one ecosystem. . ." and requires
the articulation of a three-part goal with respect to the desired "quality of life," a
preferred "form of production" (expressed in "economic, social, cultural, aesthetic, or
recreational terms"), and a "landscape description" that can ensure the maintenance of
the above desired conditions.\textsuperscript{23} Hal Salwasser, in defining ecosystem management,
proposes "that knowledge and technology can be skillfully used in taking actions to
encourage desired conditions of ecosystems for environmental, economic and social

\textsuperscript{21}Ibid.
\textsuperscript{22}Lackey, p. 23.
benefits, both now and for future generations. These and other definitions integrate not only ecology, economy, and society, but indicate a willingness to consider the less "tangible," non-quantifiable values of landscape that nonetheless play a formidable role in our constructions of nature.

To some, these definitions function more as quixotic, theoretical ideals than as realistic guidelines for the practice of land management. Each avoids promulgating any objective, normative conditions of the environment or society. In doing so they allow for the possibility that an "ecosystem" might consist in any combination of "artificial" and "natural" elements, structures, and functions. By integrating and giving equal weight to ecological, economic, and social considerations at the outset, they move away from the danger of privileging any specific approach, of requiring that any one "ideal" condition obtain irrespective of circumstance, place, or the desires of the inhabitants, or of oversimplifying what is inherently a complex and interdependent set of issues, concerns, and phenomena. They explicitly recognize that human desires and requirements (as expressed through the democratic process) are, for better or worse, the final arbiters of what will happen on the landscape, but suggest that stronger attempts be made to modify and direct those desires with scientific knowledge of ecological constraints. These definitions acknowledge the power of the human will — both in an active and a metaphorical sense — in constructing the world to suit our needs and desires. They also, however, stress that there are some very real biophysical constraints that must be respected when we attempt to impose those desires on the landscape.

A better understanding of the concept of ecosystem management is to be had if the term is deconstructed into its respective elements. By defining the term "ecosystem," we can more clearly understand both the nature of "nature" and the nature of culture. My interpretation of this revised (and still evolving) construction of the world differs in some significant ways from Thomas Stanley's reading of it as a continuation of old

Salwasser, p. 3.
assumptions and paradigms that see culture and nature as mutually exclusive and inherently antagonistic spheres of activity. Stanley directs some of his strongest arguments against management, both in presuming to undertake the task at all and in assuming that we are capable of doing so with any degree of success. I intend, through an examination of the principles and goals of adaptive management (the approach of choice for ecosystem management) to point out how he again misinterprets the underlying assumptions that prompt us to take an active role in designing our environment.

_Ecosystems: revisioning the landscape_

In attempting to answer the question "what is an ecosystem?" we simultaneously answer the questions "what is nature?" and "who are we?" Daniel Botkin, in his book _Discordant Harmonies_ says that "nature is our mirror. The way in which we view ourselves . . . is in part a reflection of how we see ourselves in relation to nature." He, like many others, understands that it is impossible to speak of nature without at the same time speaking of ourselves, to define ecosystems without at the same time betraying our perceptions of ourselves and our understanding of the place we have constructed within this "imagined world." The conventional "proper place" of humanity — predicated on the conceptual dichotomies that split nature from culture and humans from animals — has historically been outside of and superior to nature. Hence, our interactions with nature have been characterized by exploitation and dominance; in short, by the arrogance of humanism. In our unquestioning faith in the power of human reason and the doctrine of final causes we have attempted to order the world to suit our needs. We have carved out of the landscape "management units" that better reflect our own epistemic limitations and economic needs than the biophysical characteristics of the land. Our mistake, however, lies not in attempting to bring some

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order to the world, but in mistaking for real and necessary and right the contingent "artificial" order we have imposed upon an essentially chaotic nature. For example, because we can conceive of a forest whose primary purpose is to produce wood fiber for human consumption and another forest dedicated to the support of wildlife and the perpetuation of natural processes, we have dissected the biophysical landscape into industrial tree plantations and national parks. The failure of these constructs to perform as desired, to produce wood in perpetuity or to support viable populations of wildlife, presents us with seemingly insurmountable difficulties until we recall that the failure is in our models and constructs, not in nature. Linguistic constructs superimposed onto the biophysical landscape, like National Parks or city limits, have no obliged, objective existence in nature — they are merely conveniences that enable discussion and render management a possibility.

Ecosystem management suggests that we might consider reconceiving our models to reflect more closely the observed phenomena, since to do so is easier (to say nothing of more prudent) than continuing increasingly costly and ineffective efforts to manipulate the biophysical landscape to fit our will. My interpretation of the revisioning of nature as an ecosystem sees it not as an extension of the "arrogance of humanism" but rather as a retreat from it. According to Webster's New World Dictionary, an ecosystem is "a system made up of a community of [organisms] and its interrelated physical and chemical environment."26 Note the absence of any stated normative principles or conditions with respect to size, structure, components, and function that might be construed as objective, ideal states of nature. And certainly there is no indication that the "doctrine of final causes" has any part in its formulation; in fact

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26Victoria Neufeldt, ed., Webster's New World Dictionary, Third ed., (New York: Prentice Hall, 1991). The term "community" here is obviously a "loaded" one, to say nothing of its being a distinctly human construct that is mapped out on an otherwise "unreadable" landscape. An ecosystem is not a mere random collection of disparate organisms and elements. The intent, it seems, is to convey the irreducible interconnectivity of all the parts and participants in the functioning integrity of the whole; to convey the notion that tweaking one part has consequences for every other part.
there is a conspicuous lack of definitive purposiveness in the concept that opens up the field to a myriad of possible configurations and combinations. (Ecosystem management itself, like human nature, is not without purposiveness or preferred objectives and desired states, but the thing managed — nature — is at least initially presumed to be without the usual normative ideals or a humanistic teleology. There is of course, the obvious value assignation inherent in the term "community," a topic which is addressed in slightly more depth on page 45 of this paper.) The term, thus vaguely defined, is equally applicable to a drop of water or a whole watershed; a fallen log or an entire forest; a moose's stomach, a moose, its entire home range, or the biosphere; the Bob Marshall Wilderness Area or the Crown of the Continent Ecosystem; even, it seems, the whole cosmos. 27 Ecological systems have no inherent boundaries and when we do assign them "boundaries" we can arrange them hierarchically, smaller ones nested within successively larger ones, across the biophysical, structural, and functional landscapes. 28 They are not discreet, independent units with impermeable boundaries, but instead exchange "goods and services" (sunlight and Los Angeles smog, for example) across metaphorical barriers. Some systems are more or less "intact," require more or less input from external energy sources, produce and export more or less waste, and are considered to be more or less efficient, productive, or desirable in the human scheme of things. But on the whole, an ecosystem may be complex without being biologically diverse and communal without conforming to any particular organization or structure. It may be inhabited by organisms of no specific sort and have a physical environment that is not confined to a predetermined location, type, or size. Finally, it may work or function without fulfilling some specific process or goal.

27 The Crown of the Continent ecosystem is generally defined by the Waterton-Glacier International Peace Park to the north, Missoula to the south, the Flathead Valley in the west, and the Great Plains in the east. (Managing Ecosystems for Sustainable Development, FOR 595-5, Spring 1994).

Typically, more conservative less perspicacious thinkers tend to construe the ecosystem concept narrowly, to continue to insist that it is predominantly a natural community composed of natural organisms that function together naturally. Needless to say, neither humans nor their artifacts are considered suitable candidates for inclusion in the ideal ecosystem. We are relegated to the status of anomalies, undesirable, yet unavoidable disturbances that must somehow be accounted for. A less extreme (but still conservative) view allows that "people cannot be separated from nature," that we are "embedded" in it; that our "cities, towns, villages, rural centers, as well as wilderness areas...[are] nested within ecosystems;" that our technological inventions and climate altering activities are an integral, though not necessarily desirable, part of nature. Subscribers to this view even go so far as to concede that ecosystems themselves are, at bottom, social constructs, the end-result of political discourse and social value-judgments, subject, in the final analysis, to the vicissitudes of human desires and biases. But in the best tradition of postmodern deconstruction we owe it to ourselves to take the idea of an ecosystem to its logical conclusions; there is nothing that precludes its being an amalgam of cityscape, farmscape, and wilderness inhabited by blue collar workers, cows, and grizzly bears; or from being an entirely "artificial" entity, like a metropolitan area inhabited almost exclusively by humans, which requires the import of vast quantities of resources from external sources and exports a varied array of both desirable and undesirable products. Hence, D. Scott Slocombe, a Canadian environmental planner, dares to propose that ecosystems might as justifiably be defined on the grounds of purely social characteristics or "socioeconomic similarities" as on the biophysical similarities that are typically proffered

as the defining principles. The resulting landscape patterns, whether we deem them to be drawn along natural or political features are finally no less socially determined than those that delimit a National Park, a city limit, a neighbor's backyard, or a nation's borders.

More than a century ago the landscape gardener William Kent took the unprecedented risk of leaping the fence and proclaiming all nature to be a garden. In defining ecosystems, we too must be willing to transgress the conceptual barriers that, in a fit of hubris Stanley and Ehrenfeld might say, we have superimposed on the physical and cultural landscape. We must, in essence, be willing to admit (and then to act on that conviction) that the Bob Marshall Wilderness Area differs in degree, but not kind, from an Iowa cornfield; that the fate of Yellowstone National Park is inextricably bound to that of Targhee National Forest; and that the greater Manhattan metropolitan area is as legitimate an ecosystem as the Arctic National Wildlife Refuge. In short, we must be prepared to accept that each, in its own unique fashion, is a complex community of organisms and its interrelated physical environment functioning together as a unit. Agee and Johnson submit, much to the horror of people like Edward Grumbine, that what is natural "cannot be scientifically resolved" because it "incorporates value judgments." I would go one step further and add that what is cultural is equally unresolvable. This does not mean therefore, that any construct is as good as any other — even the most cynical deconstructionist will concede that some models better fit our purposes or seem to accord more closely with the observed phenomena than others. At present, the ecosystem concept is just another metaphor in a long list of metaphors (Newton's clock, Bacon's automaton, Lovelock's Gaia, etc.). It is a method of locating ourselves in the world and a way of establishing a context for

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32. Slocombe, "Implementing Ecosystem,...," p. 617.
human activities. Its accuracy and its usefulness will depend on the degree to which we allow it to evolve over time and space, and its ability to accommodate new information and alternative, sometimes conflicting desires. Just as postmodern deconstruction explores the limits of art, or as landscape gardening challenges the socially constructed limits of nature, so ecosystems transgress traditional paradigms of world order in an effort to reconfigure the landscape and redefine the place of humanity and the scientific perspective.

An ecosystem refashions the natural landscape. In doing so, it also reconfigures the cultural, political, and economic landscape. It blurs the conceptual boundaries that traditional paradigms have erected and perpetuated between the seemingly discreet spheres of culture and nature, in much the same way that our physical activities have effectively blurred the demarcations inscribed upon the biophysical landscape. Oil drums on the coast of Antarctica, abandoned oxygen tanks on Mount Everest, Los Angeles smog in the Grand Canyon, the far flung effects of acid rain, ozone and rain forest depletion, and a host of other extensive, human-generated modifications in even the most remote areas of the globe have destroyed forever the myth of a culture-nature dichotomy. Ecosystems, whether defined by "natural" or "cultural" features, are considered to be fully integrated and interdependent (as conveyed by the use of the word "community" which implies a connectivity between all the elements and processes, hence intimating that any activity involving one part has ramifications for all other parts), dynamic structural and functional "entities" that can be considered discreet at the conceptual level, for purposes of discussion, but not at the practical level, for purposes of management.³⁴ In other words, we may divide the landscape by use-classifications, to speak of this unit as being devoted to grazing, that one to timber, and

³⁴We can use any one component for purposes of defining an ecosystem ("ants, elephants, energy, or people") but that definition is nonetheless useful only for purposes of discussion. If one subscribes fully to the doctrine of the sensitive dependence on initial conditions, or on the "butterfly effect," ants and elephants and energy and people are still inextricably linked at some level.
that one to wildlife preservation, but neither the processes nor the organic or physical structures of the land respect or acknowledge these human classifications. An ecosystem is transgressive; it cuts across conventional cultural, biological, geographical, structural, and functional constructs and barriers. In doing so, the ecosystem concept explicitly acknowledges that while there is definitely something "out there," how we organize it is, finally, a function of social, scientific, and political institutions, values, and conventions. We are inseparable from nature because we create it, we define what it is, not just where it is. To openly admit that the world we live in is a human construct is not to deny the presence of the real, but to acknowledge the intrinsic, inescapable limitations and proclivities of our epistemic frameworks and to concede the contingency of our categorizing activities. To admit of nature as a construct is to retreat from a position of arrogance, yet to retain, perhaps even strengthen, our positions as humans. For just as the "proper place" — indeed the only place — of humans is in nature, so the proper place, as well as the fate, of nature is finally in culture. We inhabit (in the fullest sense of the word) nature since it is, ultimately, a place of our own making, an artifact of our need to locate ourselves symbolically in the real.

**Management**

The dictionary defines "manage" as the ability to "handle or direct with a degree of skill" or "to alter by manipulation." "Management" is "the act or art of managing" or the "judicious use of means to accomplish an end." Reconfiguring nature as an ecosystem and recognizing humans as not only the primary inhabitants but also the singular authors of those systems have significant ramifications for the theory and practice of land management. To the extent that an ecosystem transgresses older models of nature and the earlier boundaries erected by our social conventions, management strategies must also transgress traditional management paradigms, assumptions, and institutions. To do so will require a reformation of the power and
participatory structures, a redirecting of goals, and a candid assessment of both our ability and our willingness to achieve those goals in a complex, indeterminate, and largely unknown world. The following discussion shows just how adaptive management re-visions the role of management in this ever-changing context.

