A rigidly managed forest in Ontario. Clearcutting has been the preferred method of harvesting timber since the 1950s.

Introduction

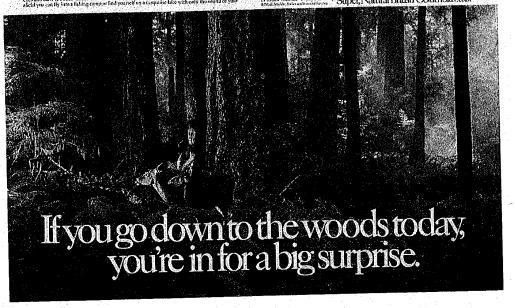
Ecology is permanent economy.
— slogan of the Chipko tree hugging movement among women in Himachal Pradesh, India

Take courage, the earth is all that lasts.
— Lakota song

This book is framed by two events, two places. It began taking shape in my mind during a 1982 visit to Disney World in Florida, and was finished during the summer of 1990, when a band of Mohawks in the town of Oka outside Montreal took up arms to stop the expansion of a golf course into a century-old pine woods planted by their mothers and fathers. The intervening years emphasize that the distance between Disney World and Oka is not only one of time and place, but of history: of everything we think of as culture and politics, and of very different ideas about the human place in the natural world.

What fascinated me about Disney World was its immense mission. It wants to bring everything into its sunny world — past and future, memory and desire, even nature itself. On the long drive home from Florida, north into winter, I wondered what a history of places like Disney World might reveal. What do theme parks and world's fairs, science museums and golf courses, tell us about the North American continent and its history of human settlement? And what do these constructed environments have to do with what is now everywhere called *the* environment — the non-human world of rocks and water, plants and animals, that seems to both precede and envelop our many cultures? Do they help us understand that world? What do they promote, conceal, or exclude?

The North American landscape, and our presence on it, constantly takes on new meanings. Disney World is a good place to take stock of how the dominant culture of North America — the largely white, male culture we see on TV — makes sense of both historical and ecological change. But as big as it is, Disney World cannot contain all the ways we know and experience this land.



An installment of a long and successful ad campaign by the British Columbia tourism ministry. This ad was shot at Cathedral Grove on Vancouver Island, a showpiece old-growth forest too small to support a deer population.

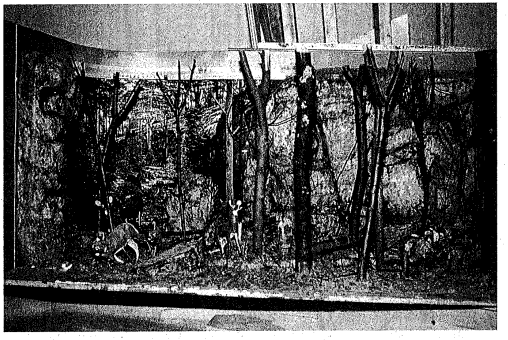
And what a contested land it is! The war at Oka was in part a war over the meaning of the earth. The earth as home or habitat, as resource, as refuge and inspiration, as playground, laboratory, profit centre — in recent years all these ideas have flourished in the place where human and natural economies meet.

That place is called nature, and this book is a cultural history of nature in North America. It does not dwell on destruction or cataclysm, as convincing as those familiar stories might be. Rather it attempts to understand how nature is lived and worked with, copied and talked about in contemporary society — especially in those environments we consider natural.

Nature is a part of culture. When our physical surroundings are sold to us as "natural" (like the travel ad for "Super, Natural, British Columbia") we should pay close attention. Our experience of the natural world — whether touring the Canadian Rockies, watching an animal show on TV, or working in our own gardens — is always mediated. It is always shaped by rhetorical constructs like photography, industry, advertising, and aesthetics, as well as by institutions like religion, tourism, and education.

There are many natures. Raymond Williams calls nature the most complex word in the language. It has also become one of the most common. Today nature is filmed, pictured, written, and talked about everywhere. As the millennium approaches, those images and discussions are increasingly phrased in terms of crisis and catastrophe. But the current crisis is not only out there in the environment; it is also a crisis of culture. It suffuses our households, our conversations, our economies.

To speak uncritically of the natural is to ignore these social questions. Indian ecologist Anil Agarwal distinguishes between a nature "geared to meet



Hardwood forest display under construction at the Royal Ontario Museum, Toronto.

urban and industrial needs, a nature that is essentially cash generating," and a nature "that has traditionally come to support household and community needs." That distinction is buried in the Western term "resource."

Those who wish to speak on behalf of nature must be especially careful. Writing some years ago in *Radical Science,* Ben Crow observed that "the concept of 'nature', a powerful part of many ideologies, needs to be handled at least as carefully as any endangered orchid or panda. Sadly, environmentalists do not do so." In the past few years that has begun to change; the environmental movement has become more self-critical and begun to intervene in the *discourse* of nature, in the convergent environments of economics, science, and promotion.

We should by no means exempt science from social discussions of nature. To say, for example, that radioactive isotopes — radiation, in everyday language — are a natural occurrence is to hide the economic and political decisions taken about nuclear power development. Similarly, the presentations of baboons in zoos or movies as members of "families," or as "aggressive" or "territorial," tell us far more about our own culture than they do about captive or performing animals. All of this is to say that nature too has a history. It is not a timeless essence, as Disney taught us. In fact, the whole idea of nature as something separate from human experience is a lie. Humans and nature construct one another. Ignoring that fact obscures the one way out of the current environmental crisis — a living within and alongside of nature without dominating it.

Confronting the many conflicting ideas of nature at large today will help us to understand the kinds of land development that in the past fifty years have so altered our towns and cities, farms and wildlands. Some of those ideas are new ideas, and they correspond to new ways we live on and transform the earth. The

way we produce our material culture — our parks and roads and movies — is derived from and in turn shapes our relationships with the physical environment. I call all of this activity *landscape*.

In the broadest sense of the term, landscape is a way of seeing the world and imagining our relationship to nature. It is something we think, do, and make as a social collective. In this sense, the North American continent is a region where Canadians and Americans play out the conflicts between culture and nature as we understand them. The idea of landscape — that the physical world is something we can know, enjoy, and control — is linked historically to the growth of European science in the sixteenth and seventeenth centuries. The task of that science (initially called "natural") was to establish that a world of fact existed quite apart from human value and intention. During the rise of industrial capitalism in eighteenth- and nineteenth-century Europe, landscape as a cultural practice — particularly in painting — came into its own, only to become devalued and mystified for much of the twentieth century.

This study is an attempt to return landscape to the centre of cultural debate. Thus it is as much a social as a geographical history. It comes back to the land over and again, but it is a land understood as both subject and object, an agent of historical processes as well as the field of human action.

In North Atlantic societies our connection to the land has long been characterized by domination and greed. This is especially true of the years following the Second World War, and it is in that era that I begin. English journalist David Nicholson-Lord has called the thirty-odd years between wartime food rationing and the threat of oil rationing in the mid-1970s "the high summer of industrial society"; a time when "ecological considerations" were "thrust aside in the urge to acquire and consume." Today that summer seems long passed. Yet we live with many of its consequences, good and bad: with the choices perceived, and the decisions and cultural assumptions made.

The social and environmental changes of the postwar years were many and far reaching. The industrialization of agriculture, the development of nuclear fission, the construction of suburbs, recreation areas, and new transportation networks like interstate highways and air travel — all of these wrenched North Americans from their traditional associations with the land. They were accompanied by equally large changes in the economy, changes most crudely symbolized by the rise of giant corporations (not least of them the information/entertainment/image-production industry centred in New York and Los Angeles). In the period 1940 to 1960, self-employment in the United States fell from 26 per cent of the workforce to 11 per cent. Since then, the corporate

economy, which is heavily dependent on resource extraction, has expanded to encompass the entire globe.

We shouldn't overestimate these changes, or their effects. Some of them have happened slowly, and many have their roots far earlier, not just in the present century, but many centuries ago. But the Second World War — which U.S. writer John McPhee has called a "technological *piñata*" — had the effect of magnifying the force of these changes in the culture, and their presence on the land. After a period of austerity, many North Americans experienced an explosion of affluence and consumption. Even if cars, camping, and suburbs were around before the war, they were phenomena available largely to the elite. After the war, they were much more popularly available, and it is popular history that I want to engage in this book. Part of that history is one of social conflict and dissent. The new global economy has been built at great expense to land and community, and the many movements mobilized in opposition have developed their own very different ideas about nature.

There have been two booms in land development over the past fifty years: the immediate postwar boom; and the boom of the 1980s that was the result of the completion of the interstate highways in the United States and similar though less extensive road systems in Canada. How much do we know about the extent and patterns of that forty-year project? We all recognize the changes in our own neighbourhoods: the razed buildings and new parking lots, the retirement condos and golf courses, the marinas and industrial parks that encroach upon wetlands. But how do those newly developed places connect across the land? How do river and field, shopping centre, industrial park, and highway interchange cohere? What are their ruptures? Some sense of those changes can be tracked by satellite, with Earth-imaging technologies like Landsat TM and SPOT. But most of the information gathered from remote sensing is unavailable to people outside of the upper ranks of corporations and state planning agencies.

I have made no attempt to present this history in chronological order; instead it is organized according to a set of themes that are broadly illustrative of the changing relations between contemporary North Americans and the natural world we inhabit. The book shifts from small to large landscapes and back again, from TV and domestic space to world's fairs, agricultural lands, nature parks, and, finally, to the industrial, military, and technological grids laid over the entire continent.

These are global phenomena, but I am writing from this place, North America. The places I talk about are *exemplary* places: places that reveal both the cohesions and disruptions of the past fifty years; places redolent of the power of

the land; places overlaid with another, cultural, environment — that of advertising, or tourism, or telecommunications. I have tried to remain sensitive to local and bioregional histories (and faithful to my own biography and travel habits), concentrating on the Great Lakes Basin, where I live, Southern Appalachia, and some disparate sites in western Canada and the United States. While natural environments know no political boundaries, cultures certainly do. The border between Canada and the United States — which used to be called "the longest undefended border in the world" until it became a joke — drops in and out of view in this discussion. Rarely is there a specific comparison between Canadian and U.S. places, although I have tried to draw out distinctions where they are revealing.

This discussion necessarily cuts across many disciplines, and because of this I owe a great debt to people working in geography, cultural and natural history, popular science, and ecological theory. I comment on writing I have found indispensable, and that has moved me, at the end of the book. My other sources are mostly drawn from a wide range of newspaper and magazine accounts; discussions in journals, newsletters, broadsheets, and manifestos; lectures, TV shows, and radio interviews. Especially useful have been the publicity materials that anticipate, explain, recall, and surround many of the geographies I discuss in this book. These ephemeral materials remind us that there is now also an environment of promotion and advertising that reaches far into our lives and bodies, as well as out into the natural world itself.

Readers will sense in these pages an intermittent hopefulness, a desire to explore the terms of an alternative future. My optimism about current trends in landscape design, park policy, and nature movies is tempered with the knowledge that none of our relations with the natural world will change until we change the basic relations of power in the Canadian and U.S. societies. Without broad social empowerment and true democratic institutions — neither of which I believe exists in any systematic way in North America today — our connections to the natural world will continue to be characterized by greed and exploitation, the very values so rampant in our social lives.

With respect to landscape, the task of building a new world (or rediscovering an old one) in harmony with the other species of this earth must begin with understanding the process of contemporary land development and the changes it has brought to this continent and our experience of it. I hope this book contributes to that work by making the places we inhabit and visit resonate simultaneously with social and natural history.

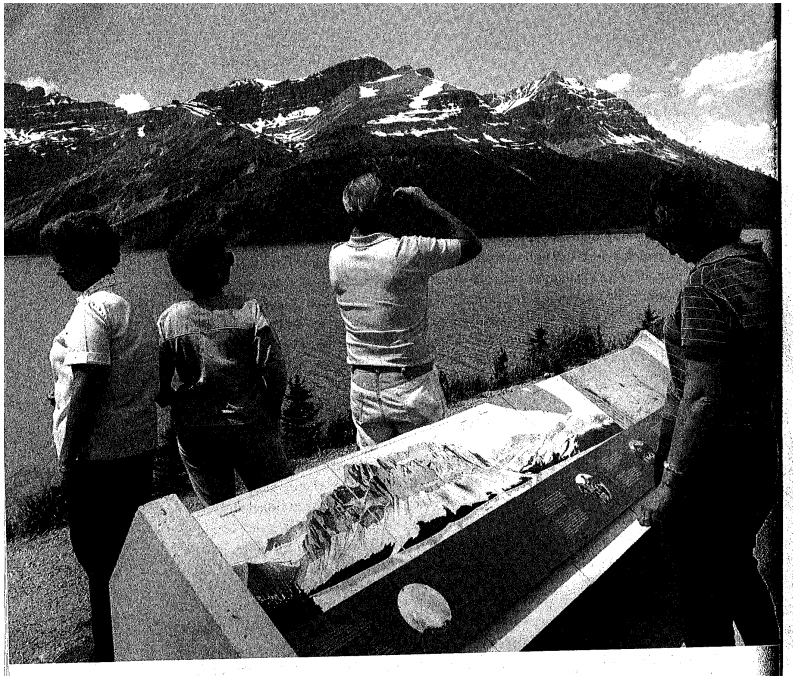
Moving beyond understanding means continuing to build oppositional

cultures and politics. On the most simple level, that involves relearning old skills and lifeways — recalling, for example, that only fifty years ago people separated garbage and weeded their lawns by hand rather than using herbicides. But halting the further domination of the Earth also means withdrawing social consent for the expansion of industrial society. Just how we do that is still very much an open question for me. On the one hand there is a lot of encouraging work being done at the local grassroots level: decentralized and cashless economies, small-scale development, appropriate technology, and so on. Yet are these micropolitical endeavours enough to stop a machine that is truly global in scope?