Getting to Adaptive Management

Traditional approaches to managing natural resources emphasize single-commodity production, based in large part on the humanist doctrine that saw all of nature as being naught but a vast resource storehouse for human use and appropriation: "trees were for logging, grass was for grazing, wildlife was for hunting."35 The concentration on single-commodity production, in turn, resulted in similarly single-minded management structures and strategies; an approach which, not unexpectedly, fostered institutional competition rather than cooperation. The development of centralized, professional agencies devoted almost exclusively to the management of specific commodities (Fish and Wildlife Service, Forest Service (timber), National Park Service (aesthetics and recreation), Bureau of Land Management (mining and grazing)—and, in keeping with the spirit of ecosystem management, we could include urban and regional planning agencies, family planning centers, etc.) institutionalized the fragmented approach to land management.36 Each agency had its own mandates and objectives, methodologies, areas of expertise, and power and participatory structures. Predictably, increasing fragmentation in the management structure resulted in a parallel fragmentation of the thing managed: nature. Rather than tailoring management institutions' mandates and methodologies to fit the landscape, we tailored the landscape to fit management requirements and parameters.

36Slocombe, "Environmental Planning...," p. 290; Knight and Bates, pp. 40-41.
In addition to being driven by single-commodity production, resource management has at times also been a top-down process. This management style is a holdover from the progressive era when centralized, federal control of resources was considered to be preferable and more efficient than state or local control. Hence, decisions about the production, harvest, and allocation of resources were made not by those in the field, but by bureaucrats in Washington who might set timber harvest quotas based on the financial bottom line rather than on the biological capacity of each individual forest to meet those quotas. Managers today are still often faced with having to decide between meeting today's budget constraints and tomorrow's biological ones. Choosing to log with roads and tractor trailers rather than with helicopters or horses, is one example in which economics (of one sort) often wins out over both environment and aesthetics — fuel consumption of helicopters, obviously, is one of the factors that must be considered when deciding on the most environmentally "kind" method of harvest.

While the failure of these top-down approaches is glaringly apparent today, the progressive management paradigm that gave rise to these formal arrangements correlated conveniently with the deterministic, mechanistic model of nature that obtained when resource management was conceived.

Because we have reconfigured nature as a dynamic ecological system that does not adhere to institutional or ownership boundaries and that admits of complexity and diversity, indeterminacy and chaos (as will be discussed below), we must also recreate our management frameworks and goals in order to make them operational in the new context. Not only are practices being challenged, but the very paradigms and principles that motivate those practices are under scrutiny. We are questioning our right to manage nature to suit our purposes; we have no clear, unified idea of what it is that we

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37 Slocombe, "Implementing Ecosystem...," p. 613.
38 Knight and Bates, pp. 42-3.
39 It is only fair to mention here that the federal land management agencies are now subject to the multiple use doctrine (Multiple Use Sustained Yield Act of 1960 16 U.S.C.A. ss 528-31) which requires federal agencies to manage lands for a variety of services and products. It retains, however, an "output" orientation.
need to manage for; we have no confidence in our ability to achieve goals once identified; and the sheer complexity of the problems as well as the difficulty of implementing solutions tends to overwhelm even the most optimistic manager. Land managers are increasingly forced to identify goals without hope of any "objective" confirmation of their rightness; to strive to reach those goals without being able to clearly see the paths that will take them there; and to act without fully understanding all the possible consequences of those activities across space and through time. Adaptive management has evolved as a means of dealing with these uncertainties and the variable quality of natural systems while at the same time providing a reasonable foundation for activity.

**Getting down the mountain in the dark**

Perhaps one of the greatest failings of land management has been its inability to accept that there are limitations to what we can know about the workings of nature. As Slocombe sees it, our failures "stem at least as much from planning and management problems . . . as from lack of fundamental knowledge about the effects of human activities."\(^{40}\) Recent work in the areas of "unknowledge and surprise," or ignorance and uncertainty, and their implications for environmental management suggest that to be effective, new management frameworks will have to develop methodologies that account for "irreducible ignorance."\(^{41}\) Generally, when faced with a problem to which the solution is unknown, we start with the assumption (recall Ehrenfeld's and Stanley's eloquent critique of the "arrogance of humanism" and its basic assumptions) that our ignorance can be "reduced or even completely eliminated" by "learning and scientific exploration."\(^{42}\) And indeed, the project of science has always been to push back the perceived limits of knowledge, to seek out new worlds, to boldly go where no one has

\(^{40}\)Slocombe, "Implementing Ecosystem..." p. 613.
\(^{42}\)Faber, 218.
gone before... as the opening dialogue to Star Trek so eloquently reminds us. "In the exuberance, which has been brought about by the successful progress of science," we fail, as F. A. Hayek notes, to take "our ignorance... seriously." Any inquiry into solutions should begin with the question "What can I know?" The answer to this question (in an ideal situation) would then determine the circumstances under which we would answer the questions: "What can we control? What possibilities for action do we have? What can we do?" But if we fail to establish the limits of our knowledge at the outset, then we are likely to misinterpret the corresponding limits to control, predictability, and possible activities.

In attempting to address this oversight in present environmental planning methodologies, Faber, Manstetten, and Proops give a detailed "anatomical" account of what they call the "sources of surprise:" risk, uncertainty, and ignorance. Risk and uncertainty both proceed from situations in which the outcomes are all known. In the case of risk, the probabilities are known and factored into the assessment; but in the case of uncertainty, while the possibilities of alternative outcomes are recognized, the probabilities of their occurrence are not all known, and hence, cannot be factored into the "equation." Risk and uncertainty are both formally dealt with (more or less successfully) in current land management. A state of ignorance, however, ensues when the "outcomes are not all known." It is further classified into two types: closed ignorance and open ignorance. Closed ignorance is a dead end (it is "the determined non-recognition of ignorance" that characterizes many of our activities with respect to the continued use of things like pesticides, nuclear power, etc. and might be called arrogance). Open ignorance is a state in which one is aware that there are gaps in knowledge, that there are unknown variables, and hence, is open to "surprise" in the form of learning. Open ignorance is further divided into reducible and irreducible ignorance. Ignorance that can be lessened by research and by science is reducible.

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43 Ibid.
44 Ibid.
Ignorance that cannot be lessened by education or scientific enquiry, on the other hand, is considered to be irreducible. Irreducibility is a function both of the "nature of the phenomena" (phenomenological) and "the way we conceive the phenomena" (epistemological). Genotypic change — that is, change in the fundamental gene structure of an organism that may or may not manifest itself in the phenotype — and chaos (sensitive dependence on initial conditions) present phenomenological barriers to knowledge while hermeneutic (the constraints inherent in any language structure or system of communication), axiomatic (basic principles accepted as true without benefit of proof), and logical constructs present epistemological barriers.\textsuperscript{45} Postmodern deconstruction poses an equivalent formulation of this assessment of the limits of knowledge when it speaks of the opacity of the \textit{real} and the inescapable constraints of \textit{logos}.

The point here is to suggest that our approaches to identifying and solving environmental problems might benefit from a general acceptance of our state of ignorance with respect to the world, both in its present and future states. Faber et al. suggest that ignorance "can be thought of as the context within which we hold whatever knowledge we have (or think we have)."\textsuperscript{46} The management implications of this taxonomy of ignorance and knowledge are considerable. Typically, management identifies an end and then sets out to pursue that end by specified means — means being determined by expediency, economics, politics, aesthetics, etc. But most importantly, the whole activity of management is predicated on the assumption that not only can one identify an achievable end, but one can also direct the course of action so as to unerringly achieve that end. The introduction of the possibility of irreducible

\textsuperscript{45}The meaning of this sentence is that there are two basic sorts of limitations to knowledge: one is inherent in the phenomena themselves, the other in our modes of perception and cognition. This entire paragraph is a simplification of Faber et al.'s argument. For an elaboration on chaos theory and the idea of "sensitive dependence on initial conditions" see James Gleick, \textit{Chaos: Making a New Science}, (New York: Penguin, 1987.)

\textsuperscript{46}Ibid., 233.
phenomenological and epistemological ignorance into any system, however, tends to undermine the project of managing that system for any particular end.

All is not lost, however, with the advent of "recognized" ignorance. After all, it is not as if ignorance did not exist before, but simply that we have neglected to give it due consideration when making our plans for the environment. Navigating within the context of ignorance is a little like trying to get down a mountain in the dark; we have an idea of where we want to be, but cannot see how to get there. Common sense dictates slow, deliberate, motion, one step at a time rather than a headlong rush. Confirm the results of the last step before committing to the next, and as a corollary, avoid putting all weight on one foot until solid grounding is confirmed. If a certain move is known from experience to have catastrophic results, do not repeat it. (We tend to know more about what does not work than what does.) Conversely, if a certain move has been used successfully in the past, it is worth repeating if circumstances allow. Adopt an attitude of "openness, creativity, and flexibility" in looking for unexpected ways to reach the desired end. But perhaps most importantly, be prepared to entertain the possibility that the desired end may be either altogether impossible or virtually impossible to reach from the present position. After all, when navigating in the dark or making decisions in the presence of ignorance, it is only prudent to adopt an attitude of humility rather than arrogance.

Adaptive resource management advocates just such an iterative, "experimental" approach to managing ecosystems. It "assumes that scientific knowledge is provisional and focuses on management as a learning process or a continuous experiment where incorporating the results of previous actions allows managers to remain flexible and adapt to uncertainty." It begins with an inventory of present conditions. Narrowly translated, this means tallying up the available data on species

47 I am indebted to Alan McQuillan for this metaphor.
48 Ibid., 239.
49 Lee, pp. 8-9.
50 Grumbine, "What is Ecosystem..." p. 31.
and habitats and giving an account of the "state of the world." More broadly construed, it means taking stock of the status of our knowledge and giving ignorance its full due. The next move is to use our knowledge of present conditions to design options. This is the step at which we are most likely to miss a possible avenue because of epistemic or phenomenological barriers. Pursuing one option instead of another necessarily involves tradeoffs, so we must first evaluate (in so far as we are able) the benefits and costs associated with each option. At some point we have to stop deliberating and make choices — that is, we have to plan the course of action that will most likely realize the desired future condition within the parameters of what we deem to be acceptable losses. Once the course is planned, actions are undertaken. The most critical phase of adaptive management now begins: that of monitoring, of measuring, and of evaluating the responses of the environment to our actions. Again, due respect for ignorance is essential at this stage since slight modifications in the present circumstance may have immense unforeseeable consequences for future states. Finally, we must be willing to adjust the course, even to modify the ends if necessary, to account for the results of our monitoring and evaluations. The process then begins again.51

Why Manage?

At some point in developing a management philosophy or practice, one must address the misgivings of those who are categorically opposed to the whole project of managing nature, and most especially, wilderness. The idea that nature is best able to handle its own affairs under natural conditions is undeniable. The difficulty is that population growth along with increased consumption and waste production on the part of humans leads to inequity in resource allocation; diminished availability of land and resources; degradation of water, soil, and air quality; conflicts over land uses; and a host

of other problems that require management and regulation.\textsuperscript{52} History has taught us that we can no more "leave nature alone" than we can hope to turn the whole into one giant commodity producing factory. In the first instance, we consume vast quantities of nature's products in order to survive. George Perkins Marsh pointed out in 1864 and Gifford Pinchot at the turn of the century that "leaving nature alone" results in over-exploitation and unmitigated destruction.\textsuperscript{53} The problem in contemporary society is even more complex since public outcry and lawsuits quickly ensue when \textit{laissez faire} attitudes, like "let-burn" policies in Wilderness Areas or National Parks, threaten private property in adjacent lands or create undesirable air quality in distant regions. In the second instance, we simply lack the necessary attributes of omniscience and omnipotence to implement effective "total-systems" manipulation and control. To date, attempts to control and direct the processes of nature (as with channeling and damming large rivers) — which despite all of our knowledge is still mysterious and unpredictable — have been almost as devastating as leaving it alone was in the late nineteenth century.

Calls for minimal management and interference are laudable; but as long as our takings are at maximum, our management will perforce be at maximum. Increasing and conflicting demands do not allow us the luxury of simply sitting back and letting nature take its course. Slocombe expresses the necessity of management when he states that "the expansion of planning interest from human-created and modified environments to the natural environment, from peoples' immediate surroundings to the entire biosphere, has been necessitated by the expansion of human activities themselves."\textsuperscript{54} In all honesty, "nature" in some form or another will always exist.\textsuperscript{55} The pertinent questions from the human perspective are: Under what conditions will humans survive? What


\textsuperscript{54}Slocombe, "Environmental Planning" p. 289.

\textsuperscript{55}Lee, p. 4.
will be the quality of that survival and existence? What sort of world do we want to live in? And what are we willing to forfeit to get it? These are the sorts of questions that must be asked and answered before management plans can be developed. Management, within this context, becomes not merely reactive, but more "pro-active" and creative in its efforts to meet peoples' needs as well as their desires across a variety of spatial and temporal scales.\textsuperscript{56}

Reinventing Management

How and to what extent we manage reflects our attitudes toward the land and our assumptions about our own abilities to manipulate nature to suit ourselves. In adopting the more flexible, creative approach advocated by adaptive management, we explicitly concede the contingency of our knowledge and the limitations of our ability to successfully manipulate a dynamic and complex world. Rather than assuming a position of superiority and seeking complete dominance, adaptive management assumes a position of contextuality and interdependence that immediately precludes the possibility of total dominance. It does not assume that we are without the power or means to inflict cataclysmic and irrevocable changes on the landscape, but rather that in the interests of survival at most and aesthetics at least, we might want to practice a little discretionary humility in designing our world. It brings to bear the sum of our knowledge and our skills, gives ignorance its full due, and risks taking action in an indeterminate, human-constructed world.