It will take some time to work through this dilemma. We can make a beginning by untangling the intricacies of two simultaneous tendencies in contemporary society. One tendency is towards globalization: a world economy, free trade, information oligarchies, and all the other stratagems that were laid bare for North Americans by Reaganism. This tendency has been destructive on the economic level, but in other ways holds some promise. There is after all a real need for confederations, for large-scale co-operation — not for competitive reasons, but to bring people together culturally and to solve truly global problems, the most pressing of which are environmental in some sense of the word.

Against this, there is a widespread movement towards localization, autonomy, and self-reliance. It is this tendency that underlies the breakup of large states. It can also be sensed in a yearning for community, for regional and cultural identity, for a sense of place. This is the arena of the small-scale production and social organization that are variously described as tribal, bioregional, or subnational. The danger here is that the local can descend to the level of the parochial: to petty nationalism and patriotism, or to racism and xenophobia.

In an era of ecological crisis, it's no surprise that many of these contradictions are being worked out on the land itself. My own sense is that the immediate work that lies ahead has to do with fixing landscape, repairing its ruptures, reconnecting its parts. Restoring landscape is not about *preserving* lands — "saving what's left," as it's often put. Restoration recognizes that once lands have been "disturbed" — worked, lived on, meddled with, developed — they require human intervention and care. We must build landscapes that heal, connect and empower, that make intelligible our relations with each other and with the natural world: places that welcome and enclose, whose breaks and edges are never without meaning. Nature parks cannot do this work. We urgently need people living on the land, caring for it, working out an idea of nature that includes human culture and human livelihood. All of that calls for a new culture of nature, and it cannot come soon enough.



Icefields Parkway.
Photograph by Douglas Curran.

1. The View from the Road

Recreation and Tourism

Modern tourism was born out of the application of social policies which led to industrial workers obtaining annual paid holidays, and at the same time found its expression through the recognition of the basic human right to rest and leisure.

— United Nations declaration on tourism, 1980

In the mid-1980s I took a railway trip from Toronto to Vancouver. The train, called The Canadian, was old and tatty and filled with grumpy American travellers who were in the country by default — Canada was a tourist destination without terrorists. But no tourist experience comes without its own logic, its own way of organizing the landscape and our sense of it. The train carried us to Vancouver, all right, but on the way it stirred us to pay belated though still sincere homage to the Canadian landscape.

The dining car was the most intact remnant of this vestigial nationalism. Called the Queen Alexandra, it was a royal blue ode to prairie songbirds and prairie hospitality, with wonderful etched glass dividers and stars on the ceiling. Here was a colonial nostalgia whose restraint and innocence spoke of the early 1950s, yet it was overlaid with the ruthless corporate reality of our own day: mass-produced meals and packaged travellers who probably wanted to go to Greece but ended up in Saskatchewan.

Out the window, as always, the vast land itself flitted by, so familiar from postcards but silent and untouchable from inside our glass cases. I remember wanting to get off the train at every point and lie in the sweet summer fields. While it's nice to think that my image of those fields came from within, from the memory of authentic, animated, *real* space, I know that it is also part of the repertoire of images of nature that tourist culture produces in great number and variety, and that in some ways are indistinguishable from nature itself.

Tourism organizes our experience of the world and its many aggregate cultures and landscapes. In the past fifty years or so it has become a global

phenomenon involving millions of people. It is also a big and growing industry — and the principal one for the economies of many countries and regions in the Third World. It may also be the largest industry in North America by the turn of the twenty-first century. The history of tourism is a confusing one, because no one knows quite what it is or when it started. What we can say is that its history parallels that of modern industrial society. While people travelled for pleasure before that time, and the wealthy classes of imperial Rome or China had holiday villas in the country, modern mass tourism represents a vastly different way of moving through the world. It has created a whole range of new landscapes: motel strips and campgrounds, airports, beach compounds, amusement parks, and convention centres. It has promoted the growth of a managerial class whose job it is to organize human desires and leisure time. It has extended the commodity form both out into the natural world and back into our imaginations. The Caribbean holiday, after all, is a mass-marketed product as well as a place. Like a tin of fruit cocktail, the promise of a holiday experience has been manufactured out of the material and ideological resources available to contemporary culture. The "destination," as they say in the business, is an integral part of the identity of the Caribbean holiday product at the same time as it's strangely irrelevant: basically, anything with sun and palm trees will do. Lastly, modern tourism is a phenomenon that is both urban and rural, and at the same time it breaks down the distinction between the two. It has vastly reorganized not only the geography of North America but also our perceptions of nature and our place in it as humans.

Tourism has more than a coincidental relationship with modern industrial society. As the 1980 United Nations declaration on tourism points out, the phenomenon is one of the byproducts of that society. Certainly one outcome of the long history of industrial capitalism has been the creation of leisure time. But leisure isn't time like any other. It's supposed to be a discretionary kind of time, different from the productive time spent at work. Leisure is a nineteenth-century idea, introduced by a culture that defined work itself as a separate sphere of life, an activity that had its own politics and increasingly its own place in the landscape. In the nineteenth century, work was still a redemptive activity. But work has changed, and so has the politics of labour. Because new technologies have eliminated certain kinds of work and made much of what's left meaningless, leisure time is increasingly the time, and creates the space, where we look for meaning in our lives. A lot of social institutions are now organized around buying, eating, or sightseeing rather than around the social bonds built through labour. It isn't always this way, of course. People also use leisure time to engage in other kinds of activities altogether: to build local cultures and communities — or simply to work in the garden.

An expressway under construction on the outskirts of Toronto in the 1960s. Sightseeing helps us make sense of a landscape continually demolished and rebuilt.

These shifts in the nature of work and leisure are also part of the history of tourism. By the mid-twentieth century, technological change in North American industry had created considerable wealth. The response of most Canadian and U.S. workers, however, was not to gain more control over the labour process — to demand shorter working hours and more time of their own, for example — but to settle for higher wages and easy credit as an entrée into the growing culture of affluence, what was usually talked about as the American way of life. The cycle of ever increasing growth and consumption became a near universal creed. Thus, during the 1950s and 1960s, the modern utopian visions of a beneficent technology ushering in a society of ease and plenitude easily translated into mass desire for leisure commodities. Cars, trailers, motorboats, camping equipment, home appliances, vacation cottages, televisions — in other words, people sought out shopping centres, superstores, and everything inside them. These were the forms that leisure and tourism had taken on this continent by the middle of the present century.

The links between tourism and contemporary society are not only economic. Tourism has all along had a particular role to play in our experience of modernity. By circulating through the material and natural world, we juxtapose the many contradictions of our everyday lives and try to make them whole. When I recall my experience of the train that summer, I begin with images of dead queens and terrorists and grain elevators; then I remember the microwaved Pacific Salmon Almandine in the Rockies, the gleaming bank towers in

Opposite: Tourism redefines the land in terms of leisure. This 1950 ad promotes Canada as a roomy, handy place with a "foreign atmosphere."

Calgary, and a man fishing from a boat in the Precambrian Shield at sunset (the Korean monk in the next seat took a snapshot of him). Sometimes I read while all this was going on, and sometimes I listened to music I'd brought along. That train trip, and its many small pleasures and disruptions, somehow coalesce for me into orderly but still ambivalent images of life in Canada in the late twentieth century.

This ambivalence characterizes much of what's called modern life, and as modernity gets updated we must keep sightseeing just so we can understand our place in it. Our cultures, our landscapes, our social institutions are continually demolished and rebuilt. Each new moment of modernity promises to heal the wounds it continues to inflict, while at the same time encouraging us to imagine an open future. We tour the disparate surfaces of everyday life as a way of involving ourselves in them, as a way of reintegrating a fragmented world. Tourism is thus a thoroughly modern phenomenon. Its institutions — package cruises, museums and amusement parks, self-guided nature trails and visits to a shrine to the Virgin Mary, the grave of Wild Bill Hickok, or the site where a president was assassinated — continually differentiate and reorganize our experience of the world. One way they do this is by naming the modern and separating it off from the premodern — or the merely old-fashioned, which in contemporary culture often amounts to the same thing. Thus the tattered VIA Rail cars that hurtled us across the continent that summer were "outdated," as our U.S. visitors pointed out more than once, while Calgary was somehow "new," or in any case, different from that. The outdated is sometimes demolished (as much of it has been in Calgary) and sometimes preserved as a reference point for us, an "authentic" curiosity that reminds us of the victory of the modern over the ever receding past.

Tourism locates us in space as well as time. It has redefined the land in terms of leisure. It began to do this at a moment when most North Americans were being wrenched from traditional relations with the land. It's no accident that industrial agriculture, the spread of suburbs, and the growth of mass tourism all coincided in the mid-twentieth century.

The Roots of Nature Tourism

Nature has figured large in leisure activities since the mid-nineteenth century and the history of nature tourism provides a good sense of the history of relations between humans and the natural world over the past 150 years. It also reveals how tourism *organizes* those relations.

Nature tourism is simply the temporary migration of people to what they understand to be a different and usually more "pure" environment. It's going out to nature for its own sake, and it's all of the ways we talk about that

Hunters on U.S. national forest land, late 1950s.

experience. The modern history of nature tourism is a history of altered landforms and changed ideas and experiences of the non-human. Broadly speaking, it involves a shift from a pastoral approach to nature to a consumer approach. This in itself is a huge and significant transition.

In the 1850s and 1860s the parks movement got underway in the large cities of the United States and Canada. It grew out of a widespread dissatisfaction with industrial culture and its momentous effects on the landscape. This dissatisfaction was not a new sentiment in its time. The myth of nature as a lost garden permeates both the Greek and Hebraic roots of Western culture. In the nineteenth-century version of that myth, in the age of what would be called the Industrial Revolution, popular nostalgia for nature overlapped in key ways with the culture of Romanticism. Cities grew quickly, becoming crowded and polluted. Many people began to see nature as the tonic for an unhealthy urban life. In the 1850s in the United States, and somewhat later in Canada, amateur horticultural and urban reform organizations built small parks to "improve" urban life. These parks were to have a moral as well as physical function: healthy open spaces, reformers thought, would alleviate the cities' many social and physical ills. The parks movement was followed by the playgrounds movement in the last years of the century, and like the parks movement the playgrounds movement was originally a citizens' initiative, in this case largely organized by women's groups. Typically, a neighbourhood improvement association organized itself to save a vacant lot from development; the undeveloped urban land was versatile and could be devoted to play of all kinds. In the long term the social goal of the playgrounds movement was to convince the public of the beneficial aspects of play and games and see that "supervised" recreation of all types was provided for in schools and neighbourhoods. By the last years of the nineteenth century, parks in both Boston and Montreal had sand gardens for infants, ball fields and instruction in games, folk dancing, first aid, and story-telling. Outdoor organizations like the Camp Fire Girls and the YMCA date from this period.

These movements had two effects that interest us here. One was the new possibility of thinking about recreation as an activity apart from our other everyday tasks. Recreation assumed its own schedule and its own locations in the landscape. It had become a form of leisure. In the contemporary literature of the tourist industry, this is talked about as an increase in demand for outdoor experiences. At first these new activities were organized around the dominant social institutions of their day, like schools and churches, and in fact the collectivization of recreation was closely related to the collectivization of work and the formation of unions.

The other effect of these movements was a general reawakening of interest in the natural world. To be sure, it was at first a natural world shaped by the

shears and spades of urban culture, for nature appreciation directly coincided with urbanization and industrialization. By the late nineteenth century, almost half of North Americans lived in cities. It was not until then — the moment that in the United States is called "the closing of the frontier" and in Canada "the opening of the West" — that wilderness itself assumed value in popular culture. In the United States, progress was measured by how far nature — and the aboriginal peoples who were often understood to be part of it — had been pushed back, and the feeling at the close of the nineteenth century, at least in the United States, was that the job was nearly done. It became possible to argue then that the wilderness had to be preserved. In Canada, where nature was not so easily pushed back, the wilderness ethic did not gain currency as quickly as in the United States.

The love of nature flourishes best in cultures with highly developed technologies, for nature is the one place we can both indulge our dreams of mastery over the earth and seek some kind of contact with the origins of life — an experience we don't usually allow urban settings to provide. Since at least the witch burnings of the sixteenth century, people of European origin have regarded nature as separate from human civilization, which makes it possible to argue for its protection. The Native peoples of North America have never shared these attitudes. For them, the natural world is not a refuge — the "other" to an urban industrial civilization — but a place that is sacred in and of itself. In Native cosmologies, human cultures are compatible with natural systems, and it is a human responsibility to keep things that way.