Holistic or adaptive resource management suggests that those best suited to practice that discretion are the people who live in an ecosystem, the "stakeholders."

Ecosystems are habitats, "home places" not only to humans, but to a multitude of plant

\textsuperscript{56}Due consideration must here be given to the ambiguous nature of the term "needs." Defining it is — or should be — a never-ending cultural endeavor. What I am trying to get at here are the most basic minimum requirements of human survival: food, water, and air (again leaving aside any discussion of the quality of these basics). Beyond that, the question of "needs" is a hotly debated topic, in which the role of land managers is minimal at best.
and animal species. They are spaces — both figurative and literal — carved by humans out of the wilderness of the real to suit our needs and to fulfill our desires. Home places are the sole suppliers of the resources on which we depend for life: they provide food for life as well as food for thought. They are also the final recipients of the waste of our civilizations and the by-products of our creative activities. Needless to say, the human inhabitants of a place will not always agree on what they want for their particular corner of the world. There is also no guarantee that those who live in a place will always choose what is "best" either for it, the other inhabitants, or themselves; nor that in choosing what is "best" for themselves they will not knowingly shift the burdens of meeting their needs to other areas. (Hence, the powerful and essential role that a healthy, functioning participatory democracy plays in protecting the environment.) A keen sense of place is essential if environmentally viable and socially acceptable decisions are to be made by stakeholders. Wendell Berry cautions us that technical expertise and "expert advice" is of little value "if one's knowledge of one's whereabouts is insufficient, [and] if one's judgment is unsound. . ." By placing the burden of decision making and management on the inhabitants of a place, ecosystem management implicitly acknowledges, as did Gifford Pinchot, that the success of any conservation or management plan is ultimately dependent upon those who live in and around the area. "Home places" are not merely biophysical entities or geographical locations. They are complex, indivisible amalgams of organic elements and social, political, and economic values and institutions. To manage them requires an equally integrated assortment of people and institutions, of values and desires, of knowledge and technical expertise. Ecosystem management seeks to balance social and economic development with environmental protection, not because the two are inevitably compatible, but

58 See Kai N. Lee, *Compass and Gyroscope*.
60 Pinchot, p. 17.
because it is impossible to go about the business of achieving one without also achieving the other. To presume to do so is to perpetuate the old ideas of independence, self-sufficiency, and discreet or impermeable enterprises and entities, a myth that the integrated approach of ecosystem management attempts to overcome. There are always trade-offs, both on- and off-site effects of any activity undertaken (or, for that matter, not undertaken) in any ecosystem. But with a little willful creativity mixed with a healthy dose of humility, with a solid grounding in the ecological, economic, and social peculiarities of a place, and most of all, a willingness to be "surprised" by the unexpected, we should be able to reinvent our home places, ourselves, and the terms of the relationship between these.

Conclusion

On a simplistic level, ecosystem management is the conservation community's response to environmental degradation and the alarming loss of species, or biodiversity. On a deeper level, however, it is an acknowledgment of the collapse of traditional ideologies, of metaphors of culture and nature, and of management paradigms that have precipitated the deteriorating conditions. According to Daniel Botkin "the failure of management of living resources [is] a symptom of the breakdown in myths, beliefs, and fundamental paradigms that modern technological civilization held about nature." Ecosystem management suggests a new perspective, proposes an alternative conceptual framework that establishes a complex context within which to explore the implications and difficulties of practicing resource management in a postmodern, deconstructed landscape.

In my opinion, it is not in its assumptions, but rather its aspirations, that ecosystem management borders on the utopian ideal or arrogance. Ecosystem

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62 Grumbine, "What is Ecosystem...," p. 28.
63 Botkin, p. 24.
management envisions a balanced integration of ecological, economic, and political concerns that aims to produce and sustain healthy ecosystems, vital communities, and quality life. These goals are lofty, to say nothing of being eminently susceptible to individual interpretation, and hence, conflict. But I reiterate that it will fare better for setting its sights too high, casting its net too broadly, and transgressing too many boundaries, then it would had it confined its search for innovative solutions to unprecedented environmental problems to conventional avenues within traditional paradigms. The risks in "leveling the playing field," so to speak, as ecosystem management does, are great: by acknowledging that an ecosystem is a social construct, it opens the way for competing world views that may not be compatible with current goals for resource conservation; by admitting to ignorance, it lays itself open to unending criticism and a loss of public trust; by acknowledging that our abilities to achieve goals are limited, it sets the stage for a backlash against any activity at all; by soliciting public input, it creates the possibility that the voices of reason, science, and authority will be drowned out by those of need, opinion, and desire; by conflating the domain of culture with that of nature, it runs the risk that all of nature will become one great cultural artifact or science project. Most of all, rather than being applauded for having the foresight to set its aspirations high and construe its mission broadly, it runs the risk of being scorned for naïve idealism and failure to achieve those goals. Its success, in other words, will be measured not by how far it takes us from where we were, but to what extent it falls short of taking us where we expect to be.

To quibble about whether we have the right to manage our environment is a moot point: we either do it by commission, with intentionality, creativity, and skill, or by omission, wherein the final design is a result of accident and coincidence. To question the necessity of doing so borders on madness given our inexorable encroachment on "natural" spaces and inexhaustible acquisition of resources in the

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64 USDA Forest Service, 1994.
pursuit of survival and "quality life." To question our abilities to manage nature and ourselves effectively is only prudent given our past record — hence the "experimental" and "provisional" nature of adaptive management. And finally, that ecosystem management has evolved at all indicates a glimmer of willingness to explore new and innovative approaches to age-old problems. Ecosystem management, as a practice, may or may not succeed. But as a theory, as a new way of seeing ourselves and the world and the project of land management, there is little chance that it will lose the ground already gained.

Ecosystem management might be said to be more of a rhetorical trope — a phrase around which a discourse revolves and develops, which may eventually give rise to a wide array of practices — than an actual, set plan to manage the environment. As a focal point for discussion rather than a plan of action per se, it can accommodate shifting values and contradictory desires; function as a context within which to assess new information and test the viability of new ideas; and explore the perceived barriers to ecological, economic, social, and political activities without being forced to commit to any one specific plan of action. Ecosystem management legitimizes concerns that were ruled out in earlier, narrower constructions of management. As an activity, ecosystem management functions somewhat like an asymptote; it plots a course of action and management that continually approaches, but never quite achieves the goals it sets for itself. It perpetually reinvents itself, adjusts its course and its desired outcomes as new information presents itself. One contributor to the discourse perceives ecosystem management as but "a stage in the continuing evolution of social values and priorities; it is neither a beginning nor an end." As a rhetorical trope, ecosystem management might avoid (or at least defer) the typical fate of any popularly accepted innovative perspective; once formally presented, an idea tends to become institutionalized, to

65 This statement assumes that our perceptions of human rights prevents us from controlling human populations to any great extent.
66 Lackey, p. 2.
develop a canon or doctrine by which it is constrained, calcified, and consigned to eventual obsolescence. In remaining steadfastly committed to maintaining its own complexity and diversity, ecosystem management retains its adaptability; and, by retaining its adaptability, it also facilitates its own survival.

The task of ecosystem management then, is to establish a framework within which we can explore the imagined limits of our imagined world: to test the self-imposed boundaries that we have erected between the cultural and the natural, between urban planning, resource conservation, and wilderness preservation, between ourselves and our habitat. It is as much about managing people as about managing resources. It is about making choices, about identifying desired future conditions within the constraints of what our knowledge tells us is possible. It is also about a willingness to be surprised by our own failure to imagine.

CHAPTER FOUR

FINDING THE GARDEN AT THE BOTTOM OF NATURE

...[T]he idea of a garden — as a place, both real and metaphorical, where nature and culture can be wedded in a way that can benefit both — may be as useful to us today as the idea of wilderness has been in the past.

Michael Pollan,

Introduction

The preceding two chapters have been about transgression, about deconstructing the conceptual boundaries that effectively circumscribe our interactions with nature and the world at large. Postmodern deconstruction takes issue with the distinctions we make between life and art; reminding us that life — the world, nature, culture, science, philosophy — is an act of artifice, a product of the creative and generative powers of language and the human mind. Its final message: we can change both the world and the character of our relationship with it by modifying our paradigms. Ecosystem management, one might say, is how postmodern deconstruction looks on the ground. It is one example of how we re-vision the world, locate ourselves in it, and reform our activities. It seeks to overcome the barriers — the real ones and the constructed ones — that created and continue to sustain atomistic approaches to land management and resource conservation. It is also an effort to establish a viable conservation agenda in a newly "unbounded" world in such a manner as to legitimate human presence and participation in the natural order of things.

The subject of this fourth and final chapter, by contrast, is the reconstruction of the world through the activity of gardening. Gardens are like texts that chronicle our continuous de-construction and re-construction of the spaces in which we live. They are records of how mind affects matter, how alterations in our paradigmatic structures change the ways in which we "write" the world into being. I have chosen to use the time honored and "field-tested" model of gardening as a potential model for ecosystem
management for a variety of reasons. The gardener, like the land manager, is in the business of organizing space based on both "found" and constructed differences, of making choices between what is culturally desirable (or undesirable) and what is "naturally" possible (or impossible). Gardens, like any "managed" landscape, occupy the liminal zones, those middling areas between sacred and profane, between social culture and biological culture, between the real and our constructed imaginings — those places where the bulk of our daily existence is lived out. Hence, gardeners and land managers, as creators and stewards of these middle zones, know well the burdens and the rewards of making choices and designing landscapes in indeterminate, but not unbounded, contexts.

But there is more. The philosophical and operational position adopted by the gardener with respect to the "capabilities" of the land and the limitations of human craft is one suited to the land manager who manages a deconstructed landscape for a postmodern society.\(^1\) Gardening, much like ecosystem management, is simultaneously deconstructive and reconstructive, transgressive and synthetic, creative and derivative, unapologetically humanist without being exclusive, and equally devoid of both romance (in the sense of an illusory benign harmony) and hubris (in the sense of delusions of total, perfect control). By habitually working in the liminal zones, readily crossing the threshold between the natural and the artificial, the gardener is comfortable with (though never blasé about) intervening in the affairs of nature on behalf of human desires. She is equally accustomed to having nature intervene in the affairs of humanity, despite her best efforts to the contrary. Additionally, the success of the gardener's art is determined by her ability to differentiate between what she wants and what nature will allow, and to combine elements of the wild with those of the cultivated without unduly compromising the integrity of either one; to understand, in short, that

\(^1\)Not all the practices and attitudes evinced by gardeners are desirable or ecologically viable; there are, however, some general ways of seeing the world that might prove useful in developing working paradigms for ecosystem management.
the essence of gardening lies neither in human domination of nature nor the tyranny of
a deified nature over an unresisting culture. Finally, the gardener’s direct and intimate
contact with the land provides her a pragmatic “sense of place” that precludes
humanistic illusions of perfect, total control, or alternatively, romantic notions of living
in passive, benign harmony (i.e., living without weeding). Gardening is a spectrum that
ranges between the extremes of total control and pure romanticism

Gardens and Forests

The concerns of the traditional gardener are not far removed from those of
forester or land manager. Both land management and gardening ultimately come down
to choices; choices about how to design the world, what products to cultivate or select,
how to reconcile needs with desires with the capabilities of the land, and how, finally, to
live in the world without heedlessly compromising the integrity of nature or
dehumanizing ourselves. Although in contemporary thought and practice we
distinguish between gardening as a “gentle art” and resource conservation as a “rigorous
science,” ecosystem management adheres to a perspective that in many ways harks back
to traditional gardening paradigms by suggesting that we adopt a more interactive,
inclusive, creative, and humble approach to dealing with our surroundings. Traditional
land management is utilitarian in aspect, with roots in the industrial, progressive era
when land was regarded as merely a storehouse of raw materials awaiting harvest and
use. Traditional gardening, especially that practiced in the eighteenth century by the
English landscape gardeners, focused not only on the aesthetic arrangement of organic
matter, but on the incorporation of the more practical necessities of life into the scheme
of the whole. In modern society, however, gardening has been relegated almost

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2One might recall that in the late nineteenth and early twentieth century — the age
when resource conservation in America was just becoming an issue — there was a
journal entitled Garden and Forest edited and published by Charles S. Sargent, a friend
and colleague of both Gifford Pinchot and Frederick Law Olmsted.

3Richard L. Knight and Sarah F. Bates, A New Century for Natural Resources

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exclusively to the sphere of culture. It is regarded largely as an "unnatural" activity yielding "unnatural" products, because human artifice is involved in the creation of the landscape design, its maintenance, and the selection of (usually) non-native plants. Gardening is something one does in the backyard, not in a national park.

The connections between gardening, land management, and postmodern deconstruction are best elucidated through an examination of the historical roots of Western gardening. Whereas land management, as a scientific and political endeavor, is but a century old, gardening is a millennia-old practice that, prior to the advent of land management, served as the primary mode of "communication" between people and nature. Hence, by looking at gardens and gardening history, we trace the course of "nature" through the annals of civilization and point up areas of convergence with ecosystem management. Further, it offers concrete historical evidence in support of statements made in Chapter Two to the effect that we create nature — what it is, how it works, its proper relation to culture, and how we locate ourselves in it — and that our creations, like our understandings, change over time and space. It should be noted at the outset that I am not suggesting we turn every alpine meadow into a mown lawn and every forest into an idealized grove; rather, gardening is of interest because, as a record of the cultural roots of our sense of nature and our sense of place, it offers examples of how we might avoid old mistakes and choreograph both future landscapes and activities. For while the motive forces in landscape design are often assumed to be predominantly aesthetic, they might more properly be considered reflections and derivatives of spiritual, political, scientific, or philosophical principles.

Taking gardening in the broadest sense and in keeping with the ideas expressed in Chapter Two, I would like to suggest that all lands — even those federal lands that comprise America's much vaunted "wild" west — are gardens because they are always and already human artifacts, products of our imagination, if not our activities. In many respects, our gardens are like texts or geoglyphs, inscriptions left on the landscape as
records of place. All nature is at bottom, a garden, a culturally constructed place wherein the "natural," by definition, resides. Gardens themselves come in many forms, some inscribed into the mythic landscape (Eden and Arcadia) while others are worked out on the organic landscape; some are narrowly bounded by proximity to civilization and are seen in contrast to it, others stretch from horizon to horizon, occupying entire countrysides, perhaps even encompassing human settlements within their scope (historical perceptions of Italy as the "Garden of the World," or New Jersey, the Garden State). More or less artifice can be employed in creating a garden landscape; the artistry may be solely resident in the mind or eye of the observer inclined to see the whole of nature as a garden; or, in contrast, it may involve extensive and intensive manipulation of earth, rocks, plants, and water to create a very specific desired end. The mythical gardens, like those of Eden and Arcadia, or the literary gardens of Milton and Ovid exercise a strong evocative power over the human imagination and have proven to be inescapable creative stimulants throughout Western history. These mythical and literary creations are products of an author's, and hence a culture's, imagination; they are the loci of some our deepest desires regarding the "state of the world" and our preferred relationship to it.  

Garden History, or Mind Over Matter

It is in the garden, or its modern manifestation the national park, managed forest, recreation or designated wilderness area, that the terms of our relationship with nature are spelled out. Within these areas, our beliefs are turned to practice, our word made flesh so to speak. It is almost certain that gardens in one form or another have been in existence since hunter gatherer societies shifted from a nomadic lifestyle to a more settled one of farming and herding nearly ten thousand years ago. What is not

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4This is not to suggest that mythical and literary gardens are peculiar to Western culture; there is a well-developed Eastern tradition as well, as exemplified in the "Garden of God" mentioned in the Koran.

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clear, however, is exactly when the strictly utilitarian garden gave way to the pleasure garden — or even which really came first. The presence of pleasure gardens (or of national parks, wilderness areas, recreation areas, etc.) in any society indicates not only a certain level of affluence and hence of leisure time, but also a degree of alienation from the source and means of production that enables one to view nature as an "environment," a medium for pleasure rather than simply as a source of livelihood.

This is not to suggest that earlier peoples failed to take pleasure in the happy accident of a shady grove or a flower-strewn meadow, but rather that gathering decorative or ornamental plants with the intent to create a space devoted to the enjoyment of these things (or preserving specific areas for their aesthetic values) requires free time, a modicum of security, and the distancing of oneself conceptually and effectively from the "natural" world.

The Medieval landscape: nature enclosed

Unlike their Far and Middle Eastern counterparts, the earliest gardens of feudal and Medieval (roughly CE 500-1500) Europe were primarily utilitarian. These gardens served to produce edibles, medicinals, and other necessities for daily living, and there is little evidence to suggest that cultivators gave much consideration to the aesthetics of gardening, the implications of spatial manipulation, or had any ambivalence about redesigning nature to suit their purposes. The practical necessities of eking a livelihood out of an environment that was far from benign often tended to cast humans and

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5 Documents dating from 2000 BCE indicate that the tradition of pleasure gardening was even then firmly established in China. The East possessed an eloquent, clearly articulated landscape aesthetic, an extreme sensitivity to and awareness of place, and a well-developed formal technique signifying a consciousness of "nature" that would not become common in the West for several more thousands of years. (see Howard Loxton, ed. The Garden, (Toronto: Key Porter Books, 1991), p. 12).
9 Jackson, p. 38.
nature into adversarial, rather than symbiotic, roles. The land outside a cultivated area was a literal and conceptual "wilderness," a place of danger, where social outcasts were exiled to live out their lives as "wildmen."

But by the twelfth century AD there are indications that small changes were underway in Europe.10 "Troubadours of the cult of courtly love" began to cast their romances in garden settings and though we have little evidence of the content or purpose of these gardens, the very fact that nature — constrained, enclosed, ordered, and thoroughly tamed though it was — was actually drawn into the sphere of human consciousness as a setting for human "beauty and performance" marks a significant change in its status.11 The literature and art of the later Middle Ages transformed nature from an essentially "unseen" chaos and wilderness to a backdrop for human endeavor; the "grass of the field" became the "carpet to dance upon, a lawn to tilt upon, or a serviceable crop of hay."12 The particular "nature" favored and depicted by Medieval people was highly stylized, and indeed, "all that was rugged, rough, dark, wild, and unterminated" was rejected out of hand as "the domain of 'salvage [sic] men' and monstrous giants" while all that was "tender, bright, balanced, enclosed and symmetrical" was admired and hence suitable as an object for civilized human interest.13

10Loxton, p. 24. Knights crusading in the Holy Lands in the 12th and 13th centuries would have been exposed to the luxuriant paradise gardens of the Arabs and it seems plausible that some of the ideas would have made it into the vernacular landscape upon their return to Europe. In 1270, a crusader returning to Picardy introduced hydraulic automata and water tricks into his gardens, both standard features of Eastern gardens, but of little practical value in a garden devoted exclusively to the production of the next meal. Failure to mention the classical gardens of Greece and Rome should not be construed as an implication that they are therefore unimportant or irrelevant; they simply fall outside the scope of the present discussion.
11Ibid.
12John Ruskin, (Robert L. Herbert, ed.), The Art Criticism of John Ruskin, (Garden City: Doubleday & Company, Inc., 1964), p. 311. A peculiarity in the art of the Middle Ages depicts the changing view of nature: in the thirteenth century, "landscapes" or elements necessary to marking the presence thereof, were set upon "chequered" backgrounds; in the fourteenth on golden backgrounds; and, finally, in the fifteenth century the sky, and a horizon of sorts became more commonplace (Ruskin, 316).
13Ibid., p. 311.
The Church put nature into the service of religion in the late Middle Ages. Just as it wielded incredible power in the social and political arenas, so the Church also proved to be one of the most influential purveyors of custom and convention with respect to the function of gardens and the place of nature. Initial efforts were confined to rendering the garden in such a way as to symbolize various Biblical elements and events. Later efforts were more elaborate, moving away from the symbolic, to the representative or imitative — gardens became the Garden of Eden, just as anything beyond the garden wall became the conceptual and literal wilderness to which Adam and Eve were banished after the Fall. The power and success of the hortus conclusus, or enclosed monastic garden, was predicated on the explicit difference (and hence juxtaposition) between the organized rationalization of the inner garden and the chaotic danger of the external areas. A small window in the wall of the hortus served to remind those enclosed within the reclaimed and manufactured Eden of the consequences of sin. The hortus conclusus also functioned as a metaphor for the soul and good husbandry of both soul and garden was taken to be essential to achieving eternal life.\footnote{John M. Prest, The Garden of Eden, (New Haven: Yale University Press, 1981), p. 21. For more comparisons of the human soul with the garden, see, among others, Psalms 1:3, 52:8, 92:12; Proverbs 11:28, 30; Ezekiel 19:10-11; Jeremiah 17:8, etc.} The gardener, attempting to uncover the order of God's original creation, ministered to nature in order to free it from the tyranny of post-Fall evil and chaos. In its religious context, "nature" did not represent itself necessarily, but was also a sign of something else: in the garden, "nature" signified the original or redeemed state of humanity, while in the wilderness, "nature" depicted the fallen state.\footnote{J. B. Jackson, The Necessity for Ruins, (Amherst, MA: University of Massachusetts Press, 1980), p. 37. For further discussions of the connections between the state of nature and humanity's moral character, see Genesis 3:17-24; Hosea 4:3; Isaiah 51:3, 11:1-9; etc.} Rendered thus, the power and the appeal of the garden lay not in its literal resemblance to Eden or in any particularly beautiful composition, but rather in the associative or signatory qualities of its iconography; to create such a garden required the combined talents of
gardener, alchemist, astrologer, and priest. Nature, in the Medieval reconstruction of it, had no formal character of its own, no inherent or intrinsic value; meaning and value tended to be derived through the symbolic order imposed upon it by religious and political institutions. Even today, in an age that purportedly values wilderness in itself, we continue to labor under the old religious associations that burden landscape, tending to associate cultivated and ordered ones with virtuosity and unkempt, disorderly ones with laziness or a weakness of spirit.

The landscape of the Renaissance and Enlightenment: nature rationalized

During the Renaissance yet another layer was added to the already complex attitudes that humans exhibited toward nature. It is to the Renaissance that we owe many of our current ideas about nature and humanity. Known as the age of Humanism, when the measure of man was the measure of all things, Renaissance philosophy and practice rejected the supernatural, the extraordinary, the mystical, and the unexplained in favor of the natural, proportionality, the "normal," and the scientific method. It was an age when faith in the human mind, in the power of Reason to surmount any obstacle and to penetrate any mystery reigned supreme. Paracelsus, a sixteenth century physician and mystic, writes in a particularly optimistic passage that "there is nothing in the depths of the seas, nothing on the heights of the firmament, that man is unable to discover." Classically educated and civic-minded, the

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16Ibid.
17For an expansion of this idea, see David R. Williams, Wilderness Lost: The Religious Origins of the American Mind, (Selinsgrove: Susquehanna University Press, 1987).
18It is difficult (and incorrect) to characterize the Renaissance under one all-pervasive description. It was a period lasting over three centuries — roughly the fourteenth through the sixteenth — characterized by a wide variety of "movements" and "schools of thought." The picture delineated in this paper is, due to brevity, necessarily quite narrow and reductionist.
Renaissance man was ruled not by passion or sentiment, but by Reason. Logic and
graphy were two of the primary tools of Reason; chaos and disorder were anathema.21

The seventeenth and eighteenth centuries were heralded as the age of
Enlightenment.22 Europeans combined the wisdom of ancient Greece and Rome,
interest in which was revived during the Renaissance, with recent advancements in the
sciences and technology; in doing so they transfigured the political, social, intellectual,
and artistic fabric of the West. The widespread acceptance of Cartesian metaphysics
irrevocably cleaved mind from body and reason from emotion, culture from nature and
science from religion or magic. From a position of manipulation on a relatively modest
scale, the human relationship to nature evolved into one of unrestrained acquisition
and overt domination over the course of the Renaissance and the Enlightenment.
Nature, that part excluded from the hortus conclusus by the ever-present wall, was no
longer simply a backdrop for human activity or a foil for the civilizing influence of the
garden interior, but rather the central stuff on which human artifice might be exercised
and toward which human reason should be directed. Writing in the late sixteenth and
early seventeenth centuries, Francis Bacon, the much celebrated "father of modern
science," is maligned by some for his role in establishing the fundamental paradigms
that determine our perceptions of nature.23 He insisted that "nature exhibits herself

21 John Ruskin likens Renaissance knowledge to the suit of plate-armour that
constricts and inhibits the wearer. His metaphor accurately captures one side of the
contrasting interpretations of the character and legacy of the Renaissance. In one
instance, the imposition of abstract Forms and Ideals on the variable, mutable
substance of organic nature, the privileging of reason, and the development of a rigid
scientific discourse disinherit the spirit and impoverishes the material world and the
spiritual experience thereof. In another diametrically opposed reading, accurate
observation, reason and scientific enquiry—whose subject matter is the natural world—
are the only means of freedom from the tyranny of superstition and religious dogmatism,
and it is only through the exercise of our faculty of reason that we can ever hope to gain
some insight into the workings of nature. (Ruskin, p. 262.)
23 Carolyn Merchant, in her book The Death of Nature gives an accurate, if somewhat
one-sided and limited portrayal of Bacon's contribution to modern science. David
Ehrenfeld in The Arrogance of Humanism offers a more rounded portrait by noting that
Bacon also reminded us that "Nature is only to be commanded by obeying her" (p. 9), a
statement often ignored in favor of his more aggressive ones.
more clearly under the trials and vexations of art than when left to herself."\(^{24}\)

Investigation into the secrets of nature was no longer "interdicted or forbidden" as it was under the old metaphor of "mother earth" with all its implications of incest and rape. Nature should be constrained, "bound into service," "molded," and made a "slave" to the greater will of mankind.\(^{25}\) It was naught but a wondrous machine, a mechanism to be prodded, poked, manipulated, and subjected to the inquisition of nature's "searchers and spies." (The metaphor of nature as a machine has proved particularly resilient — and damaging — over the centuries.) As an objective, independent inquisitor and director, rather than a dependent participant in its subject, humanity dissociates itself from nature, and once separated, assumes the role of controller. We presumed, in our arrogance, to possess sufficient wisdom and power to manipulate nature for both its own betterment and that of mankind.\(^{26}\)

The task of the scientist was to discover, through investigation and critical analysis, the fundamental order of nature. The task of the late Renaissance gardener, in turn, was to realize this order on the face of the earth. As in the Medieval period, the land functioned as a medium, a text like any other text, on which to inscribe and append an entire philosophical and political system. The unbounded optimism in the power of Reason had its practical manifestations in the landscape arts, wherein the "infinite appetite" for expansion met with no perceptible "limit[s] to the amount of land that could be recovered from wilderness and from the consequences of the Fall."\(^{27}\) To the Renaissance mind straight lines and right angles (not ordinarily found in nature)


\(^{27}\) Prest, pp. 94, 92.
were the mark of intelligence, and strict adherence to the principles of regularity, symmetry, and uniformity were necessary to the success of any aesthetic endeavor.\textsuperscript{28} Continental gardens broke the bounds of the Medieval \textit{hortus conclusus} to march across artificially leveled landscapes in neatly regimented, perfectly regular Euclidean quadrangles. The landowning aristocracy made of the "fields and meadows an open garden and the whole Country a perfect Paradise."\textsuperscript{29} The perfectly straight, tree-lined avenue, what Prest calls "the policeman's truncheon of topography," was the preferred tool for subjugating both irrational nature and lawless society.\textsuperscript{30} Avenues radiated outward from mansion doorstep to distant horizon, metaphorically representing the power of reason stretching beyond the confines of culture to impose its structured logic on the world (as with Roman roads). Disorder in any part of the landscape could be immediately detected by the "omnipotence of the despotic gaze" of the autocrat inspecting his geometrically subdued domain from his doorstep.\textsuperscript{31} Religious symbolism gave way to secular and political ideology, and the increasing magnitude of the constructed, assiduously gardened spaces was a measure of human achievement. The French in particular seemed to have a talent and a passion, as well as a suitable topography, for this sort of grid-like gardening, and the unrelieved geometric rigidity of the Sun King's gardens at Versailles is perhaps the most perfect example of Renaissance rationalism.