Recreational Resources

By the 1870s and 1880s, wealthy city-dwellers were taking curative holidays at Rocky Mountain spas and seaside resorts. At the same time, the recreational activities available to the growing middle class were also edging out of the city. Hunting and fishing and canoeing had evolved into sports, and the urban dwellers now flocking to the country on holidays encouraged this trend. Church and youth organizations established outdoor education programs as part of their regular activities. It was out of this general social matrix that the Woodcraft Indians, Boy Scouts, national parks, and modern conservation movements emerged.

Transportation technology was also key. Town squares and commons, for example, are old phenomena in North American cities, but public parks *per se* didn't show up until people could get to them on public transit. By the late nineteenth century, railroads allowed the growth of suburbs on the edges of cities and provided access to beaches and lakes well outside city boundaries. After World War I, the car propelled recreation out of the cities for large numbers of

An outboard motor ad from the 1960s. In campaigns targeting the working class, the recreation industry promoted the outdoors as a place to "get away from it all."

the middle class. By the 1950s these trends had all magnified, and country and city now bear a very different physical and philosophical relation to one another.

This general rekindling of interest in nature and the new possibilities of access to it had effects that we still feel today. As more and more people travelled to the natural areas of the continent for a "change of scene," the areas themselves ceased to be thought of solely as sanctuaries from the ills of civilization. Instead, they were now often talked about as "outdoor recreation resources" — a jargon that came out of the popular movements to preserve the parks and forests of North America for the future. The language underscored the new ways rural spaces were appended to urban cultures and to the expanding North American economy. Recreational nature became a place of leisure on weekends and summer holidays; it became attached to the schedules and personal geographies of an urban society.

Several things happened during the years following World War II. In the first place, most North Americans had a lot more money. The war had inflated

the economy, and while women were unceremoniously escorted back from factories to the hearths where they were now supposed to marshal the new armies of consumerism, men for the most part were able to move into regular employment. Many people had savings from the war, government grants were available, and if nothing else credit was easy to arrange. (Diners Club and American Express credit cards both appeared in the early 1950s.) After a long period of austerity, the 1950s was a time of exploding affluence. Families were larger and now usually included one car if not two. Leisure time was organized into discrete activities matched to the products of a leisure industry. Outdoor recreation had become a mass phenomenon. For holidays, people often went on automobile trips along new roads that reached far into the natural areas of the continent. There was a new mass market for recreational services and commodities: motels and drive-ins, both of which were around well before World War II, sprang up in large numbers along highway strips and at interchanges. Shops and chain-store catalogues were filled with outdoor equipment of every kind.

There were exceptions to this general trend. For one thing, the idea of nature as an untrammelled refuge is most attractive to cultures situated at some distance from the rural world, and whose values tend to rest on a rigid distinction between the human and the non-human. Utopias, after all, are culturally specific. Thus the non-European peoples of this continent, particularly African-Americans and Amerindians, have traditionally regarded the idea of vast nature reserves with some scepticism and bewilderment. Moreover, both of these peoples have associations with the North American soil — associations as painful as they are deep. Black slaves were imprisoned on the harsh plantations of the South, and freedom historically meant flight to the northern cities. Latinos have had a similar history in the industrial plantations of the modern sunbelt and in Puerto Rico.

Native people, on the other hand, have been explained away as savages almost to the present day. Their ancient kinship with the animals of North America has often been turned into a slur. In the early years of the U.S. national parks, especially in the Southwest, Native families were simply part of the scenery; their production of handicrafts was a popular attraction for the white tourists who were herded through Indian households as if those homes were museums. Non-white people have enjoyed very little of the immense wealth that has saturated Canadian and U.S. societies since the Second World War. For all of these reasons the postwar boom in recreation took place largely without the direct participation of non-whites — a fact usually ignored in the professional literature on the subject.

Regardless of who participated, the rapid development of a recreational infrastructure brought about a new set of relations between humans and every-

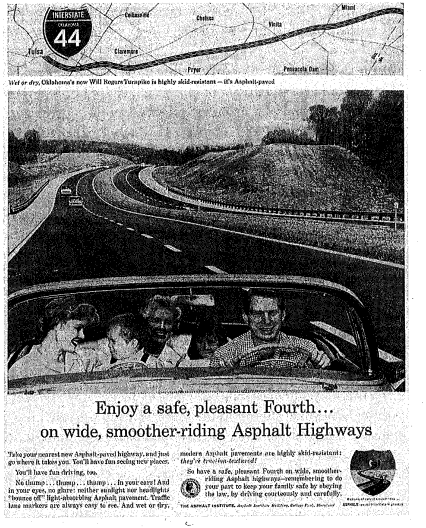
thing we call nature. While the places visited might all have existed before, people experienced them in new ways. Nature tourism catalogued the natural world and created its own spaces out there among the trees, lakes, and rocks. It sold us nature-related products, and indeed it began to sell us natural space and experiences too. All of these activities served to fragment the land: here we have a sunbathing beach, over there a nature trail for the blind, further along there's an RV(recreational vehicle) campground or a petting zoo or a "singles' crosscountry weekend." Nature tourism differentiates our experiences of the natural world, with several consequences. The most obvious is that this differentiation makes it easier to package and sell nature as a product. It also means more people can enjoy natural areas. It means that it's now more difficult to experience nature as a whole, as the total environment that for centuries and centuries has been our *home* — which is, after all, a very different kind of space from a "recreation resource."

The Car and the Road

By the 1920s the car had become a popular means of transport, and with the beginnings of a highway infrastructure intercity travel increased dramatically. Between the two world wars, the construction of surfaced roads increased fourfold. Even during the Depression of the 1930s, large-scale road construction continued unabated, often as a part of government relief programs. By the mid-1950s multi-lane parkways and freeways had been built to expedite traffic from city to suburb and city to city; and the car had insinuated itself into the daily habits and desires of millions of North Americans.

While the population of North America has roughly doubled in the past fifty years, highway travel has increased almost tenfold. The private car accounts for more than 80 per cent of all travel — 75 per cent of all tourist travel — in North America. These trends — from highway construction to car acquisition and use — have remained relatively constant for the last five decades. They are a good indication of how the automobile became the keystone of the postwar North American economy. These changes didn't happen by themselves of course; several U.S. corporations, most notably General Motors, practised ruthless marketing strategies that would ultimately ensure the car its central place in North American culture. This meant designing cars with what's now called planned obsolescence and making them the only choice for millions of commuting workers. The control over choice was achieved partly by buying up and eliminating mass-transit companies.

This is a well-known history, with consequences that most people understand. But what does it mean in terms of the landscape and our relation to it? In the first place, the car and the modern highway bring with them a different



An ad for the Asphalt Institute, 1950s. Road building is an essential component of modern mass tourism.

ordering of space. Before the car, most roads took care of all manner of traffic. But once the car was in general use, traffic had to be functionally separated: trucks and cars from pedestrians and bicycles, local and feeder traffic from intercity travel. Expressways, for example, are usually set off on a different grade from surrounding land, and access to them is strictly controlled — changes that imply a rationalization of space. Certain roads come to have certain purposes: some are for whisking travellers and goods past places (whether urban or rural) as quickly as possible. In this case, the landscape you move through is subordinate to your destination. Other roads, such as the nature parkways begun in the 1930s, bar commercial traffic and in the design of their curves and rest areas instruct drivers about how best to appreciate the scenery out the window. In both cases, the car further divides the landscape, and our experience of it, into discrete zones. It promotes some landscapes and discourages others.

In the 1950s new road-building technologies carried more people than ever before out of the cities to play in the country. In 1944 the U.S. Congress passed the Defense Highway Act, which authorized the construction of a

massive national network of roads that would supposedly allow for movement of troops and materiel in case of foreign attack. In Canada, the Alaska Highway, authorized in 1948, had similar military beginnings. In 1956, U.S. workers began construction on the Interstate Highway System, aided by revenues from a gasoline tax. The tax, in fact, could only be spent on highway construction for the first sixteen years. The highways encouraged car acquisition and use, the cars in turn consumed more gas, and the tax on the gas ensured the construction of more highways. The interstate highways, completed in the mid-1980s, amounted to a massive government subsidy to the auto industry and its many dependents, including tourism.

Tourism grew by about 10 per cent annually during the 1950s and 1960s, and it was largely a tourism organized around the car and the highway. Pleasure driving had become the most popular form of outdoor recreation and for many people older forms of outdoor activities — camping, for example — became an adjunct of car travel. Car and camping technologies merged. The new highways were thus not only a measure of the culture's technological prowess but they were also fully integrated into the cultural economy. They were talked about as though they had an important democratizing role: the idea was that modern highways allowed more people to appreciate the wonders of nature.

The car also made possible the establishment of a vacation-home industry during the 1950s and 1960s. This changed the physiography of resorts in interesting ways. It used to be — and here we might recall the great nineteenth-century spas — that resorts were typed according to the natural features of the landscape they were part of. So there were mountain resorts like Banff, there were spas, ski resorts, seaside resorts, and so on. Once mass second-home building got under way in the late 1950s, resorts lost many of their ties to locale. The most obvious effect of the car on nature tourism was a large-scale diffusion of recreation across the landscape. Holiday-goers no longer took rest cures at one place, but sought out ever more distant and "unspoiled" recesses in their cars. When A-frame and other pre-fab homes replaced resorts in many people's itineraries, there was a proliferation of tourist sites, and consequently the experience of nature became more private for many people. By the mid-1960s, the resorts themselves had changed in character: either they went out of business or they adapted to the demands of a new and different clientele. Today, travelling families have been replaced by convention-goers and corporate head officers attending marketing seminars. These clients expect familiar surroundings — amenities, they're called — that are not specific to locale.

As the growth of rural tourism proceeded, the geographical focus shifted from natural features of the landscape to artificial ones such as golf courses or African animal-safari parks. The reasons for this are complex, but they had

mostly to do with the need for the industry to differentiate its products to serve a rapidly expanding market. Marine parks and Santa's Villages, whether in California or Kansas, were like so many interchangeable brands of cigarettes or pain relievers, each with its target audience. Thus scenic legitimacy came to rest partly on the marketing strategies of the tourist industry as well as the vagaries of land speculation. All of these changes led to new fields of study including tourist motivational assessment and scenery evaluation, which by the 1960s had become the subject of intense scrutiny within the industry.

Where the landscape itself was adaptable to this new industrial situation, so much the better. For example, in the forest-lake complex of much of the north-central area of the North American continent, the aesthetic values already in place coalesced with the demands of a growth industry. The two most desirable features of a woodland cottage-site are the illusion of solitude and the view out over water. In the sinuous lake and river country of the Great Lakes-St.Lawrence watershed, the land is relatively flat and yet densely vegetated. There are no sweeping vistas, so the aesthetics of this landscape in its more or less wild state is built on experiencing nature in its details. The activities that make sense here are intimate, even private, like canoeing or mushrooming. Yet the geography allows for great numbers of people to have this experience of the immanent frontier all at the same time. When you add the automobile and the express highway to this equation you end up with a well-populated region of the continent colonizing large portions of the remaining bush with millions of second homes, each with its private road and intimate view.

The car is not the only vehicle that roamed the new highways of the 1950s. A related technology, the trailer, has had a profound effect on the way we move across and inhabit this continent. Originally — in the early 1930s — trailers were a kind of house on wheels, like a covered wagon for vacationers or itinerant workers. Now they're called mobile homes and they've become the predominant form of prefabricated housing. They are permanent features of the landscape, as the evolution of their town names indicates: from trailer camps to trailer parks to mobile-home estates. In the U.S. Southwest, these communities are simply called parks, and the trailers themselves are called park models. Temporary dwellings — which are an ancient phenomenon — imply a kind of freedom and have thus found a special place in the North American ideological landscape. This phenomenon is usually expressed as freedom from ties to place, to family, and to job; freedom to move across this land as we want and to make new connections with it. For people who work at migratory or temporary jobs — and today this includes work in sales or mid-management as well on farms — moving from one place to another is often a necessity. It's as if physical mobility is standing in for the dream of social mobility that North

American society has been unable to deliver. Camping is one form of this refusal of station; so is desert retirement in a mobile home.

In any case the trailer is now something people use to tour nature (among other places) and dwell there temporarily. In fact, technologies like the trailer, and the cultures that surround them, construct nature as a place of freedom and repose. As our technical mastery over nature has progressed, the idea of nature as freedom has flourished — an idea that would be meaningless in a time or culture other than this one.

Other transportation technologies have been developed since the Second World War, and all of them have helped to transform the landscape and our perceptions of it in some way. Most fall under the name of recreational vehicle (RV), and they include the snowmobile, the off-road vehicle (ORV), the van, the camper, and so on. Many of these technologies have insinuated themselves into everyday North American life, and the social activities of clubs and vacation caravans are now often planned around them. Indeed, a new kind of campground has been designed for people who travel with recreational vehicles.

The trucking industry was also born in the postwar years — often as a result of the car companies' marketing strategies — and it too has had a curious effect on how our culture perceives nature. Before continuous streams of trucks plied highways of every size, trains carried most freight, including foodstuffs. Refrigerated train cars were first put to use in the late 1920s. As John Steinbeck's novel *East of Eden* documents with some bitterness, refrigeration allowed produce from warmer parts of the continent, such as Florida and California, to be shipped to large markets in the cooler regions. Like the car, however, the transport truck is a more versatile, if less efficient, technology than the train. It was able to get right into the fields and collect the avocados and grapefruit soon after they were picked. This development coincided with two others of equal import. Postwar agricultural research bred fruits and vegetables to be part of an industrial process — they could be mechanically picked, were resistant to biocides, and took well to shipping. This led to great increases in farm productivity during the 1950s. At the same time the transportation industry was consolidating itself: trucking firms began to be vertically integrated with food growers, processors, and retailers.

This is a complex tangle of changes, and there were a number of consequences. One was the replacement of local and regional market gardeners by large, often corporate growers in the new agricultural zones of the sunbelt. They in turn introduced vast amounts of biocides, with ecological effects that in many cases remain unknown today. The industrialization of agriculture — which included the development of supermarkets — also led to a homogenization of the seasons as summer produce (or some semblance of it) began to

appear in winter as well. This in turn led to a very different relation between the culture and the geography and climate of North America. The land began to look and feel different. As models of domination began to flourish in North American cultures in the 1950s — and the industrialization of agriculture was mirrored by the U.S. military policy of the time — it became possible to think of nature as a servant, or a well-loved pet. It also became possible to think of nature as a victim — a sentiment that underlay much of the thinking of the environmentalist movement in its earliest years.

The Blue Ridge Parkway

The car also had a more instrumental effect on the landscape. Most obviously, it brought massive environmental change in the form of roads, traffic, and deteriorating air quality. These all have had their own secondary and tertiary effects, most of them bad if not catastrophic. But much less discussed are the aesthetic and psychological changes the car has brought to land forms and our perception of them.

Once the roads were full of cars, there had to be a physical infrastructure to service them. Thus we get the creation of the strip: gas stations, roadside motels and drive-ins, coffee shops, muffler franchises. These came with their own logic. Highway businesses had to design their buildings and advertising to attract motorists. Recognition from the road became paramount, and this led to the spread of the franchise business and use of standardized images and eventually logos in advertising, both on and off-site. Consider the repetitive architectures of chains like Howard Johnson's or the Holiday Inn, or indeed of national parks. Tourist services had to be built on a scale compatible with the automobile. Large signs and façades and small cheaply constructed buildings were the lessons learned from Las Vegas. Motorized access and parking lots became necessary adjuncts to every new building, whether souvenir shop or campground office. These in turn were often "naturalized" by planting gardens around them; and work like this became the bread and butter of the newly prosperous profession of landscape architecture. A roadside coffee shop or gas station was transformed into an oasis in the midst of the created deserts of parking lot and highway. Similarly, driveways and garages — and the reappropriated ranch architectures they complemented — contributed to the sprawling character of postwar urban design. More recent architectures like shopping malls turn inward from their parking lots, towards the retreats of indoor gardens. The roadside environments of just thirty years ago are now largely in decay.

The car imposed a horizontal quality on the landscape as well as architecture. The faster we drive, the flatter the earth looks: overpasses and cloverleaf interchanges are almost two-dimensional when seen from the car window.

They are events in automotive time. As highway and tourist space has become more homogenized — like the universal space of modern communications — distance is experienced as an abstraction: suburbs lie "minutes from downtown," and the miles per gallon we achieve getting to them quantify field and stream. Compare this experience of the landscape with that suggested by aerial photography, which wasn't really accessible to people outside the military until the 1960s. Seen from a plane window the landscape flattens out to something like a map: it is a landscape of fact (or to the military, of secrets). With more advanced satellite photography, the landscape has been inscribed with representations of resources — healthy crops, or deposits of subsurface minerals, or Cuban missile bases. The image of the Earth from space, and its Whole Earth counterpart, are extensions of this impulse to picture the planet as a resource. But in the 1950s, travellers weren't yet able to perceive this factual landscape. What we saw out the window of the speeding car — the Futurists were right after all, it is one of the great experiences of modern life — was the future itself. Consider the thrill of entering New York along the Henry Hudson Parkway or Vancouver crossing the Lion's Gate Bridge. The speeding car is a metaphor for progress. It is always moving ahead — although the effect is the opposite, as if the landscape were moving past us, into the inconsequential shadows of history. In this very limited respect, time has replaced space as the predominant way our experience of the world is organized.

These effects are somewhat more attenuated in the design of nature roads. The best examples of these are in the national parks, although parkways, as they are often called, are prominent features of the working landscapes of eastern North America. The Hutchison River, Merritt, and Taconic parkways in Westchester County and the lower Hudson River watershed are good examples of the long-distance and commuter type; the shorter Gatineau, Niagara, and Thousand Islands parkways in Ontario or the Seventeen-Mile Drive in California function more strictly as nature appreciation roads for tourists. These parkways are designed to present nature to the motorist in a way that sanctifies the experience of driving through it. Nature can't really be said to be sacred in this culture, but nature appreciation comes close to being a sacred activity. The entrances to parks are important in establishing the terms of this activity and in defining the relationship between "natural" and "artificial" space.

My favourite nature road is the Blue Ridge Parkway in the southern Appalachians, one of the supreme public landscapes of the New Deal period. It was begun during the Depression as a job-creation project and link between the Shenandoah and Great Smoky Mountains national parks. Managed by the National Park Service, it is 470 miles long and built along the crest of five mountain ranges in Virginia and North Carolina. The road was designed as a

rural national parkway restricted to leisure traffic; local residents call it The Scenic, because it bypasses towns and other commercial landscapes.

The Blue Ridge Parkway pioneered many of the techniques of landscape management taken up by the tourist industry in the 1950s and after. One of these techniques is signage: like railroads, the Parkway is periodically marked by mileposts, their purpose being to orient motorists *vis-à-vis* their itineraries and to aid road maintenance and administration. Talked about in the original plans as a way of relieving monotony, the mileposts also introduce the notion of progress to the motorist's experience of the landscape; the miles tick off as nature unfolds magnificently before us. The Parkway has a logo — a circle enclosing a roadway, a mountain peak, and a wind-swept white pine — and like all logos it is repeated. Other road signage, especially at the entrances, is standardized to underline the special quality of this created environment. Gouged wood signs point out road elevations, local history, and the names of distant features of the landscape. Other diversions organize the motor tour: parking overlooks, short hiking trails, local museums, campgrounds, and parks spaced every thirty miles. In this way, the planners designed tourist movement into the land itself. All of these management strategies are today a very common part of the tourist economy.

The logo of the Blue Ridge Parkway in Virginia and North Carolina.

The Parkway is a prototypical environment of instruction, and this has become as typical of modern tourism as it was of New Deal public works projects. The Parkway's landscape architect, Stan Abbott, had worked on the Westchester parkways. In the southern Appalachians he wanted to create "a museum of managed American countryside." One objective was to reclaim and preserve marginal mountain lands. Another was to create a landscape pleasing to the motorist, which involved using the land in a way that would "make an attractive picture from the Parkway."

To the planners, some land adjoining the Parkway was decidedly not a pretty picture, especially the shacks and worn-out farms of hillbillies — an outsider's term for the impoverished whites of the southern Appalachians. In some cases, these people were moved elsewhere, out of sight, under President Franklin D. Roosevelt's Resettlement Act. Abandoned homesteads were planted over with native succession species and made into parks. In other areas the Parkway administration bought "scenic easement rights" from local landowners or allowed farmers to work Parkway lands.

In both cases, land use was restricted to activities compatible with a Parkway aesthetic. The planners encouraged split-rail fences, grazing cows, or sheep but not abandoned cars or, for that matter, weeds. This policy encouraged soil and watershed conservation; the ecological education of local residents was a high priority with Parkway administrators, who liberally dispensed the

fertilizers and agricultural advice of the day. The policy also allowed the road's designers control over the verges — the place the car driver's eye first comes to rest after scanning the pavement. These were planted in a pastoral style — the meadows and groves that have been equated with naturalism ever since the great landscape parks of eighteenth-century England. Today almost the only communities visible from the road are the native plant communities established by Stan Abbott's staff and crews, who were early restorationists: rich and perfumed copses of red maple, rhododendron, flowering dogwood, Carolina hemlock, and white pine flourish as they probably haven't since the arrival of European civilization. That civilization locally, meanwhile, has been removed from view, apparently incompatible with nature.

Control over the verges also allowed the landscape designers to organize the vistas. They screened inappropriate views. They designed curves that restricted speeds to thirty-five or forty miles an hour and placed those curves in a way that organized the long looks. Since the road follows mountain crests for most of its length, distant views tend to be views down over deep valleys and countless ranges receding into the blue distance. Motorists feel like they are at the top of the world, and they share this new universe with the car. The designers have organized this national public landscape around the private car and the private consumption of nature.

The Blue Ridge Parkway is landscape management at its most accomplished. Driving along it is a beautiful and exhilarating experience. I think the pleasure of the experience can be attributed to three strategies that the road's planners adopted. The first strategy was to control virtually everything within the field of vision. The organizing poles of this field are verge and horizon, and the road successfully manages the natural and cultural landscapes that fall within it. Control over the cultural landscape has been a matter of instruction and public relations. The new culture of tourism instructed motorists in how to appreciate nature from the car; farm agents, social workers, doctors, and the Parkway's local newsletter, the *Mileposts*, coaxed destitute Appalachian peoples into modern national life. Once this education took place, mountain cultures could be reinserted into the Parkway motorist's field of vision. In the early 1960s, "Hillbilly Shows" were performed for tourists on the edges of the road. Men in crooked hats and women in long, flowered dresses with holes in them played music and demonstrated whisky stills and other putative trappings of a culture in dissolution. By the 1970s, these people had gone — to Beverly Hills perhaps — and in their place state and federal governments built craft museums.

The second, related strategy of the Parkway was an aesthetic one: separate productive and non-productive landscapes. In this aesthetic, nature is best appreciated "on its own." The road allows no trace of commercial society, save

for the occasional nostalgic glimpse of a farm or mill, the shadow of economies that have given way to the single economy of tourism.

The third strategy, and the overriding one, is the production of nature itself. All of the road's design features organize our experience of nature. The result is that nature appears to produce itself with no apparent relation to the cultures that inhabit it, or used to. Magnificent vistas now happily present themselves to us without the clutter of human work and settlement. The seasons begin to be synchronized with the tourist calendar: June is Rhododendron Time, autumn is Fall Foliage Time, winter is a Wonderland.

The Blue Ridge Parkway was built as a landscape of leisure, with both an aesthetic and economic component. The road's pictorial composition of Eastern woodland, lake, and stream would remain the symbolic landscape of U.S. leisure society until well into the 1960s. As federal and local governments built parks in nearly every state, driving and camping became part of the modern tourist economy as well.

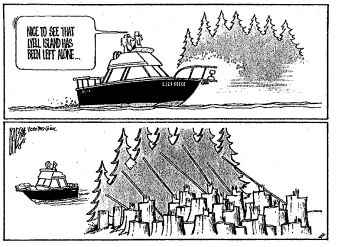
The car itself was increasingly laden with technology in the postwar years, and some of these devices accentuated the kinds of changes underway. Air conditioning was the most obvious. It began to be sold as a feature of a few luxury cars in the mid-1950s and soon became a sign of status, especially in climates where it was unnecessary. Of course, as more asphalt was laid down and more engines circulated, roadside temperatures rose, and air conditioning often did become a necessity even in temperate climates. High-speed cars also encouraged the use of air conditioning.

In a car or a building, air conditioning allowed the illusion of human control over environment. This was made possible by the "magic" of what was understood to be a benign technology. Of more interest to us here is the aesthetic effect of air conditioning on the natural world. Nature was now even more something to be appreciated by the eyes alone. Never mind the dust and heat or the snow, nature was now accessible year-round and under any circumstances. There were no longer any contingencies — just the purely visual experience that lay outside the picture window. The other senses were pushed further to the margins of human experience as nature came to play a role in human culture that was at once more restricted and infinitely expanded.

Although car travel is largely an *individual* activity, this is not to say that people usually drive alone, although for commuters and truckers that tends to be the case. It's more that driving is a private exercise, whether done alone or with company. It is a technology that fits well with the North American psyche, and Detroit has done its best to manipulate this. The individual hero on

A 1955 ad for air conditioning. Protected by the palm of a businessman, this nuclear family is enjoying "the invigorating climate of freedom."

the road, pushing back the frontiers and discovering this land for "himself": this myth has a long and bloody history, particularly in American culture, and the car continues to play a part in it. It's hard to imagine a technology that better discourages communal activity and an egalitarian experience of the non-human world. After all, the private car and the nuclear family have a parallel history. They are both founded on an act of exclusion. Within is radically different



Tourism developed side by side with the resource industry. "Multiple-use" policy has often resulted in poorly-resolved conflicts – such as at Haida Gwaii along the British Columbia coast.

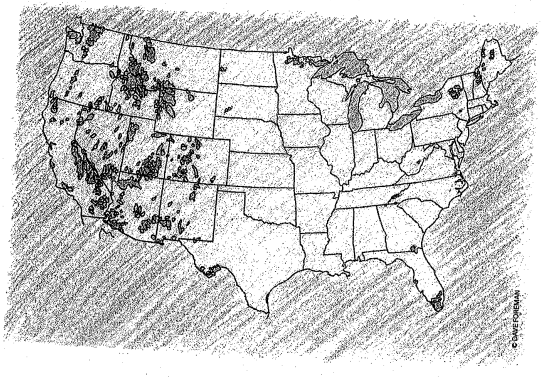
from without. The family and the car — and the family car — are bounded entities that discourage unregulated exchange.