The Renaissance predilection for geometric rationalism and simplification of nature, is still pervasive in the Western mind, and hence the Western landscape. Not only do we organize our cities along grids, but our farms, our vegetable gardens, our yards and even the boundaries of our National Parks and Wilderness Areas are subject to this passion for Euclidean rationalization. Management units and ownership boundaries are more often delineated by the surveyor's level than by topographical

\textsuperscript{28}ibid., p. 94.
\textsuperscript{29}Charles Evelyn, \textit{The Lady's Recreation}. 1717, p. 138, quoted in Prest, p. 92.
\textsuperscript{30}Prest, p. 94.
\textsuperscript{31}Prest, 94-95.
features, ecological processes, or habitat requirements. Of the many problems confronting modern forestry in America today, one of them is its tendency to "superimpose rectangular grids of clearcuts (along with a zig-zag pattern of logging roads)" on visually (and ecologically) complex landscapes. While we may find this sort of grid-organization to be appropriate, even necessary, in designing urban spaces, the public is no longer willing to accept it in a "natural setting," or even in a suburban one.

Italian gardens of the Renaissance period also reflected a reawakening to classical ideals, but were different from their Continental counterparts in that the obsession with Euclidean order was tempered by the variable nature of the topography and by a renewed interest in the less constrained gardens of ancient Rome. Taking their cue from Pliny the Younger, the Italians extended the living space of the country villa to the garden by means of loggias and terraces, thereby taking the unprecedented step of situating culture in the median space carved out of nature by the garden. The gardens in the immediate vicinity of the villa were used to frame and to draw in distant vistas. Likened to "roofless rooms," level parterres and terraces were connected by gravel and stone walks often called "corridors." Business was conducted in "outdoor drawing rooms," theatricals performed in outdoor amphitheaters, and philosophical and political issues debated in outdoor "academies." Nature, as such, was not simply a backdrop for human activity, but an integrated part of daily living, ornamented and decorated with sculpture and various architectural devices just as the interior of a house might be. As an extension of the house, the content and design of the garden were dictated by the same rules that governed architecture. This garden "architecture" took the organic life forms of trees, shrubs, grasses, water and earth as its constituent elements in much the

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34 Loxton, p. 32.
same way that stones were used in masonry walls or wood in flooring or trimming. The house appropriated to itself the realm of the garden; the garden in turn, appropriated to itself the landscape beyond the confines of its walls in the form of "the view."

This view consisted not of perfectly pristine nature, but of a hodge podge of varying landscapes. The Italian countryside of the Renaissance, the result of thousands of years of human occupation, was already much used and heavily managed; any vista necessarily included cultivated fields, rural villages, distant cities, ruins of previous civilizations along with mountains, rivers, and other "natural" features. Renaissance villas surveyed a nature long cultivated to meet the needs and desires of humanity, "'poeticized' with Arcadian figures resting on tombs but also actively managed by farm workers and serviced by commercial wagons and riverboats."35 The line between nature and culture was not always clearly delineated in the Italian Renaissance gardens as it was in the Continental gardens of France and Germany. Boundaries between house and garden, garden and nature were transgressed; not through subjecting entire landscapes to the monotony of Euclidean figures (thereby obliterating difference), or by allowing cultivated landscapes to be reclaimed by a riotous "nature," but through the deliberate inclusion of variety and diversity, through mixing materials and forms in order to create an interesting but livable landscape. The Italian's ability to integrate this variable landscape without subduing it, to accept both the made and the found as part and parcel of the whole, is one that we might learn from in designing current management units.

*The English Landscape Garden: art naturalized*

In the early eighteenth century English infatuation with the formal Continental style of gardening waned as more and more Englishmen returned from their Grand Tour with visions of the Italian countryside fixed in their memory. The countrysides of Greece

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35Hunt, p. 37.
and Italy exercised a special power over the British imagination. After all, their 
education in the classics (meaning those texts of the Greeks and Romans that we now 
define as "classic") and the influence of Italian landscape painters, both worked to 
predispose the tourist to read the landscapes as they had the literature and to discover 
in it the gods and heroes as well as the groves and glades of antiquity. They returned 
home and re-envisioned their own "gentle" topography in a distinctively English mixture 
of the pastoral and the classical in a style that would come to be known as the "English 
Landscape Garden." The "new" aesthetic reconfigured, as the Continental aesthetic 
before it, the face of England. Like previous revolutions in landscape design and 
gardening, this particular style signaled more than a simple evolution in landscape 
"grammar" or "syntax." Conventional ways of seeing and constructing nature in a world 
dominated by rapidly industrializing civilizations were being re-examined. Once again, 
the landscape became the primary text on which to record reforms in the social and 
political structure. Practitioners and proponents hailed the new style as more 
"naturalistic," more in keeping with the natural "capabilities" of the land. English 
Landscape Gardening applied "no other art than that of softening nature's harshness 
and copying her graceful touch" such that "the living landscape was chastened or 
polished, [but] not transformed."^36 To them, the Landscape Garden was what nature 
would be if only it were capable of fulfilling its purpose, of attaining its intended 
perfection, on its own. The enduring quality of these gardens, maintained with minimal 
effort over the last two centuries, might be considered a testament to the accuracy of 
this conviction.

As in previous and successive centuries, both the literary and the plastic arts 
had a profound effect on cultural perceptions of nature during the late seventeenth and 
early eighteenth century, particularly in England. The romantic, idealized, 
"melodramatic" spectacles painted by artists like Claude Lorrain, Nicholas Poussin, and 

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^36 Horace Walpole, (John Dixon Hunt, ed.) The History of the Modern Taste in Gardening, 
Salvatore Rosa changed the way an entire generation perceived their world, in much the same way that the nineteenth century works of Moran, Bierstadt, Cole, and Durand would transform the American landscape in the American imagination. The English in particular had a fondness for the Italian landscape paintings and collected the paintings while on their Grand Tour. In addition, an outspoken and highly articulate group of "poet gardeners" publishing in England added fuel to the growing landscape consciousness. They spearheaded the backlash against "those crimping, diminutive and wretched Performances" — the topiaries, knots, parterres, and terraces — of formal English Renaissance gardens.37

Joseph Addison, writing in The Spectator in 1711, accused English gardeners of "deviating" from nature when gardening in the Continental style, and lamented that "our trees rise in Cones, Globes and Pyramids" and "we see the marks of Scissors on every Plant and Bush."38 He evinced a wistful sentimentality for trees grown in all their "luxuriancy and diffusion of boughs and branches."39 The Earl of Shaftesbury, in his essay The Moralists in 1710, declares a "passion for things of a natural kind: where neither Art, nor the Conceit or Caprice of Man has spoiled their genuine order." He goes on to confess himself enamored of "even the rude Rocks, the Mossy Caverns, the irregular unwrought Grottos and broken Falls of Waters, with all the horrid Graves of the Wilderness itself," insisting that these represent nature with more "magnificence" than the "formal Mockery of Princely Gardens."40 Addison supports this new cult of naturalistic gardening, but tempers his enthusiasm with the admonition that the perfect garden combines both Reason and Nature. In a 1711 issue of The Spectator, he describes "rocks shaped into grottos covered with woodbines and jessamines" with

37Stephen Switzer quoted in Roger Turner, Capability Brown and the Eighteenth-Century English Landscape, (New York: Rizzoli, 1985), p. 27. This is also a reference to shifts in the political and social structure of the eighteenth century which required a grandeur of garden demeanor and aspect that adequately conveyed the largeness of mind and spirit befitting a more "democratic" age.
38Quoted in Loxton, p. 65.
40Earl of Shaftesbury, Ashley Cooper, The Moralists, 1710, quoted in Loxton, p. 65.
"springs made to run among pebbles" as the epitome of garden scenery, and later proposes that "if the natural Embroidery of the Meadows were helpt and improved by some small Additions of Art and the several Rows of Hedges set off by Trees . . . a Man might make a pretty landskip of his own Possessions." Here we see the beginnings of an attention to nature and the natural world that moves beyond the narrow interests of science and political subjugation, into the arena of nature as an art form and a fitting subject for aesthetics.

It is interesting to note that the "nature" eulogized and longed for by Addison, Pope, Shaftesbury, and others is exactly the same nature that in previous centuries was alternately excoriated and eulogized by poets, writers, philosophers, theologians, scientists, and gardeners. The new landscape aesthetics professed to perfect and pursue nature through the art of gardening, differing from its predecessors not only in the way nature was envisioned, but in the final intent of gardening. Social discourse in the eighteenth century determined the relative value and the place of art and nature, of garden and wilderness just as it had done in earlier centuries and as it does now. One might say that wilderness and civilization are as much matters of social consensus as biophysical qualities. We create nature through an act of willful distinction and the illusion is perpetuated through the employment of culturally agreed upon codes, conventions, and signs that designate the realm of nature and that of culture. What nature looks like, how it is perceived, how it is treated and where it fits into the cosmology are all determined by our needs and desires. The real need not change, but the presentation and valuation of it does.

In the process of redefining the garden, and hence nature, the English reconceived the Medieval terrifying wastes and impenetrable forests as "sweetly disordered." They "leaped the fence, and saw that all nature was a garden" in need of only the smallest bit of art to perfect it. This "leap" was made with the greatest of ease

42 Walpole, p. 264.
in large part because all threat from "wildmen" and wildlife had by this time been effectively neutralized in the English countryside. (Much, one might say, as Muir's appreciation of wilderness was made possible because California had been "purged" of all but a few of its original inhabitants.) The Renaissance expansion of the garden from *hortus conclusus* to entire countryside marks a shift in consciousness regarding culture's "sphere of influence" and the appropriate material of art. Eighteenth century gardens also spread across whole landscapes, often encompassing working farms and timber producing forests into their designs. Unlike their Renaissance counterparts, however, they developed with the express mandate to seek out and enhance nature, not to subdue and rationalize it: "... let Nature never be forgot ... Consult the Genius of the Place in all." Today we mistake for "natural" the ubiquitous, bucolic park-like landscapes of England; but those gentle undulations, sinuous lakes and paths, endless meadows strewn with ungulates broken by seemingly random clumps of trees, are artificial to their very roots. This nature, contrary to that of Renaissance or Medieval nature, abhorred the straight line, the unwaveringly level surface, the paved walk, the plantation forest, clipped shrubs and tortured trees, and vertical displays of water.

**Capability Brown: the place-maker**

We owe not only the transformation of the English countryside, but the first beginnings of an appreciation for nature in the garden that would pave the way for an appreciation for nature out of the garden to Capability Brown (1716-1783), the second and most prolific of the three most renowned Landscape Gardeners. Though we may

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43Loxton, p. 64. The British shipping industry was near to exhausting their native supplies of timber, and estates began turning their attention to the cultivation of forests for commercial production, particularly after the 1664 publication of John Evelyn's *Sylva, or a Discourse of Forest Trees*.

44Alexander Pope, *Of Taste*, 1731 quoted in Loxton, p. 68. Genius, here, taken with all its connotations of spirit and even magic, has rather a deeper and more mystical meaning than just the simple contours or biophysical features of a local.

not agree with his readings or interpretations, "Capability" got his name because of his penchant for describing landscapes in terms of their "capabilities," the potential that lay dormant in each landscape awaiting only the touch of the artist/gardener. As such, he is perhaps among the first to have looked not at what he could add to nature or how he could "decorate" or subdue it, but rather at what his art might do to realize the possibilities already in the landscape. His goal was good "place-making" and to that end one needed "a good plan, good execution, a perfect knowledge of the country and the objects in it, whether natural or artificial, and infinite delicacy in the planting, etc." He is credited, and sometimes maligned, as having single-handedly obliterated virtually every trace of the "orthogonal" garden from the face of England and with transforming an entire countryside into the quintessential "natural" landscape. It should, however, be noted that in pursuing his aesthetic ideals, Brown, like his predecessors, found it necessary to destroy nature in order to find and perfect it. His wholesale destruction of ancient forests and yew hedges, roadways, historic mansions, and intricate, formal gardens, raised a cry of protest from those whose aesthetic values differed from his own. One outspoken critic of Capability, compares Brown's version of landscape aesthetics to that of a "Norfolk girl who visited Switzerland and complained that the mountains shut out the view." In his defense, however, it should be mentioned that unlike the immovable and timeless mountains of Switzerland, most of the landscape on which Brown exercised his art had already been subjected to human occupation and cultivation.