The mobility the car has brought to North American society has contributed greatly to the restructuring of the traditional nuclear family. Its privatizing functions have been splintered by cultural practices like hitchhiking or drive-in movies. The car has also given kids the freedom to get out, put some miles between themselves and the home. It has carried many North Americans, myself included, far away from the consumer culture that engendered it, and into closer contact with the natural world.

Conserve — and Develop

Like tourism and cars, the histories of tourism and conservationism are closely connected. The conservation movement in North America began in the late nineteenth century as a moral crusade to conserve "wilderness" — places supposedly uncontaminated by the physical traces of humanity, meaning people of European origin. As an expanding industrial infrastructure began to extract more and more raw materials from the land, the movement demanded regulation and protection of wild areas for non-industrial uses. In hindsight, those non-industrial uses have by and large turned out to be tourism.

By the early twentieth century, both the Canadian and U.S. governments had adopted conservation strategies as part of what they understood to be the efficient management of natural resources. At first many people saw this project as incompatible with the protection of wild lands for aesthetic reasons. But in time — and the watershed years were the tenure of Gifford Pinchot at the newly created U.S. Forest Service during the Theodore Roosevelt administration — the consensus, at least among the elite sectors of the population, was that tourist development and resource exploitation could be complementary. In Canada, tourist development and mining were part of the mandate of the national parks from the beginning: the government created Banff National Park as an agreed-upon part of the development portfolio of the Canadian Pacific railroad.



A map showing the remaining roadless areas in the U.S. that are larger than 20,000 hectares east of the Rockies, and 40,000 hectares west of the Rockies. There is no area in the continental United States further than 21 miles from a road. Tourism and resource extraction have had a severe impact on these roadless areas, many of which are parks.

Like all social movements, nature conservationism has had both reactionary and radical moments. In general, the state has adopted conservation measures consistent with its own interests, including the "wise use" of timber, water, grazing, mineral, and, later, recreation resources in the more remote parts of the continent. Conservationism became a matter of resource management — an expedient measure ensuring the greatest return on investment for what is usually called the foreseeable future. There are several other strains of conservationism historically, and all of them have grown up alongside tourism when they haven't actually promoted it. The principal ones include: animal welfare, an anti-cruelty movement that originated in England in the nineteenth century; nature appreciation, an off-shoot of art appreciation with roots in the same era; biological conservationism, which seeks the protection of endangered species of plants and animals from land development of all kinds; and preservationism, which argues for setting aside nature in reserves, protected "for all time" from human manipulation, places that will function as a eulogy for what industrial civilization has destroyed.

Today the outlines of this history are hotly debated within the environmental movement, which inherited conservationism from its various constituencies. The organizers, spokespeople, and gurus of the early movement — Henry David Thoreau, John Muir, Ernest Thompson Seton, Rosalie Edge, James Harkin, Grey Owl, Aldo Leopold, and Rachel Carson, among many others, are also the subjects of considerable debate, alternatively claimed and rejected by the various streams of contemporary ecological thought.

What we can say about these early nature philosophies — aside from the fact that they have been largely ineffective even on their own terms — is that they are reductionist. They invariably understand nature to be good and civilization — or, in the formulation of deep ecology, humans — bad. This is hardly the basis for a politics of social change.

While conservation politics and nature tourism nourished one another, the growth of a tourist industry was contingent upon a substantial contribution by the state. Early recreation advocates had campaigned for government involvement in initiating and promoting outdoor activities, and governments began making this commitment around the time of the First World War. Governments at all levels started to acquire parkland, build recreational facilities, draw up wildlife regulations, and write resource-management policies. They zoned cabin and cottage lands to control development, supervised boating activities, inventoried land, drew up maps, and in general began to divide up the continent according to how humans used it: resource extraction, farming, recreation, wilderness, and so on. In 1924 the U.S. government held its first National Conference on Outdoor Recreation in Washington, D.C. Many Canadians attended.

In the United States, the years of the New Deal saw the development of recreation facilities everywhere. The Civilian Conservation Corps and the Works Progress Administration embarked on a massive program to build a national public landscape. They organized unemployed workers into what was basically a military life. Crews of one hundred men and more constructed parkways, playgrounds, rose gardens, campgrounds, arboretums, parks, and lodges, as well as roads, bridges, and public buildings. The landscape work was sturdy, and much of it remains today. Its rough and earnest design reveals the moral underpinnings of the formative years of the recreation movement: these were environments meant to build character through hard work and wholesome play. Work camps organized by the Canadian government during the same years carried out similar projects, although on a much smaller and less ambitious scale.

The Tourist Industry

There were other exemplary landscapes. In the 1930s the Tennessee Valley Authority (TVA) began to build immense reservoirs in the southern Appalachians. The TVA justified these projects by referring to increases in population and energy consumption and to the need for large-scale public recreation sites. But

the reservoirs were also a chance to put the new techniques of flood control, hydro generation, and irrigation into operation.

During the same period, the Civilian Conservation Corps built summer camps for inner city kids — one of them, Camp David in Maryland, is now the weekend retreat of U.S. presidents. The National Park Service promoted these camps to the tourist industry as Recreation Demonstration Areas. In 1936 Congress passed the Park, Parkway and Recreation Area Act, which provided funds for much new construction.

All of these projects involved creating new spaces and new organizations to manage those spaces. As the tourist industry became more sophisticated, designers made sure that travel became a part of the landscape itself. Scenic car routes, photo opportunities, campground layouts — these built spaces have become part of our experience of nature. Thus the booming recreation and tourist organizations of mid-century — which would include older groups like the Boy Scouts, the Girl Guides, and the YMCA as well as professional organizations like the National Recreation Association, the Canadian Association for Health, Physical Education and Recreation, and self-organized clubs for canoeists, trailer owners, gardeners, birdwatchers, and flyfishers — produced new landscapes, and new aesthetics of nature.

It is the mission of any bureaucracy to shape its project according to the internal needs of the organization. Promotional strategies tend to influence our experience of the places and activities they advertise. So do development schemes to maximize public use. Natural beauty, for example, was inevitably quantified as a result of applying bureaucratic and industrial models to the landscape. Industry consultants encouraged landowners considering tourist development to list the "natural attractions" of their sites: was there a marketable topography such as a seashore or trout stream? Were there unusual geological formations, or perhaps Indian ruins? "Scenic value" soon came to be a monetary concept as well as an aesthetic one. All of these developments contributed to the institutionalization of tourism. Sightseeing was no longer an individual activity, at least not in the eyes of those in the business. It was the organized mass consumption of familiar landscapes. Facilities had to be standardized and the "tourist object" — in this case an idea of nature — transformed into recognizable terms. As we'll see, this involved the creation of many new landscapes.

Although much private recreational resource development got started with state assistance — and the state still heavily subsidizes the tourist industry, when you take into account the public funds spent on facilities like convention centres, corporate sports stadiums, and the infrastructures that support them — by the 1950s private tourist development began to outstrip government initiatives. The governments of the day produced publications that outlined how to

construct private campgrounds or design summer camps for kids. Other pamphlets suggested hunting policies for industrial landowners, or encouraged farmers and ranchers to add recreational enterprises to their existing operations. Most U.S. agencies made money available for either public or private development of these facilities. These agencies were often concurrently working on improved resource exploitation strategies; as we've seen, tourism and resource management have gone hand in hand for most of this century (although not without many problems). This relationship was made official in the multiple use policy adopted by most government agencies throughout the continent in the late 1950s.

Tourism involves a massive conceptual reorganization of the landscape. Lands once productive in a traditional industrial or agricultural sense were reclassified as recreational zones. Marginal cattle-raising operations, for example, got turned into fishing camps or dude ranches; dairy farms became tourist farms or bed-and-breakfasts; in more recent years, agricultural lands near cities have been turned into sod farms, golf courses, and theme parks. One of the historical functions of tourism, then, is to be a kind of parasite feeding off sectors of the economy that seem to have become superfluous.

Nature tourism grew enormously in the postwar years and, as in other parts of the economy, the industry had to run to keep up with it. For most middle-class North Americans, car holidays had become the norm. By 1960, 75 per cent of U.S. families owned at least one car, and these now brightly coloured vehicles filled the new highways on weekends and during the summer months. A mass market developed for recreational services and commodities; by the late 1950s annual sales in this sector had reached $5 billion in the United States. Shops and chain-store catalogues were suddenly full of outdoor equipment of every kind, much of it making use of the new plastics being pioneered by the petrochemical industry. Among the most significant commodities were the lighter, more easy to use cameras and, later, colour film. The snapshot and colour slides structure the postwar experience of nature. Colour, which by the mid-1950s was common in magazine ads and movies, gave images of nature added authenticity. At the moment of the greatest estrangement between North American culture and the natural world, nature opened up as real space, luring us back with saturated reds and greens.

Governments were quick to lend additional support to the new economy. In 1958 President Eisenhower appointed the Outdoor Recreation Resources Review Commission, chaired by Laurance Rockefeller. Its mandate was to gather data on The Great Outdoors and the people using it and thereby help produce a comprehensive national policy on recreational lands. It released its twenty-seven volumes of recommendations in 1962. A similar study, the

Canadian Outdoor Recreation Demand Study, released reports in 1967, 1969, and 1972. The reports from both commissions suggested that outdoor recreation, far from being a fad, was a component of the national character. The powers that be saw recreational land as critical not only for economic reasons but also because, as the ORRRC put it, "The outdoors is part of what is and was America, and it's being lost." U.S. citizens needed the outdoors more than ever, the report continued, since most people now lived in cities and suburbs rather than on farms. This was much the same as the argument of the recreation and parks movements in the late nineteenth century: people need to escape the everyday urban setting and experience a change in scenery where they would have a different relation to nature. Now these needs were felt to be even more critical. The contradictory recommendations of both Canadian and U.S. commissions were basically this: conserve what was left of natural areas, and develop them for maximum enjoyment by all.

These government commissions hired demographers, geographers, sociologists, and other consultants to come up with ways the tourist industry might adapt to the new situation; and the industry in turn took up many of their recommendations in the expansionary years of the 1960s and early 1970s. The tourist industry began to take a more active role in developing both markets and destinations. In other words, where vacationers once considered a holiday in the countryside, they might now consider many different holiday experiences in many different kinds of places. In a report for the ORRRC in the early 1960s, anthropologist Margaret Mead suggested that the category "family vacation" was quickly becoming outdated. She said that planners ought to be considering what children's holidays might be, and how to entertain adolescents now drifting "aimlessly" around the new suburbs. She wondered if there might not be a vacation market for single women, or "minorities," or "foreigners." And — Americans are always thinking ahead — what might be the recreation possibilities in outer space?

In some ways the culture had already made these distinctions. Men had long since had their own fishing and hunting trips, and the outdoors was still largely identified with what were widely understood to be masculine qualities. The identification of women with nature and the biological would be strictly interpreted until the 1960s: their domain was the physical and social reproduction of the species, and most of that was supposed to happen indoors. For the most part outdoor space for women continued to be confined to the garden and places (like playgrounds) associated with childrearing.

But, in the past thirty years, as families and gender identities have splintered, so too has the social organization of recreational space. Resorts like Club Med or Leisure World cater to specific consumer profiles generated by market

research. So does a place like Eco-Village in North Carolina, run by *The Mother Earth News*, a back-to-the-land magazine begun in the 1960s. Most tourist destinations now include a choice of specialized environments: picnic sites, swimming pools, souvenir shops, nature trails, hard surfaces for organized games, places of solitude. The industry has diversified outdoor sports too: ice sailing, windsurfing, jogging, skindiving, hang-gliding, snowmobiling — these have all been developed to meet what the industry talks about as new recreation desires. Not all market research has resulted in the creation of new environments, however. Studies done in the mid-1960s indicated that foreign tourists, especially Europeans, were most interested in the expansive nineteenth-century landscapes celebrated in Western movies. These are the spaces embalmed in the national parks of the West. This desire for the primitive — which has always included aboriginal cultures, however they're constructed in the popular imagination — has become more pronounced in recent years.

The boom in nature tourism of the 1960s brought to a head some of the contradictions inherent in public policies that encouraged both nature conservation and tourist development. Debates around this issue were common in the early years of the modern environmentalist movement. For some, the debate was resolved by the creation of another legal category of land. In the United States, the Wilderness Act of 1964 gave wide statutory protection to designated roadless areas that were over 2,025 hectares in size. The government usually continued to honour prior resource-extraction rights and activities on these lands, which has neutralized the law's effect in many areas of the U.S. West. Both the U.S. and Canadian governments passed similar legislation in the 1960s, naming endangered animal species and setting out national environmental policies.