In keeping with the aesthetics of his day, Brown's created landscapes epitomized "the beautiful:" they were smooth, undulating, and sinuous; varied, without being

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46 A 1775 letter written by Brown, quoted in Loxton, p. 72.
47 Sir Uvedale Price, On the Picturesque with an Essay on the Origin of Taste, (Edinburgh: Caldwell, Lloyd and Co., MDCCCXLII (1842)), p. 176. Price rebukes the Landscape Gardeners for their wholesale destruction of "the costly and magnificent decorations of past times, and all that had long been held in veneration."
48 A less narrow view of Brown's work also indicates that he planted thousands of trees in a countryside denuded by a military in search of wood for shipbuilding.
49 Hyams, p. 25, quoting Amherst.
abrupt or jarring; unified, without being monotonously predictable; comprehensible, without being unduly constrained; and, evocative, without being relentlessly pedantic or preachy. He assiduously avoided temples, urns, statuary, grottos, and other emblematic devices or architectural structures popular in Renaissance gardens in order to explore the "expressive possibilities" of pure landscape. He sought, through the creation of idealized spectacles using natural materials, to capture the essence of nature. Brown intentionally created landscapes that evoked specific feelings — of justice, virtue, or honor — by striving not for particulars, but for universal ideals; his landscapes were meant to appeal to sensations, rather than directly to the intellect, as Renaissance gardens had done. His faith in the evocative powers of nature, of pure landscape (enhanced and channeled rather than burdened by art), would surface again in the Romantic Transcendentalists less than a century later.

The sensitive eye and practiced hand necessary to strike the perfect balance between emptiness and fullness, to maintain the proper tension between the found and the made was conspicuously absent in subsequent practitioners. As the eighteenth century drew to a close, so did the British enthusiasm for the classical lines of the Landscape Garden. The dominant aesthetic doctrine of the nineteenth century would incorporate and build on many of the elements of these gardens and today traces of eighteenth century aesthetics are easily discernible in landscapes of Europe and America. Vast expanses of rolling lawns, be it in the American front yard or the public park; sinuous sidewalks, driveways, and roadways; winding rivers and irregular, curvilinear lake shores (efforts of the corp of engineers notwithstanding); and clumped trees, bushes, and flowers, are all vestiges of the Brownian aesthetic. The success of Brown's art in expressing the "capabilities" of the land, in attempting to enhance rather than transform nature through art, might be measured by the degree to which we mistake his created landscapes for "original" nature in the English countryside. Our

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failure to recognize these remnant patterns as constructions or artistic products of an earlier era, and our tendency to think of them as natural, testifies not only to the enduring appeal of the classical landscape and the skill of the landscaper, but to our ability to be fooled by art that successfully mimics nature.

**The Picturesque: wilderness framed**

Early nineteenth century gardening tastes favored an emerging aesthetic known as the *picturesque*. The term was first used by Alexander Pope and was originally meant to describe a scene that looked like the sort of landscape one might see in a picture. The Reverend William Gilpin, writing after Brown's death in 1783, also described it as "that peculiar kind of beauty, which is agreeable in a picture" but adamantly maintained that gardens — particularly the eighteenth century Landscape Gardens with their smooth, classical lines — are never picturesque for their "want of the bold roughness of nature." The picturesque, he believed, was impossible to create through artifice, available only in natural scenery wherein accident had produced a happy combination of objects: "neither grounds laid out by art, nor improved by agriculture are of this kind." For Gilpin, the picturesque fell somewhere between the beautiful (as might be found in an English Landscape Garden) and the sublime (as found in the "wilds" of the Lake District or the Scottish Highlands), partaking of both, yet modifying and tempering each with principles peculiar to itself. The attributes of the picturesque include a distant view bounded by mountains; limited wilderness, since vastness leads to incomprehensibility and thence to the sublime; a foreground with "proper appendages proportioned to the scene;" a scene suited to the human vision that does not strike "the imagination with so much grandeur;" a general haziness, or indistinctness; an absence of cultivated, constrained plants, since they are in all instances abhorrent to the

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picturesque; and finally, the picturesque, as its name suggests, "invites the pencil, without soliciting the imagination." It can be painted by the artist or "found" by the "picturesque eye" but it can never be made. (Uvedale Price and Payne Knight, two of the most renowned "picturesque" gardeners of the nineteenth century, disagreed with Gilpin on this point and set about rearranging the English countryside accordingly.) Oddly enough, these are the attributes that one often finds in those "scenes" recommended for viewing by the highway department at "Scenic Overlook" stops along interstate highways.

Appreciation for the aesthetic doctrine known as the picturesque, while of limited application in the garden, had a profound impact on the way that people viewed areas traditionally considered to be outside of the realm of garden art and even beyond the general aesthetic purview. Uvedale Price, one of those misguided landscape "improvers" who attempted to reproduce the picturesque in the garden setting, nevertheless astutely predicted that art might "augment" the public appreciation of nature in its rougher, less polished forms and that an appreciation of painted scenery prepared one to "better receive" the natural scenery. Indeed, the nineteenth century would see a tremendous upsurge in nature art and literature and in the migration — both temporary and permanent — of "civilized" humans into "untamed" nature. The picturesque, seeing nature as a picture that was in need of no other art than that resident in the eye of the beholder, constituted the grounds of our first forays into the land beyond the garden.

Landscape vocabulary

At this point it is important to note the new language that was developing around landscape aesthetics, a language that would profoundly affect our perceptions of and sensitivity toward "raw" nature. Seemsingly unimportant in an age when we are

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53 Ibid., pp. 30, 36, 37, 129, 130.
54 Ibid., p. 67.
inundated with visual and aural images of nature, these terms grew out of a culture that traditionally devalued untempered, untouched nature. Indeed, the American romance with wilderness, its appreciation for its vast untamed expanses, might be said to be predicated on a vocabulary developed in Europe. The significance of the distinctions between the beautiful, the picturesque, and the sublime are often lost on us today. But each term applies not only to a specific type of scenery or topography, but also to a particular perception, emotion, or experience. Edmund Burke, Francis Hutcheson, Immanuel Kant, and David Hume, to name but a few, waxed eloquent on the subject of aesthetics and much of the discourse that developed around landscape gardening and the experience of nature owes its origins to these treatises.

Both the beautiful and the picturesque have been discussed above so it remains to investigate the sublime and to identify its role in the construction of the world. The sublime, for Europeans, was exemplified in the ruggedness of the Swiss Alps, the harsh desolation of the Scottish Highlands, the impenetrable darkness of a primeval forest, a tempest tossed ocean, or the wilds of the Lake District. Social convention had assigned a non-value to these areas; they were outside the ken of civilization and hence beyond the scope of the beautiful, garden iconography, or the purview of conventional aesthetic preferences. The contemplation of such scenery produced feelings of insecurity and prompted instincts of self-preservation. The experience of the sublime is essentially atavistic, primal and prelinguistic, and ultimately beyond the realm of art, despite attempts in art and literature to conjure its substance, not just elicit an emotional response suggestive of the sublime. The Kantian formulation of the sublime is that which is conceivable but not presentable, like infinity. Any attempt at presentation or re-presentation automatically misses the mark, trivializes the concept and removes the sublime, the real, yet further away. Sublime landscapes defy reason, elude all attempts

55Art critics and theorists, however, would argue that the whole point of art is to pursue the depiction of the sublime, regardless that philosophers might deem it an impossible task.
at quantification, circumscription, limitation, or comprehension. They have the qualities that make them likely candidates for Wilderness Areas and which also make them unlikely recipients of management. Historically, they are the places or processes that have not yet been penetrated by the human mind or controlled by the human hand (or at least not apparently so).

*Romanticism: nature deified*

**The ascendancy of wilderness**

The Picturesque was but one aspect of a larger more pervasive aesthetic doctrine that came to be known as Romanticism, which was not simply a landscape aesthetic, but a way of seeing the world and of explaining our experience of it. Its origins in Europe and its influence on the development of American thought and topography has been as extensive as it is enduring. Perceived as a reaction against the classicism that had dominated the philosophical, political, and social structures of Europe since the Renaissance, Romantics sought to re-locate themselves in their own cultural mythos and natural landscapes, looking to them for patterns of inspiration in re-writing their world.\(^56\) American Romantics, like Emerson and Thoreau, rejected the universalizing Ideals of the Greeks, which tended to favor reductionism and unity, in order to celebrate pluralism, variety, and difference.\(^57\) Where the classical model considered the "citizen" to be the quintessential creature of civilization, the Romantics eschewed the "mob" scene of democratic society and eulogized the self-reliant individual and the different. Emerson declared "whoso would be a man, must be a nonconformist" and Thoreau seconded that statement with his own that "any man more right than his neighbors constitutes a majority of one."\(^58\) They idealized those elements of society that had

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\(^57\) Ibid., pp. vi, 14.
\(^58\) Ibid., pp. 2, 3. It should be noted that Emerson qualified his support of individualism by indicating that an individual was nothing if he was not also a member of "the brotherhood of God-Illumined men."
previously been marginalized: children, women, fools, nature, and animals. Men were
couraged to seek out and cultivate their "lupine" nature buried beneath layers of
cultural inhibitions and learned behaviors.59

Roderick Nash in his classic text, *Wilderness and the American Mind*, chronicles
the American experience and creation of Wilderness. According to him, American
Romantics, expressed a preference for the "strange, remote, solitary, and mysterious" the
ture version of which was available only in nature or wilderness.60 Wild nature was the
origin of scientific knowledge (as it had been for the Renaissance and the Greeks), but
for the Romantic Transcendentalists in particular, it was also the source of higher
truths and moral laws. Nature for them was the last remaining outpost of undefiled,
unpolluted Creation, and it was only in wilderness that one might experience the
presence of God.61 Transcendentalists urged an experience and interpretation of the
world that ascribed a spiritual truth or element to material things, that went beyond
mere appearances to seek the higher truths or essences embodied in these
phenomena.62 Objective, scientific inquiry was invaluable in leading the observer into a
deeper appreciation of the intricacies of the natural world, an appreciation which
should, in turn, dispose the sensitive observer to exercise his intuition in discovering the
higher spiritual values in nature. It might be said that to the Romantics we owe our
Wilderness ethic and sensibility, but to the Transcendentalists we owe our attribution of
an elevated moral or spiritual character to things of nature rather than those of culture.

Wilderness, interestingly enough, was rehabilitated (even constructed) in the
salons of Europe and the drawing rooms of Eastern seaboard cities, the inhabitants of
whom had but limited casual contact with its unmediated, unsentimental, and

59Boas, viii-xi. George Boas suggests that it is to the Romantics that we owe our kindness to children and fondness for pets, our fascination with primitive man and our love of nature.
61Ibid., Chapters 3 and 5 in particular.
62Ibid., p. 85.
indifferent wildness. The literati flocked to nature, spent a few days or weeks being transported and transfigured by her glories and returned home to spew forth a "deluge of Romantic euphoria" detailing the wisdom and superiority of virgin nature. A gentleman, if he desired to be considered at all cultured, must have a sensitivity to and passion for all things natural and wild. He must be cognizant of the higher spiritual aspects of nature and able to demonstrate an adequate knowledge of her workings based perhaps on some personal transcendental, experience thereof. Nature, formerly "a Squalid, horrid, ... Desert ... over filled with Fiery flying serpents," was transformed by the Romantics into the purveyor of all that was good and right and divine. The man who sought to be truly civilized, must know the course of nature as he once knew that of culture.

The English Romantics, precursors to their American Transcendental counterparts, took to their own hinterlands in search of the sublimity and majesty of the wilderness. The desolate wastes of the Lake District and the Highlands of Scotland underwent a radical metamorphosis with the aid of poet's pen and artist's brush. Lord Byron, in a spate of romantic passion for the wilderness penned his confessions in 1816 in which he proclaims:

There is a pleasure in the pathless woods,  
There is a rapture on the lonely shore.  
There is society where none intrudes  
....  
I love not man less, but nature more.

Keats and Shelley, Wordsworth, Blake, and Samuel Taylor Coleridge rehabilitated the whole of the English countryside with their powerful, persuasive sentimental verse. Nature yielded knowledge, but the higher truths valued by the literati were said to be

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63Ibid., p. 60.  
64Ibid., p. 62.  
66Lord Byron's "1816 confession," quoted in R. Nash, p. 50
available only to those of tender sentiments. Only the cultivated and educated could truly appreciate the spiritual wonders of wilderness without succumbing to her seductive savagery and brutality as so many of the frontiersmen and peasant class did. Her company was preferable to that of society, her wisdom of greater value than any derived from civilization. Very few of the English, European, or Eastern seaboard literati who so praised wild nature actually experienced it for any length of time (and certainly none of them had to make their living from it); most of the European landscape, in the words of one of its inhabitants, was but a "cultivated plain" and there was not much in the way of wilderness left on the east coast. Such a lack, however, did not prevent them from developing the conceptual and aesthetic framework necessary for appreciating these "inhuman" landscapes and familiarity with these conventions enabled the "aristocratic sightseer" to "wrest an aesthetic pleasure" from the Great Wilderness.

The extreme appreciation accorded the sublime and the picturesque, the habit of seeing nature as something "out there" was an aristocratic luxury, similar to the one that we in America and other affluent societies enjoy today. Social critics of the nineteenth century like John Ruskin accused the aristocracy of indulging themselves in an aesthetic excess predicated on a willful ignorance of and indifference to the misery of the inhabitants of that "nature" who were forced to wrest a living from it rather than an innocuous aesthetic pleasure.

Romanticism in America was somewhat less willfully ignorant of the toils of everyday life; for in a country whose largest constituent land mass was raw wilderness and the bulk of whose population was engaged in an all out war with nature on its considerable frontier, some of the more real characteristics of the unmediated Great Wilderness were inevitably reflected in the literature and philosophy.
Romanticism was generally unheard of, or at least short-lived, and even some of the more ardent enthusiasts succumbed to terror and despair in moments of unmediated confrontation with nature's more sublime displays. Both Emerson and Thoreau conceded the desirability of some civilizing restraint and the necessity of finding a balance of culture and nature — a foot in both camps, rather than both feet planted firmly in the pastoral, ruralized middle. Thoreau, on a hike in the "grim" wilderness of Maine, gives way to an uncharacteristic spate of despair at the sight of the "savage and dreary" landscape. He calls it "a place for heathenism and superstitious rites — to be inhabited by men nearer of kin to the rocks and wild animals than we."

But the American fascination with wild nature did not wane and the idea of wilderness achieved the status of a national icon. The vast wilderness was a quality unique to the North American continent and the only attribute around which a rising sense of nationalism might rally. Consciousness of the value of wilderness, as an icon of a national identity, was fostered by the literary and plastic arts. The landscapes of Moran, Bierstadt, Cole, and Durand (most of whom were European) fired the imaginations of thousands of urban-bound easterners. John Muir, (the only self-proclaimed "poetico-trampo-geologist-bot. and ornith-natural, etc!-l-!-l-!" Romantic who did not succumb to the temporizing blandishments of a toned down nature), detailed for an avid public the unqualified wonders of nature. His passion for nature led him to fight tirelessly for the preservation of the American wilderness and this he did by enlisting the aid of Biblical scripture. He characterized the battle as one "between landscape righteousness and the Devil" and in a particularly eloquent segment, he insists that "God began the reservation system in Eden" and "the whole [American] continent was a garden...[which] from the beginning...seemed to be favored above all the

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71 R. Nash, pp. 92-3.
73 R. Nash, p. 67.
74 Ibid., p. 122.
other wild parks and gardens of the globe. Unfortunately for us, Muir's characterization of the whole of North America as a "garden" or "park" did not automatically lead us to then adopt the attitude of a gardener, or even an engaged participant, in nature's splendors. Contrarily, we found ourselves and all our works once again banished from the garden, but this time to the "wilderness" and chaos of civilization.

The fall of the garden

Nineteenth century landscape aesthetics moved out of the garden into the wider world of untouched and pristine nature where the presence and works of humanity were generally considered antithetical. Indeed, the cultivated garden, along with the whole practice of gardening, fell into disfavor as more and more people became enamored of the idea of "virgin nature." Even a garden simulation of nature was no longer acceptable to the purist who extolled the virtues of nature against the vices of civilization, of which cultivation was one. The Romantic notions of the literati put humans in an untenable position: to be pure and real, nature was to remain untouched by humanity; to survive, humanity must influence the environment, an activity which immediately rendered it — to the purist — unnatural. When creating and tending to his bean field at Walden, Thoreau is confronted with the very pragmatic, unromantic task of making "invidious distinctions" between nature's plants and man's ''weeds," between the natural proclivities of woodchucks and his own need for sustenance. It throws him into a fit of irresolution and angst, he needs his beans to survive, but to cultivate them means

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75 G. Nash, p. 207.
76 Gardening did not cease, naturally, but our attentions were divided between the garden interior and the larger world beyond the city limits. One element of the picturesque that some Romantic traditions continued to value was the passion for things like ruins and hermits. Romanticism is not homogeneous, and hence any effort at brief description (such as this) is bound to be unfairly reductionist. I merely try to point up some of the more pervasive tendencies and attitudes that have had lasting effects on our notions of "nature" and "culture."
that he must do so at the cost of other natural features. In our new-found fascination with wilderness, the garden was consigned to the narrow confines it occupies today; naught but a tepid version of nature found in hemmed-in backyards and city parks, too refined and constrained to embody the ennobling aspects of the rough and rugged wilderness. We no longer had a sense of engaging with nature, of discovering and then enhancing its capabilities through the activity of gardening, but rather were forced to choose between submissive reverence and overt, complete domination, both of which tended to exclude rather than include humanity. Nature had attained the status of a heightened desire, it represented all that was not-culture, not by virtue of absence, but by virtue of presence. The garden was no longer a bridge between nature and culture, a space in which we might carefully and considerately design the world, but a feeble, transparent simulation that failed to meet the needs of those interested only in the real thing.

Normalization and socialization

At the same time that Muir was fighting to preserve the great Otherness of wilderness, another more tempered version of nature appreciation was occurring in social circles. Middle and late nineteenth century aesthetic doctrine was an amalgam of romanticism and naturalism. Nature in all its splendor was "the rage;"; it was the measure of all that was "good" from etiquette and comportment to political, moral, and social organization. If it was "natural" it was good, and to be good, it must be natural. Nature became to this era what religion had been to earlier ages. The paintings of Gainsborough and Constable returned the long-absent laborer (dispossessed by aristocratic aesthetic sensibilities) once more to the landscape, and in doing so conceptually restored the common man to nature. From the exclusive province

of aristocrats and artists, access to nature as a medium for pleasure, restoration, and respite, became the right of every last citizen of any enlightened society. Nature became the locus of values, that paradoxically, were, in fact, socially determined. In some sense, it assumed a social identity and with it, a correspondent social obligation. It was put into the service of society to function as a balm for urban discontent and social or industrial ills.

Frederick Law Olmsted: the urban park goes native

By the middle of the nineteenth century the Industrial Revolution was well underway, and urbanization, with its complement of rural depopulation, put tremendous pressure on the resources of urban centers. Cities were filled with wealthy manufacturers, laborers, freed slaves, and the unemployed. Urban sprawl went unchecked and unplanned. Urban space was at a premium, too valuable to leave unused and too scarce to leave open. But there was a counter-consciousness in society that recognized the necessity of maintaining some sort of open space, of nature if you will, in the cityscape and the concept of the public park was born. Social philosophers and naturalists made clear the connections between the mental and physical well being of laborers and the quality of their environments; if industrialists wanted increased production, a suitable environment was necessary to ensure the health, and thus productivity of the working force. Nature as "environment" came into being during this time and landscape was no longer the province of the wealthy to be artistically arranged for viewing pleasure, but rather a component part of the health of the average urban dweller.

Frederick Law Olmsted was heralded as America's first native born and most visionary landscape architect. The title of landscape architect, however, is almost too narrow to describe Olmsted's array of interests and accomplishments. He was what we might today call a "comprehensive environmental planner and designer," a creator of
landscapes who looked not only to "nature" for his designs, but also to the needs and desires of the city bound masses. In his landscapes, many or most of which were designed in limited public spaces surrounded by buildings, he sought to embody those perceptions of nature that might best speak to the urban dweller, easing the pressures of a life narrowly bounded by civilization. To Olmsted's clear vision, we owe not only the existence of New York's Central Park and Boston's interconnected park system, but Yosemite and a multitude of other public and private landscapes.

Olmsted had no formal training as a landscape architect, but his sense of the land, of its "capabilities," combined with an accurate sense of social space, enabled him to create parks and communities that were at once ecologically and socially viable. On his first visit to England, he toured the "People's Park" in Birkenhead, the first public park in England, which provided him with the prototype and the impetus for his parks in American cities. He moved the arena of social reform into the province of the garden, so to speak, in keeping with his firm belief that nature — be it found or made — was the only antidote to the dehumanizing influence of an industrializing culture. Like Capability Brown, and in contrast to the Romantics, the design of nature in Olmsted's public parks involved tremendous manipulation of the topography and vegetation. The pastoral meadows, scenic vistas, rock outcroppings, rolling hills, and multiple-pond water works of New York's Central Park entailed the rearrangement of 5 million cubic yards of dirt and rock and 114 miles of underground drainage pipes. Despite the monumental earthworks, Olmsted had a unique ability to perceive in the land untapped possibilities and to write the landscape into an evocative text that spoke more of nature than of his artifice. His mandated preference for natural features, however, did not prevent him from designing "human-friendly" landscapes. The lakes were designed for

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82 Fabos, p. 20.
winter ice-skating, meadows for picnicking and relaxing, and paths for ease of passage
and sightseeing. The urban public park was meant to serve those trapped in the city by
suggesting to the "imagination...an unlimited range of rural conditions" and Olmsted
was not squeamish about manipulating the organic elements to achieve the desired
end.83

Olmsted did not stop with the design of urban parks, suburban neighborhoods,
private estates, and open spaces. While in California managing the Mariposa Mining
Estate in 1863, Olmsted made his personal discovery of the American west. Accustomed
to the lush greenery and pastoral vistas of his native New England, he initially found the
landscapes of the arid west to be harsh and inhospitable. But with time and his innate
sensitivity to natural aesthetics, he came to treasure these sublime landscapes and set
about the task of getting large tracts of "pristine" lands protected for future generations.
Recognizing the need for "the establishment by government of great public grounds" for
the "recreation of the mind and body" of the "great body of the people," Olmsted
supervised the preparation of the bill that made Yosemite Valley and Mariposa Big Tree
Grove into state reservations.84 The establishment of Yellowstone National Park in
1879 and the restoration of the already over-developed natural beauty of Niagara Falls
owe much to Olmsted's work in California on behalf of public open spaces.85

From the landscape gardens and public parks of Great Britain, to the urban
parks of New York and Boston, from thence to state reserves and finally National Parks,
Olmsted's understanding of the land and the peculiar needs of urban-bound humans
left an indelible mark on the American landscape and mind. He, unlike many of his
successors, had the unique ability to recognize that the needs of socially circumscribed
humans might be met not just in wild settings, but in artificially contrived settings that
successfully mimicked nature. By putting art in the service of nature as well as of

83Elizabeth Barlow, Frederick Law Olmsted's New York, (New York: Praeger Publishers,
1972), p. 21; and Fein, p. 22.
84Roper, p. 284.
85Fabos, p. 43.
culture, he neither humanized the landscape nor dehumanized the social milieu; instead, he explicitly acknowledged the need and desire of humans to participate in the natural world.

Olmsted, as both a social reformer and a proponent of nature preservation, moved easily between the increasingly discreet spheres of culture and nature. He was able to envision a broad spectrum of landscapes, participating to varying degrees in elements of nature and those of culture. On the verge of the twentieth century, when scientific resource management or conservation, wilderness preservation or "landscape righteousness," and gardening or landscape architecture would become irrevocably split, Olmsted was perhaps one of the last influential individuals to move freely between all three areas. He combined aesthetics with practical necessity in working to preserve nature where he found it, improve or alter it where desirable, and recreate it entirely where it was lacking or irreparably degraded. As a one-time farmer, he was cognizant of the "real" limits to human desires with respect to nature and the need for efficient cultivation in an age of machines and increasing urban populations. As a social reformer, he was especially sensitive to the human need for some semblance of nature, no matter how "artificially" constructed. As an older contemporary of Gifford Pinchot and a sometime colleague when working on the Biltmore estate and its industrial forests, he was not unaware of the increasing need for management and conservation of resources. And finally, as an artist with a keen sense of fitness and landscape aesthetics, he had a knack for "place-making" that took account of the multiplicity of human experiences of nature.

Gifford Pinchot: the Management of Nature

The federal forest reserve system instituted by the utilitarian-minded Gifford Pinchot, was inspired primarily by the need to ensure a continuous supply of raw materials for a growing nation. Pinchot, ever the pragmatist, approached nature from a
conservationist perspective and he devoted as much time to campaigning against the preservationist's agenda to "lock up" vast tracts of land as he did to fighting the "American Colossus . . . intent on appropriating and exploiting the riches of the richest of all continents — grasping with both hands, reaping where he had not sown, wasting what he thought would last forever." As America's first native-born professional, scientifically-trained forester, he harbored no sentimental or romantic notions about nature; for him, it was a vast, but not inexhaustible, storehouse of raw materials to be scientifically managed for the use of present and future generations.

Pinchot was the first to suggest that the federal government might manage nature so as to produce specific products or resources, not just set aside tracts "for the free enjoyment of the American people" as Olmsted had suggested. For all its perceived failings and narrow-mindedness in the current era, Gifford Pinchot's idea of managing nature to ensure "that one crop follows another" (much like a vegetable garden) was much needed and remarkably farsighted for its time. Unlike many of his contemporaries, Pinchot understood that there were limits to the abuse the land could withstand. But like others of his era, he tended to view forests as giant timber producing machines that, if kept in good working order, could be expected to continue producing goods and services in perpetuity. The goal was to "make the forest produce the largest possible amount of whatever crop or service will be most useful, and keep on producing it for generation after generation of men and trees." Timber was the primary product of good forestry, but as with good farming, a host of other secondary products and services could be expected from the "well-handled" forest such as "regulation of stream flow, protection against erosion, and some influence on climate." For him, it was not a matter of stopping the ax, but of regulating its use.

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87 Ibid., p. 31.
88 Ibid., p. 27.
89 Ibid., p. 32.
90 Ibid., p. 31.
91 Ibid., p. 29.
To that end, he advocated the implementation of scientific forest management in conjunction with government regulation in order to ensure that the productivity of the land was not destroyed along with the harvest. Scenery, needless to say, was simply not a consideration.