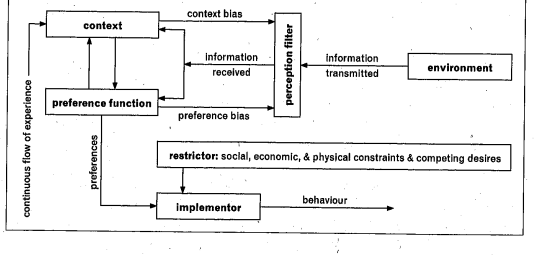
But a review of the environmental legislation of the past twenty years — which would require a book in itself — doesn't begin to address the deeper cultural changes that were underway during that time. Public attitudes towards nature — or the environment, as it has come to be known — have shifted considerably. Nature tourism is not what it used to be. Consider the encounter of the contemporary tourist with other animals. It used to be that animals were hunted and killed as part of the (male) tourist experience of the outdoors. While sport hunting is still practised today, it has a deservedly bad name. *Photographing* animals has become the preferred trophy-taking activity, especially if the beasts can be "captured" on film in a wild setting. In 1977 a U.S. Forest Service report concluded that by the year 2000, "The primary use of wildlife resources will change from hunting to non-consumptive uses like photography and observation." This is what present-day "ecological safaris" are about. The photograph documents a vanishing species at the same time that it authenticates the nature experience. The animals are temporarily "preserved" on film for the enjoyment

of the maximum number of sightseers, including the reluctant friends who end up viewing the vacation slides and movies.

In the 1970s, the expansionary days of the tourist industry began to wane. But by that time the industry had consolidated itself. Alternating cycles of over-expansion and crisis favoured large operators. Almost gone were the mom and pop motels and the family riding-stables that had done so well during the days of the circuit tour by auto. The prestige products were now capital intensive — multifaceted "destinations" like Disney World became the industry model. Tourism was no longer so much about service provision as it was about the mass production and management of sightseeing experiences.

The growth of the tourist industry had produced an enormous infrastructure. Professional planners and bureaucrats, advertising consultants, graphic designers, and cost-benefit analysts were all a seemingly necessary part of the industry, turned out by faculties of leisure studies and courses in hospitality management. The industry had vertically integrated agents, tour operators, carriers, and destinations. Its publicity and marketing had become highly sophisticated, using strategies such as demographics and psychographics invented by Madison Avenue in the 1960s. The mass-marketed package tour sold the tourist experience as a single commodity, concentrating activity in a smaller number of well-produced locales. These "place-product packages," as they're known in the industry, aim for total design of buildings, landscape, services, signage, and spin-off products. In the well-managed business, these tourist sites become industrial plants whose goods are aesthetic experiences and hospitality services. All of these strategies have made good use of the photographic image, now an integral part of most people's experience of the outdoors.

Research in leisure studies has been responsible for many of these changes. In the 1960s, social scientists and management consultants produced volumes of



Graphs like these are supposed to help planners predict people's responses to a "visual recreational environment."

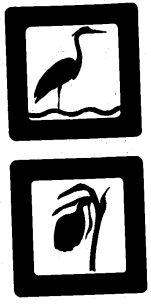
studies related to tourism. Favourite topics of the day were destination perception and scenery evaluation. A good place to look for some of this work is the *Journal of Leisure Research*, published in the United States by the National Recreation and Park Association. The first issue, published in the winter of 1969, featured an article on how to develop a model for testing people's landscape preferences. By quantifying responses to photographs of different landscapes, park and recreation planners could determine which "landscape features" should be purchased, developed, or preserved. The industry could then locate a scenic road or hiking trail, for example, in a way that would maximize visitor pleasure. Subsequent issues of the journal have pursued this research logic: one article draws up a typology of campers according to motivating factors; another talks about measuring eye pupillary response to landscapes — when they see a trout stream, for example, do male eyes dilate more than female eyes?

Other research has aided the administration of natural lands and control over the organisms within them. U.S. government studies have recommended certification of wilderness users, the use of robots for park maintenance, and the captive rearing of endangered species "rather than rely on natural reproduction." Thanks to researchers, we now know the maximum noise levels for optimum human enjoyment of national parks. They've also come up with statistics on the carrying capacities of ecosystems, which presumably help determine the maximum human presence those areas will tolerate. They have studied the further penetration of technology into recreation areas: the possible development of personal hovercraft and helicopters, as well as jet-powered backpacks. Scientists have invented remote sensing devices that monitor animal migrations in some areas and could be used to monitor park use by humans as well.

All this work has implications for the experience of nature, especially when we consider that the mass media, and the vast numbers of images they produce, are part of the modern environment. For example, contemporary tourist research indicates "pre-trip anticipation" is one of the key determinants of a tourist's satisfaction with a holiday destination. The images of the holiday produced by the industry must entice the potential traveller but at the same time they must preclude the cultivation of false expectations. Obviously, not just any picture of Lake Louise will do.

Tourism: From the Recreational to the Social

Today, recreational opportunities, as they're called, are produced almost exclusively by government agencies or transnational corporations — at least at the level of investment. Development decisions are taken in the board rooms of the metropolis and rarely take into account the nature of local communities or working landscapes. Because tourism is largely about the experience of



Signs for scenic drives on Prince Edward Island, Canada.

difference — whether it's cultural or geographical — the industry has played an important role in the globalization of Western industrial culture.

This leads to fascinating paradoxes. Industrial logic demands standardization, yet we've come to define natural settings in part by their uniqueness. The result has been an increasing *production* of natural attractions. For a long time now our culture of nature has typed certain topographies and climates — mountains, coastlines, islands, exotic or fragile ecosystems — as special places. But inevitably, even in culturally valorized scenic places, certain elements have to be rearranged to meet tourist expectations. In the game preserves of East Africa, for example, the elephants or lions must be visible and uncontained when the sightseers go by in their tour buses, and preferably the beasts will be eating other animals. But we don't want other buses full of tourists angling for good photos crowding the scene and causing a distraction. Native human communities, moreover, might or might not be an acceptable component of the safari experience. If they are acceptable they're perhaps best presented in traditional, that is, archaic, dress.

Or consider the case of Prince Edward Island. It has a tourist identity as a regional, working landscape. Here, the story goes, the old values predominate: family farms, picturesque villages, benign seascapes. The cosmopolitan tourist requires authentic space: Prince Edward Island should look "distinctive," which in this case means anachronistic. Town buildings should be restored to their original state; rural vistas should conform to the standard image of a bucolic potato-growing backwater. Tacky motels and drive-ins, on the other hand, should be discouraged.

These needs have led to fascinating conflicts with the people who live on Prince Edward Island, for the elite taste of the educated tourist is often insensitive to the vernacular design of the local inhabitant. In the mid-1970s a controversy arose over billboards and abandoned cars along the highways. Tourists found they detracted from the island's identity; islanders considered them part of their culture. Another conflict involved the traditional applications of manure on the fields. Tourist organizations lobbied to have manure use prohibited near highways — its smell was apparently not part of the repertoire of bucolic experience. Because the modern tourist has been constructed as a guest rather than a client, islanders have found it difficult to oppose these changes without breaching the hospitality norms of their culture.

Other recent developments in tourism continue the earlier trends towards diversification of the industry. Sport tourism and earthquake and disaster tourism are obvious examples. Self-catering, another trend, means that tourists provide

many of their own services, such as food or accommodation, while they travel. The most common form of self-catering is to travel in a RV, fixing your own meals and making your own bed. Since you carry most of your household with you in a RV, all you require is a parking lot close to the highway with a place to dump your sewage and maybe a play area for the kids. More sophisticated RV sites have club houses and swimming pools, laundry facilities, video games, hot showers, and cable-TV hookups at the campsite: all the conveniences of home.

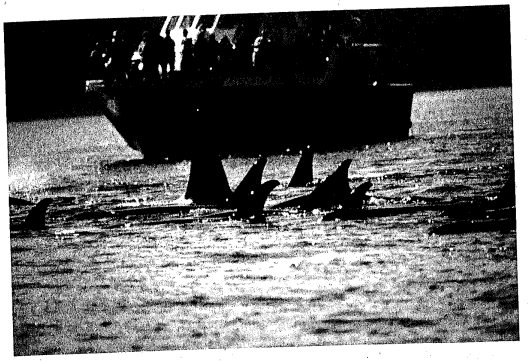
Private campground chains like KOA have been a familiar part of the landscape for some time now, but franchises of time-sharing campgrounds and cabins are a more recent phenomenon. For an initial investment, often on the order of $6,000, you can buy a 200-year membership in a camping club. In one club this entitles you (and your heirs!) to use the club's private campgrounds for a fee as long as the lease holds, at which time the "vacation license" reverts to the developer.

There are other, quite different, tourist possibilities. Social tourism is the name given to an economy in which public funds are dispersed in a way that distributes the benefits of tourism evenly across society. As it is usually practised, however, it is a kind of subsidized tourism for the "disadvantaged." It includes large institutions like the YMCA, the Boy Scouts, and Outward Bound, as well as many smaller urban groups who offer cheap nature outings for working-class urban dwellers. Trade unions and large industrial enterprises have often participated in these activities by providing vacation villages for workers. So have religious organizations such as the PTL Club. Vacation pay is also a form of social tourism. In Switzerland, state-sponsored holiday-savings plans are available that operate on a sliding scale according to the income of the subscriber.

In 1980 a United Nations conference on World Tourism in Manila affirmed that social tourism is necessary if millions of people are to enjoy "discovery, rest, and the beauty of the world."

Another development is adventure tourism and its recent offshoots ecotourism and biotourism. Standard offerings in this sector of the industry are river rafting, jungle safaris, trekking, and mountain-climbing. For wealthy tourists seeking more, there's skiing in Antarctica, dog-sledding in the Arctic, grizzly bear viewing in Alaska, and kayaking in Greenland or Baja California. An unquenchable appetite for the exotic and "uncharted" distinguishes much adventure travel. This description of one outfit's 1990 trip to Irián Jaya illustrates the point:

These jungles are the home of still uncontacted upper Asmat tribes living along the rivers and on the swamps in great treehouses, and we must travel with caution.... As the terrain, river conditions and tribal situations have many unknowns, we have allotted a good



A whale-watching expedition in the northern Pacific. By the mid-1980s, "eco-tourism" was big business.

chunk of time for this exploration. This is the leading edge of adventure and we must emphasize that you must be in extremely good physical condition and ready to accept unknown hardships en route.

The World Wildlife Fund defines ecotourism as travel to "protected natural areas, as a means of economic gain through natural resource preservation." The economic gain spoken of accrues to the host country. Governments in Costa Rica and Kenya, for example, have recognized that tourism to natural areas brings in more money than mining, forestry, or ranching would on those same lands. Some tour companies offer working vacations: harvesting crops in Third World nations, or assisting wildlife conservation work. These tour operators make a point of educating their clients about the effects of development on natural systems. Some also donate a portion of their fees to environmental groups in host countries.

Ecotourism raises questions about how a *socially* useful tourism would work. Surely it would be designed to meet local needs. At a minimum it would mean building a sustainable local economy and providing rewarding and well-paid jobs. It might also mean working the landscape in a way that invites care and participation; unpolluted swimming places for people to go to after work, for example. Lastly, it must strengthen cultural and political bonds within and between communities. Cultural exchanges and group vacations are ways of bringing people together.

An admittedly remote example of an alternative tourism is that promoted by the Annapurna Conservation Area Project (ACAP) in west-central Nepal. The Annapurna region is home to forty thousand subsistence farmers — and the annual host to twenty-five thousand foreign tourists who come to hike in the Himalayas. The area is in ecological crisis, part of a downward spiral of malnutrition, deforestation, erosion, fuel scarcity, overgrazing, and species extinction. ACAP has set itself the task of reconciling ecological restoration with sustainable community development and low-impact tourism. Based and directed in the villages, its programs include alternative energy generation, tree planting, literacy campaigns, trail repair, health centres, cultural festivals, and wildlife inventories. ACAP charges tourists a fee to enter the area and gives them a sophisticated brochure that discusses the connections between land and life in the region. Hot showers, diet, meal times, plastics, electrification, drinking water, price haggling, shitting, and begging: the brochure traces the connections between these tourist issues and both the Annapurna ecosystem and its cultures.

French social theorist Guy Debord has called tourism "a by-product of the circulation of commodities." The mass circulation of the middle classes around the globe is a phenomenon of vast proportions — now over 400 million people a year — overseen by an industry that has extended its management techniques out into the land itself. That world is a changed one, fragmented by development, diversified by marketing strategies, and overlaid with technologies like the car and the camera. As we'll see in the pages to come, the Annapurna project is just one example of another kind of circulation of people through the world, of a tourism directed in a way that encourages connections between community and region.

Photograph by Lynne Cohen.

2. Nature Education and Promotion

Today, as in the past, ideas about things natural must be examined and criticized not only for ways they help us understand the material world, but for the quality of their social and political counsel. Nature will justify anything. Its text contains opportunities for myriad interpretations.

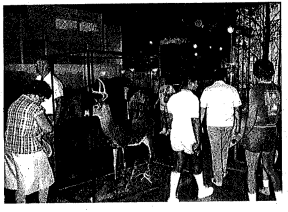
— Langdon Winner, *The Whale and the Reactor*

While our sense of the natural world has always been encumbered by our sense of human culture and history, there was a time, not long ago, when you could get out of your car at a curve on a scenic road and admire the view on something resembling its own terms. There were no signs directing your gaze, no coin-operated binoculars, and no brochures answering your unasked questions about local flora, geology, or the history of land use.

Today many people would regard such an unadorned curve in the road as a missed opportunity. Environmental educators, government agencies, and corporate public-relations departments all make claims on our understanding of nature and its place in our everyday lives. By the mid-twentieth century, it seemed, nature had to be explained to its human inhabitants; it was not enough to just try to experience it.

As a result, conflicting information about the natural world blankets our visual and aural environments. Much of this information is promotional — that is to say, often misleading, mystifying, or simply irrelevant. On the other hand, we often find it difficult to gain access to vital data — for example, success rates of reforestation programs, or locations of toxic waste dumps, interpretations of remote sensing data, or the results of studies in health, geology, or freshwater ecology. In fact, as U.S. historian Samuel Hays has documented, the control of information has been the most powerful weapon used by anti-environmentalists.

For all of these reasons, public discussion and democratic decision-making about environment are difficult to come by. Despite this, one of the most innovative and politically competent social movements in decades has mobilized



An exhibit on Appalachian forest ecology, Sugarlands Visitor Center, Great Smoky Mountains National Park, Tennessee.

itself in opposition to environmental degradation — and it is a movement driven largely by the grassroots efforts of people working in their own communities. In the formative years of the 1960s, environmentalism was a reaction to contamination of air, water, and food. Since that time the movement has become far more sophisticated in both tactics and management of the media. It has also changed (and splintered) as emerging issues like deep ecology, feminism, animal rights, and social justice have added to its analysis and altered its direction.

All of these social changes have been paralleled by changes in the scientific disciplines whose subject is the natural world. Sciences such as natural history, biology, and ecology have opened out into new interdisciplinary fields, among them environmental studies, urban and landscape design, neurophysiology, and environmental psychology.

These changes indicate the possibility of a new understanding of landscape as cultural activity. Debates about our relations with animals, about the perceptual mechanisms of the brain or the place of aesthetics in urban design — these are all attempts to discover how the land means what it does. Such debates raise questions of value and aesthetics that have too long been absent from both popular and scientific discussions of environment. These debates are part of what I broadly define as nature education, which is today a vast and disparate endeavour, a complex and changeable subject with many currents, both official and unofficial.

Nature Interpretation

As more and more people have taken to sightseeing over the past forty years, recreation managers have begun to offer their "interpretations" of the world out there in the wilds. This nature interpretation, as it has come to be called by the people who do this kind of work, is a kind of popular education for people visiting parks, museums, roadside historical sites, and other places of leisure. First used in the context of natural history education, interpretation is now a term

common in other contexts, such as museum design. It is a profession that is practised for the most part in public and non-profit institutions.

The primary purpose of interpretation is to teach visitors about what they're seeing first hand, using signs and pathways, guides and actors, games, plaques on buildings, stories told round a campfire, video monitors, slide shows, photographs, and other visual displays. A 1969 Parks Canada annual report described the objective of interpretation as "not only to increase the visitor's awareness, understanding and appreciation of the park's environment, but to help him assess his own natural surroundings and his place in them." The sexism of this explanation aside, interpretation also accomplishes various management objectives, such as resource protection, public safety, law enforcement, and public relations. All of these activities have had an effect on the land and the way we experience it.

A U.S. journalist, Freeman Tilden, elaborated an interpretive method in a 1957 book called *Interpreting Our Heritage*. Tilden argued that the purpose of interpretation was to "reveal": to reveal the perhaps hidden processes that underlie forest succession, for example, or the everyday life of a seventeenth-century fishmonger in Cape Breton. This is done "through the use of original objects, by firsthand experience, and by illustrative media, rather than simply to communicate factual information." But Tilden's goal was not what you'd call an education in popular science. Interpretation had a moral purpose:

> *The appeal for a renaissance of the appreciation of Beauty — in the abstract and in its particular aspects — must not be allowed to falter. It is vital to our moral growth. It is a program of education. Perhaps it is truer to say that it is a program of re-education, for we have always known, in our innermost recesses, our dependence upon Beauty for the courage to face the problems of life. We have let ourselves forget. It is the duty of the interpreter to jog our memories.*

It's hard to know what to make of this appeal, which came in the middle of the 1950s. It calls to mind some of the moral wholesomeness of the New Deal, but the deference to "Beauty" must have seemed strangely out of place in a consumer culture devoted to the pursuit of happiness and the good life. It was certainly out of step with an increasingly dominant scientific progressivism. By the 1950s few among even the traditional sectors of the conservation movement would have used such an anachronistic language. In any case, Tilden's book, and his work as a park activist, inspired many professionals who worked in parks and other natural areas. They quickly sloughed off references to Beauty and moulded the new discipline to the requirements of the tourist industry. Interpretation joined the ranks of the popular social sciences — sociology,

statistics, psychology, and demographics, among others — whose methodologies were by the 1960s a familiar part of the public culture of television, mass-market magazines, and advertising.

Professional nature guides and naturalists date from the late nineteenth century, the same period as the early recreation and conservation movements and the formation of Boy Scouts, Girl Guides, and Campfire Girls. Popular nature study was an important part of a broad outdoor-education movement with roots in Germany and Switzerland. Typical activities included field trips to natural areas, sketching classes, bird watching, and evening lectures and travelogues sponsored by local naturalist organizations. These activities persist to this day, but are very different from more recent phenomena, such as Native survival schools or "restored" natural landscapes.

It is no wonder that naturalist activity proliferated in the late nineteenth century, for the preceding century had been a time of tremendous scientific investigation of nature. North American flora and fauna had been the object of intense professional scrutiny since the mid-eighteenth century. Most of the field work in European natural sciences was done among the rocks and flowers and beasts of North America. The fruits, so to speak, of this work were widely displayed in natural-history museums and at world's fairs in both the "old" and "new" worlds. At about the time the natural and physical sciences began to split, their practitioners formed professional organizations such as the Audubon Society, the National Geographic Society, the Society of American Foresters, and the various academies of science. Many of those organizations were important advocates of the establishment of national, provincial, and state parks, and continue today to be important in nature education.

As the parks opened and began to attract tourists, their administrators began to hire naturalists and educators. By the 1920s, parks at all levels of jurisdiction had initiated education programs. In 1959 Parks Canada established its Education and Interpretation Section. In the same year park rangers at Banff National Park in Alberta built a nature trail, the first of thousands all over the continent — although some reports indicate a nature trail in the park as early as 1915. The rangers erected intermittent signs to identify tree species, point out wildlife habitats, and explain geological features.

The rise of interpretation closely followed the increased recreational and leisure activity of the mid-twentieth century. In a perhaps more innocent time, someone going camping or slogging round the edge of a marsh had no choice but to encounter the natural world "on its own." Now, with nature education moving out onto the land itself, the ruptures of contemporary culture began to intervene in more obvious ways. Nature interpretation coincided with a growing realization in the culture that modern land-use practices had a massive and

detrimental effect on natural ecosystems. Rachel Carson's *Silent Spring*, a denunciation of pesticides published in 1962, was widely read and quoted and helped launch the environmental movement.

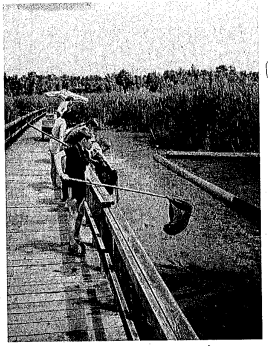
In the postwar years interpretation was quickly institutionalized. Major parks and museums created positions for interpreters, colleges offered courses, institutions developed policies in nature education, and scholars developed a professional literature. Park administrations began to build visitor centres and theatres, publish pamphlets, and offer guided walks, slide shows, movies, and amphitheatre performances. They hired personnel to demonstrate, lecture, and explicate, and they built gift shops to sell nature art, guide books, and local crafts. In the words of a Parks Canada memo, the parks would now be "explained and interpreted as living museums of nature, where people can observe and appreciate the beauty that surrounds them."

Living or not, museums require good visual access, and interpreters have also worked to enhance the "visibility" of nature by building roads and trails, observation towers, underwater viewing booths, boardwalks, blinds, and telescope platforms. Some parks use boats and aircraft to give visitors increased access to natural experiences.

The Construction of the Visitor

In the past thirty or forty years the early focus of interpretation on natural history has given way to a concern with attracting a broader audience and keeping people entertained. In this regard, the history of nature interpretation parallels that of modern marketing and communications, much as tourism has. In 1967 the Canadian Outdoor Recreation Demand Study called for "an in-depth examination of the characteristics of the park visitor," and much demographic work has since followed. Typically, researchers create "visitor types" in their studies and then discover them among the people who show up at a park or museum. They construct profiles of a visitor's age, sex, nationality, family composition, ethnicity, consumption habits, and recreational preferences. Some visitors belong to clubs — trailer and RV clubs, Scouts, garden clubs, Rotary, and so on. Some are disabled. Some come by bus, others by private car. Some are outdoor types, some just happened to be driving by looking for a good restaurant or a place to swim.

Park administrators use these visitor profiles to help design educational programs and modify the physical landscape of nature reserves. The data are in turn transformed and recirculated in visitor surveys that both gather background information and monitor the "performance" of the park — looking at how well it has produced a meaningful experience of nature. At Wye Marsh, a private non-profit nature centre along the southern shore of Georgian Bay in Ontario,



Kids in an interpretive program at Wye Marsh, Ontario.

visitors use microcomputers to evaluate their experience of the marsh and to indicate how well it lived up to their expectations. In times of scarce public funds, visitor surveys also become part of making up budgets, very much like Full Time Equivalent formulas are used in schools. Park managers establish ratios of caretakers to visitors by season, which almost always results in layoffs and less full-time work for employees.

Interpreters often divide parks into "interpretation management units." Each area is assigned a theme and a target audience that will then "discover" the area and its theme. The interpretive activities that take place in a given unit will develop the theme in different ways. For example, a theme in a campground area might be "the forest ecosystem." The signs and exhibits at the washrooms and water pumps might explain forest diversity, seasonal cycles, and wildlife communities, while trails might lead through examples of different forest types.

Another unit might aim for a different audience. At the scenic turnout at the Bow Summit in Banff park, the strategy is to keep people from immediately jumping back into their cars after they step out to admire the view. A short booklet enlarges on the sights with capsule discussions of glaciation, wind erosion, and soil formation. It concludes with a few paragraphs about the devastating effects of tourism on alpine ecosystems.

Interpretation and Environmentalism

Just as visitors are divided into "types," so is the land rationalized: splintered into discrete yet overlapping management jurisdictions, use zones, narratives, sights, and experiences. This process of differentiation — which the advertising industry refers to as product diversification — simultaneously diminishes and expands

An organized wolf howl at Algonquin Provincial Park, Ontario. Imitating wolf howls has long been used by wildlife managers to track populations, and is now a tourist activity.

our experience of the natural world. Because parks are by definition a limited resource, managers must predict and control their use by humans. At the same time governments over the past thirty years have actively promoted park use. In Canada the Glassco Commission mandated the development of visitor facilities in the national parks in 1963. Administrators have been able to deal with this contradiction by rationalizing the very landscapes of natural areas. They differentiate parks one from the other and divide them into zones that situate our experience of nature within management objectives. They match each of these rationalized spaces to an appropriate educational program or advertising campaign. This process is similar to the creation of audiences for the electronic media: the market is first limited to specific groups of potential consumers — commuters, youth, housewives, yuppies — and each group is then expanded into an audience that can be sold to an advertiser.

At its most scientistic, interpretive ideology has collided with the more philosophical currents of the environmental movement. Is the forest there for its own sake, or is it there to offer visitors an experience set apart from their lives in the city, or perhaps to remind them of the last example of a particular plant community in the region? Where it has been successful, interpretation has inevitably encouraged heavy public use of natural areas; this in turn has often had detrimental effects on the very "aesthetic resources" that are the object of all the instruction. Tourism and conservationism, though complementary, have had contradictory results throughout the present century.

While interpretation has encouraged the further management of the world and its inhabitants, it has also brought to the public the insights of relatively new disciplines, such as social history and ecology. Since the 1970s, in fact,

many interpreters have been anxious to engage people in environmental politics. Today displays frequently talk about acid rain, the warming of the planet, urbanization, or demonstrate how to build a compost in the backyard.

But the biosphere — the thin surface of the Earth that supports life and is both our home and a vastly complex web of interrelationships — is not easy to explain to people on holidays in a way that will immediately speak to their hearts. I remember a long and pleasant chat with an interpreter at the information centre at Cape Hatteras National Seashore in North Carolina one brisk grey day in February in the mid-1980s. I was curious about a few things, like the diet of pelicans and the presence of subtropical plant species in the freshwater marshes behind the dunes. It's always a treat to talk to someone who really knows those kinds of things first hand, and the woman I talked to was such a person. But best of all, her knowledge was not confined to the natural history of the locale. She told me a wonderful story about the creation of an adjacent park, Cape Lookout National Seashore. When the U.S. National Park Service proposed a second park for the Outer Banks in the 1970s, they included the Shackleford Banks in its boundaries. The Shackleford Banks are a series of sand-spits that have been used for centuries by local fishers who have built shacks on the dunes to store equipment. At the time, U.S. national park ideology didn't allow for shacks on dunes; the park was to be a pristine nature reserve. In the early 1980s the park administration bulldozed the shacks and built a small interpretive centre. The local people were outraged and some of them promptly torched the park building. The interpreter was clearly aware of the ironies of this unconventional environmental history, and I came away with, as they might say in the profession, a better understanding of the place I was visiting.

But not all nature education is about parks or even takes place in them. Many new museums work hard at combining cultural and natural history. The Oakland Museum in California is an ambitious attempt to talk about the natural history, popular culture, and fine art of a region all at once. Discussions of beach ecosystems, for example, spill over into presentations of surfing culture. The building itself constantly shifts its position from just above ground to just below ground. Outside, in grids that move from roof to terrace to sunken courtyard, landscape architect Dan Kiley has worked back through Modernism using a northern Californian idiom.