The ethic of efficiency that fueled the progressive era, and hence the conservation movement, has had a profound effect on the missions and methods of the agency charged with administering national forests and public lands — not to mention some very distinctive patterns left on the landscape. Conservation was a "political system guided by the ideal of efficiency and dominated by the technicians who could best determine how to achieve it." Increasingly, the character of the American landscape bore testament to that ethic along with the scientific expertise of aesthetically impoverished technicians. Foresters, following Pinchot's maxim that "forestry is Tree Farming...[and] to grow trees as a crop is Forestry," had visions of growing "timber" like a vegetable gardener would cabbages or a farmer a crop of corn: in rectilinear patches of neat, well-regulated rows of even-aged, single-specied, and deformity-free trees.

Alternative uses, needs, and desires which might have led to different landscape patterns, have, especially since WW II, been subordinated to the overriding goal of timber production. In our ignorance, and one might argue our arrogance, we converted complex ecosystems to mono-cultures for ease of production and harvest, without realizing that successful timber production was in many instances dependent upon the very complexity that we tried to eradicate. The effect on the aesthetic sensibilities was disturbing to many, but the effect on the environment was often devastating.

Over the ensuing decades, private and some public forests and landscapes have come to resemble the overly formal, militantly regimented, and elaborately contrived gardens of the Renaissance rather than the integrated gardens of eighteenth century

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92 It is no accident that, given Pinchot's perceptions of forests as "crops," the Forest Service is part of the United States Department of Agriculture.

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English landscapers. It is not so much that they have literal knots, parterres, and
topiaries, but that they lack the variety, complexity, and fluidity of a landscape devoted
to producing and sustaining a variety of purposes and values. At one scale of resolution
(as when standing in the midst of one) tree farms are monotonous, predictable, and
fairly uninteresting. At a larger scale (as from a plane, a satellite, or even just a view
from town, for example) the resemblance of vast landscapes to Renaissance gardens is
sometimes uncanny: the unrelieved geometry of checkerboard patterns created by
varying ownership and use classifications (National Parks and National Forests, cities
and farms, private timber companies and public forest holdings, clearcuts and leave
stands criss-crossed by roads) looks alot like the rectilinear segments dissected by
radiating paths and roadways of the formal landscapes favored by Renaissance (and
modernist) designers. The single minded commitment to the Renaissance notion of land
rationalization, use-classification, and segregation of modern, scientific land
management, has been undeniably succesful and useful in many respects. But it largely
ignores a millennium of gardening wisdom and two whole centuries of landscape design
in which a primary attention to aesthetics did not preclude the production of
commodities. It was the preference of the age, not the dictates of some immutable law of
nature (or culture, for that matter) that prompted us to privilege the vegetable garden
with its straight, uniform lines of single-specie plants over the flower garden with its
often random conglomeration of variable species that have no other apparent value
than the pleasure of the gardener and viewer. Conservation's penchant for timber over
trees, science over art, and the aesthetics of efficiency over those of participation have
taken their toll on large portions of the American landscape as well the public's
patience.

Pinchot was not wrong to fight for conservation, to insist that both science and
government regulation be applied to the growth and harvest of trees, nor to believe that
forests existed for the primary use and benefit of human kind. To the single-minded
vision of Pinchot we owe the existence of large tracts of publicly owned forested landscapes that preserve and protect a diversity of natural and cultural values. Without his fore-sight, much of what is now public domain would have long ago passed into private ownership. His error, it seems to me, is in privileging science and single-use forestry to the exclusion of all else, as if to say that there is no other legitimate way of relating to nature and no other (certainly no higher) value to forests than as board-feet traded on the market. His intransigent opposition to wilderness preservation, along with his stated preference for technical expertise over aesthetic engagement set a course for resource management that would, over the next century, produce environmental, economic, and political conflicts.

Conclusion

I stop here, at the opening of the twentieth century, not because our perceptions and constructions of nature ceased to evolve, but because the schism between the arts and sciences, between romantic transcendentalism and "stoic utilitarianism," between preservation and conservation, is now firmly established. The gulf between these seemingly disparate interests and perspectives widened over the decades since Muir and Pinchot staked out the positions, leading finally to an impasse in resource management that would have us believe there are but two choices available to us in our interactions with nature: leave it entirely alone or turn it all into neatly-regimented tree farms. The middle road, that of gardening (on a grand scale that elicits the full participation of the gardener in the things of nature, not just the mechanical production of crops of vegetables) has now begun to re-emerge as a distinct alternative to seeing things only in black and white. What to do with wildlands — constrained, surrounded, and fragmented as they are — and how much of it to do, is indeed a serious question, one that is better served by encouraging and sustaining the discourse on landscape

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94 The term "stoic utilitarianism" comes from Alan McQuillan's *Cabbages* paper, p. 191.
management than by offering up quick, simplistic, and irrevocable answers. But for the vast majority of the spaces that are already "compromised," already "cultivated" by our activities and our words, we might do well to consider the possibility of gardening them with an eye both to the aesthetics of utility and those of pleasure.

Gardens can be "managed" to yield a wide variety of products and services: food (vegetable and animal), game, medicinals, timber, trees, aesthetic amenities, recreation, and respite from the rigors of civilization. They have been and can be hunting preserves, botanical showcases, tree farms, settings for architectural structures, outdoor theaters, working farms and ranches, and wilderness areas all rolled into one. They can be fully integrated landscapes in which elements devoted to utilitarian production are incorporated into a landscape plan based on both art and science. Depending on the intended uses or desired products, the design and maintenance of a garden (a yard, a public park, a National Park, a National Forest, or a Wilderness Area) requires more or less effort on the part of its "keepers" or stewards. That it requires some effort always is almost certain in present day society where increasing fragmentation and simplification have altered many ecosystem structures and processes. But why go into forestry, or any other ecological discipline, if not with the intent "to put one's fingers in the dirt," to actively engage with nature at an intimate level?

Despite the fact that a century of activity would suggest otherwise, there is nothing inherent in forestry that prevents a forester from seeing trees as well as board feet, from seeing whole forests as landscapes as well as management units, or from talking about art in the same breath as science: they are each possessed of their own peculiar aesthetics and have their own appropriate uses. The eclectic nature of postmodernism suggests that there is room for both vegetable gardens and flower gardens, for tree-plantations and wilderness areas, and for a multiplicity of interim states in our constructions of the world, with each "state of nature" providing a
different level of engagement on the part of the gardener in its construction and maintenance.

From the kitchen gardens of Medieval feudalism to the hortus conclusus of the Church, from the political gardens of monarchs to the landscape gardens of English aristocracy, from public park to state parks, recreation areas, National Forests, National Parks, and Wilderness areas, civilization is in pursuit of an elusive, essential, nature. Tracing the history of garden architecture, of the construction of space and of ways of seeing and explaining our experience in the world elucidates the variable character of "nature" and the ambiguity of our relationship with it. We hold that there is nothing essential in nature; it is art, a product of our collective consciousness, subject to the vagaries and vicissitudes of socially sanctioned conventions. (And if there is an elusive essence in nature, it lies, by definition, in the "real", and is thus, necessarily beyond the symbolic, impossible to find and express at the level of our conscious, linguistics, social being.95) Gardens, as texts in progress, record this ever-changing consciousness and provide us the opportunity to participate in what might otherwise be an impersonal and distant world.

As gardeners, both literal and figurative, we are the imperfect architects of our world. The limitations of our sensory and cognitive "apparati" preclude our ever achieving a comprehensive understanding of our environment. But we are not without the ability to learn from our mistakes and to act on the basis of new knowledge. The character and ultimate "survival" of ourselves and our world is predicated on our ability to get beyond outdated models and representations, to transgress self-imposed limitations that prevent us from fully engaging in the creative aspects of our own natures. Between the limits of our knowledge and the real there is an irreducible gap, the liminal zone, in which the possibility of creative existence, in the form of gardening one might say, is exercised.

95 Alan McQuillan, pers. comm. (September 5, 1995).
CONCLUSION

THE LIMINAL ZONES:
PLACE-MAKING BETWEEN THE WILD AND THE TAME

Conventional wisdom has it that the arts and sciences are different beasts; they share no common ground, no common interests, and no common language. The preceding chapters suggest that in contemporary thought and practice, this myth is less true than ever. The discourse known as postmodern deconstruction in the humanities and that known as ecosystem management in some areas of applied science represent parallel developments of similar world views in seemingly disparate areas of interest. Chapter Two explicated postmodern deconstruction theory and discussed its implications for how we conceptually construct and relate to nature. It also spoke to the misgivings of some in the scientific community who view postmodernism as a threat to any benign approach to nature. Chapter Three examined how ecosystem management, like postmodern deconstruction, advocates an entirely new approach to nature, culture, and management, ultimately repositioning humans in the natural landscape and nature in the cultural landscape. Chapter Four investigated the course of the cultural evolution of “nature” through the history of gardening and suggested that in seeking models upon which to reconceive its management activities, ecosystem management might look to gardening and gardeners.

To recap, some in the environmental sciences fear that postmodernism discounts the very reality of nature by reducing it to naught but a figment of social discourse, and in doing so weakens arguments for environmental protection. It was suggested in Chapter Two that postmodernists do not reject reality, but rather qualify all of our constructions of it along with the values that we append to those constructions. Though it does indeed rob “essentialists” of their arguments by removing the possibility of an appeal to authentic, original nature, postmodern deconstruction does not nullify their desires, just their premises. In fact, it strengthens their arguments by lending them an
equality with all other constructions and desires; meaning and value are created, not found, and this act of creation is equally available to all. Postmodern deconstruction supports the interactive, creative perspectives and activities of new fields like restoration ecology and ecosystem management; not because these are the only ways of relating to nature, but because they represent possible ways of doing so. Postmodernism does not nullify traditional desires for preservation or conservation, it simply broadens the scope so as to include a wider variety of interpretations, thus opening the door for increased participation and engagement with (not total control of) nature — a position that humans have too long denied themselves. Postmodernism ceases to privilege any one approach or perspective, and in doing so reinvents nature in a manner that makes it more approachable by the average human: it can now be the locus of scientific knowledge, spiritual wisdom, mental stability, or physical well-being; it can be defined and designed as much by desires as science, as much by society as biophysical necessity. At bottom, deconstruction offers us carte blanche with respect to how we interact with the environment — something we have had all along — but unlike traditional approaches that allow us an appeal to God or Nature or Science — and hence convenient scapegoats for our mistakes — it situates responsibility for actions taken or not taken squarely in our midst.

Ecosystem management developed unknowingly out of the pervasive milieu of postmodern deconstruction — that is, a general sense of dissatisfaction with the patterns left on the landscape, the disregard for values other than those that fell within the realm of science or that could be measured and traded on the market economy, and the sense that there must be some other way of doing things in spite of apparent evidence to the contrary. Reconceiving of nature as an ecosystem, that is, as a holistic system in which all parts and processes (including those of humans) are irrevocably interconnected, the interactions of which are impossible to predict with any assurance, represented a gestalt shift in the perception and construction of the world. Management
prescriptions and practices must perforce change to accommodate this less positivist, more fluid construction. The very real presence of ignorance is given full due in management strategies, as is the contingency of knowledge and the constant variability of human desires; hence, adaptability is essential in developing not only viable management strategies, but in designing sustainable landscapes. Humans and our myriad activities are once more restored to the earth, not as dominators or disinterested observers, but as dependent, fully engaged inhabitants. Perhaps the greatest achievement of ecosystem management to date is its recognition that the places it proposes to manage are, in the final analysis, highly intimate "home places" invested with the desires of a wide variety of inhabitants, with histories and futures, not just impersonal, unchanging "management units" to be administered by technicians and bureaucrats for the production of commodities or the "protection" of environments. Ecosystem management is about "place-making," about combining the found with the made in dynamic cultural and natural landscapes; its success, finally, is predicated on its ability to consult or invoke the "Genius of the Place" in all its endeavors.

The philosophical and operational position assumed by ecosystem management closely resembles that of gardening; for gardening, like land management, is the realization of philosophical, political, social, aesthetic, economic, and scientific positions on the biophysical landscape. Gardening is an exercise in constructing nature as well as culture. The activities undertaken in either endeavor give tangible answer to questions about the "proper place" of humans in nature; or conversely, of nature in culture. They also give answer to questions concerning the extent to which human intervention into nature and natural processes is desirable, necessary, or even possible. Ultimately, both gardening and ecosystem management point up, in practical ways, the increasingly "troubled borders" between culture and nature.\(^1\) Nature, at least our understanding and valuation of it, has changed (and will continue to change) over the

centuries, and our activities have altered accordingly. With the advent of scientific "management," gardening, in its broadest sense, fell into disfavor. But emerging paradigms of nature and the place of humans suggest that "gardening" might be just the sort of activity to undertake when interacting with the world. It provides for a wide spectrum of attitudes and activities, from the purely figurative arrangement of the world (the aesthetic eye that is inclined to see the garden in all of nature) to the actual intensive and extensive manipulation of organic materials to suit a desired end. In consulting the "Genius of the Place," in noting the "capabilities" of the landscape and then adhering to them in our "place-making" efforts, we legitimate our role in the construction of the "home place." "Home places" are amalgams of the made and the found, the success and longevity of which depend upon our willingness to read the landscape with an open mind. Gardening, like land management, takes place in the liminal zones, those areas between the sacred and the profane; gardeners move easily between the utterly wild and the ultra-cultivated in a ceaseless effort to maintain the tension between nature and civilization upon which human life depends.
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