Another example of the breadth of contemporary nature education is the Frank Slide Interpretive Centre in the Crowsnest Pass of Southern Alberta. The narrow Rocky Mountain valley is rich in examples of the interdependence of natural and cultural history. It is the site of a major railway crossing of the

Continental Divide, several abandoned coal mining towns, and one of the world's largest rock slides. The centre has been built at the edge of the slide rubble. Its construction directs the visitor's gaze out over the valley as exhibits tell the stories of railroad construction, coal and oil extraction, and the collapse of the mining economy just before the First World War. Outside, paths radiate out to platforms where exhibits tell about railroad alignments and the arrangement of the town sites — all within the context of the valley's physiography and geology. Beyond the centre, visitors are encouraged to explore the old mining communities, which are physically intact because of the quick collapse of the local economy.

Unlike the old natural history museums, these new museums are about interconnections: the links and parallel histories of our social and natural environments. Such places are one of the legacies of the diffusion of ecological ideas in the culture.

Nature in Schools

Until the 1960s, the study of nature in schools had remained relatively unchanged since the early part of the century. Most of it went on within the "hard" sciences like biology or physics — or, in rural areas, vocational agriculture, which concentrated on animal husbandry or crop production. Ideas of "environment," let alone "biosphere" or "habitat," were foreign to this scientific discourse, which since the sixteenth century had viewed the natural world as, in environmental historian Carolyn Merchant's words, "a machine built and repaired by men."

The official curriculum guidelines left teachers who wanted to introduce a sense of the relationship between humankind and the natural world with little room to manoeuvre. The exception was vocational agriculture, although these guidelines (rightly) required that the courses be tied to local economies. But because modern agricultural economies are skewed towards industrial production and resource exploitation, it has been difficult to teach subjects such as organic gardening or integrated pest management. There was a minor tradition of "nature studies" programs and "outdoor schools," basically biology field trips in which teachers took kids outside to explore frog ponds or forests. Geography classes sometimes raised issues related to technology and the land. These optional courses were often taught by people afraid of the biases of science and were never well integrated into the curriculum. They were further marginalized by science teachers, often with good reason, for they typically fostered little understanding of what might be considered the basics of ecological science: the interactions of food webs, photosynthesis, soil fertility, plant genetics, speciation, hydrology, reproduction, and succession. It's not unreasonable

to expect formal education to be strong on conceptual principles. Outdoor education in parks and at rural conservation centres, after all, is constrained by its recreational context; kids go there by and large to play and swim, to snowshoe, to learn about bees or maple syrup — not the axioms of science.

There have also been professional reasons for the institutional antagonism to nature education. "Easy" environmental science courses have often attracted students away from the supposedly more serious or focused courses such as biology, which have retained the upper hand in attracting dwindling school funds. Guidance counsellors have helped police these disciplinary boundaries by steering brighter students towards the traditional sciences where higher degrees and careers have often awaited them. "Low achievers" are shunted off to vocational programs. Lastly, many of the ethical questions raised in environmental science courses have challenged the traditional "neutrality" of scientific study and insisted that the natural sciences themselves have a social history as well. These are legitimate fears, for, properly taught, environmental science has a broader scope than science, and transcends it. Ecology addresses nature at a higher level of organization — that of communities and systems.

That said, ecology has not been altogether ignored in school curricula, for some of its lessons have long since penetrated even the most parochial sciences. Ecology is also not intrinsically sympathetic to moral philosophies that value natural systems on their own terms. It is as rife as any science with instrumental thinking about the Earth. It has remained to the environmentalist movement to invest ecology with an ethics.

By the 1970s, in any case, many governments had begun to introduce environmental science to school curricula. Slowly over the past twenty years — very slowly in fact — ecological ideas have permeated most levels of formal education, although often unsystematically. Environmental science courses are seldom integrated into the full range of courses and almost never allowed science credits. Courses rarely explore connections between ecology and disciplines such as economics, history, literature, or sociology — or even, for that matter, horticulture or agriculture.

These changes have happened unevenly, and from the top down. Universities were the first institutions to offer environmental science courses. By the late 1980s, such courses were offered in some secondary and elementary schools; other schools, however, still balk at offering both science and environmental science courses. In cost-cutting and "Back to Basics" campaigns, environmental science — like many of the "permissive" 1960s-era outdoor programs — has been the first to go. Even where it is offered, schoolyards are often covered in asphalt — an unlikely place for anyone to become familiar and at home with nature.

What ends up being taught goes under many names. Course units have titles like "Organisms and Their Environment," "Science in Society," "Food and Energy," and "The Social Implications of Technology." What exactly is being talked about: farming? biology? ecology? These semantic and professional rivalries are in part due to the broad and synthetic nature of ecological science. They also indicate deeper rifts in thinking that permeate both the natural sciences and the environmental movement — rifts about the social applications of ecology. For instance, UNESCO documents state:

The goal of environmental education is to develop a population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones.

There is little in this definition suggesting that "the environment and its problems" have anything to do with the social. Solving environmental problems will involve far more than the technological fixes implied here, for they do no more than reinforce the boundaries between a natural world understood to be pure and irrational and an urban-industrial civilization bent on domination. A radical environmental education would explore ways of re-establishing a culture that is more or less in harmony with the land. Some environmental studies programs at the university level recognize this by including issues related to development, health, housing, advertising, urbanism, and the quality of working life in their courses.

Not surprisingly, the same contradictions that have flourished in scientific thinking about the Earth for several centuries can be seen in the divergent teaching materials and activities of environmental education. Project WILD, for example, is a popular school program developed in the United States in the late 1970s by the Western Regional Environmental Education Council. It was launched in Canada in 1984. In both countries the program receives considerable funding from government education and resource agencies. Project WILD was designed for teachers who know nothing about wildlife but want to impart an animal-conservation ethic to their students. They do this through a heavily structured series of games and activities integrated into other subjects. The program can be used with students all the way from kindergarten to high school and illustrates principles of population dynamics, migration, and habitat to promote the "wise use" of resources.

Both animal-welfare and animal-rights organizations have criticized Project WILD. They charge that the program is infected with the languages of commerce and sport. The program's administrators argue that it is "neutral" on

contentious issues such as hunting, trapping, and sealing. Yet when referring to animals, words like "game," "sustained yield," "resources," and "harvest" are laden with the imperatives of corporate capitalism. On the other hand, all languages spoken at the intersection of human and natural economies — whether they are referring to plants, domestic or wild animals, or for that matter gardens — are full of ambivalence. That ambivalence is difficult to explore within the confines of a conservationist discourse.

Habitat 2000, a recent program sponsored by the Canadian Wildlife Federation and Environment Canada, supports school projects to restore wildlife habitat. These include building nests and planting hedgerows and windbreaks in both urban and rural settings. Students can also adopt a species by studying its habitat requirements and ensuring that they are met in a given locale. Many teachers have integrated this kind of hands-on environmental work into their courses in a promising way. Students at a Seattle high school, for example, hike into the Cascade mountains several times a year to collect the seed of rare and endangered plants. They propagate these in school greenhouses for use in restoration work in wilderness areas. In other high-school programs in the Western United States, students adopt streams, build erosion control structures, and conduct watershed education workshops in community centres. Portland Community College in Oregon runs an educational program at a wetland on its campus. Urban students spend up to a week a year working in the wetland and learning about plant communities, weather monitoring, fish habitat, and water quality testing.

The New Alchemy Institute, a non-profit farm and research centre on Cape Cod, Massachusetts, has developed an activity-based science curriculum for New England schools. The Green Classroom curriculum includes the development of a school garden, thus fostering a respect for the earth while providing the experience for its care. Students learn about seed germination, plant growth, and soil formation, as well as the origins of agriculture, food production in New England, and how food travels from farm to table. The institute keeps educators abreast of its research through its publications and on-site and off-site education. Current research includes resource-efficient housing, small-scale waste-water treatment, greenhouse horticulture, organic market gardening, and integrated pest management. The New Alchemy project is similar to urban farm initiatives that have recently become popular in England.

Because they were developed in an era of a declining public sector, many of these school programs rely on volunteer labour and funds solicited from conservation organizations, corporate foundations, government grants, and private donations. In the salad days of the welfare state, public agencies co-ordinated and funded most conservation work. Today public funds support private industry while school kids, community organizations, and local natural history societies — all of which lie outside the official economy — carry out the rehabilitation of many disturbed natural areas. A typical example is the "America the Beautiful" program launched by the Bush administration in 1990. Its stated objective was to neutralize carbon dioxide emissions from cars and coal generating stations by planting billions of trees across the country. Corporations such as Texaco and the International Paper Company contributed $1 million each and committed their employees to volunteer their labour after hours. The effect has been a shift of funds away from state-run (and salaried) reforestation programs and into a volunteer organization overseen by the private sector.

A community-initiated project to stabilize and revegetate a streambank. Projects like these educate local communities about water quality, erosion control, and wildlife habitat.

The voluntary sector has also taken over interpretation work in some parks. Central Park is a good case in point. In the mid-1970s the city of New York didn't have the money (or, apparently, the interest) to restore Frederick Law Olmsted's paths, bridges, and plantings, so several communities surrounding the park — as well as the larger community of conservationists — raised money and organized work brigades. This new economy is another legacy of the environmental movement.

Not surprisingly, there are many conflicting ideologies of nature at large in environmental education. School curriculum guidelines and texts are often infected with the market imperatives of the resource managers who operate in

Conservation campaigns have long relied on photogenic animals or scenic beauty to raise funds, as with these Canadian Wildlife Federation holiday stamps.

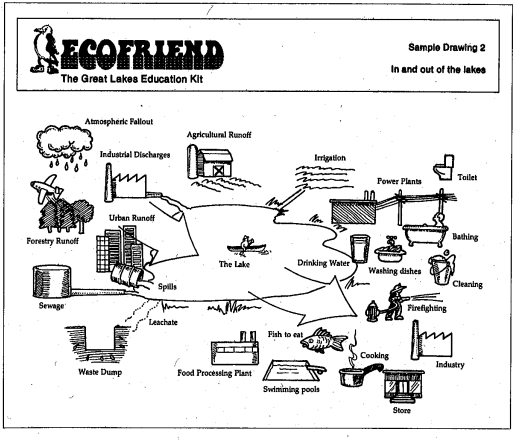
both industry and state agencies. Do we protect deer or duck or fish habitat, for example, out of kinship and a general respect for life, or to provide ample populations for sport hunting? Traditional conservation and sporting organizations like Trout Unlimited or the National Wildlife Federation play an ambiguous role in this respect. They can be counted on to mobilize their large constituencies to help save wildlife habitat (even the National Rifle Association has at times been distracted from gun rights long enough to lend its support). Yet broader issues like nuclear power, consumerism, or aboriginal rights lie well outside their concerns.

The terms of the debate about nature and its relation to society have shifted enormously since the advent of the modern environmental movement some thirty years ago. That movement has produced a vast amount of educational material, ranging from pamphlets and books to games and movies. Most of this is generated by local groups engaged in very specific issues — such as wetland preservation, waste disposal, acid rain, or energy. Non-profit clearinghouses distribute many of these materials to schools and media, as well as organize "environmental festivals" for children. The movement has also nurtured a vast number of small businesses and publications over the past thirty years.

Many teachers of environmental science came of age during the first flush of the movement in the 1960s and have brought its social, political, and ethical imperatives to their work. The teaching of biology offers an example of how an environmentalist ethic has found its way into the schools. In the last ten years many biology teachers have stopped using animal dissection as a classroom exercise. Dissection was introduced in the 1960s as part of an new emphasis on demonstrating scientific process in the study of natural systems. By 1981, however, a changed social climate prompted the U.S. National Science Teachers Association and the National Association of Biology Teachers to adopt a code (later weakened) forbidding investigations that caused animals pain or endangered their health. The subsequent abandonment of dissection was hastened by declining school budgets and concerns about the toxicity of formaldehyde. Many teachers have instead introduced live captive animals into the classroom. It is a momentous shift from severing the vertebrae of a live frog with a pin to watching its daily cycles in the approximated habitat of a terrarium.

Countertraditions

As environmental education has made its way into schools over the past twenty years, primarily under the reluctant aegis of science, a number of alternatives to formal nature study have emerged. Like interpretation, these countertraditions draw on postwar social sciences as well as the energy and political commitment of contemporary social movements.



A diagramatic explanation of a lake ecosystem, produced by the Ontario Ministry of Natural Resources, for use in primary schools.

One of these alternatives is the Institute for Earth Education (IEE), an organization based in Illinois that has developed extensive outdoor programming for children's camps and nature centres not just in Canada and the United States, but in Australia, England, and France. In recent years the IEE has begun training programs for environmental education teachers as well. The organization is typical of a certain kind of pedagogy often found in the environmental field. It was begun by Steve Van Matre, a student of environmental perception who became involved in nature education through the Boy Scouts and as director of various summer camps in the U.S. Midwest.

In *Acclimatization* and *Acclimatizing*, two books written in the early 1970s and published by the American Camping Association, Van Matre outlined his methods. The immediate goal was to teach about the "Web of Life," which he defined this way:

Light, air, water, and soil are the elements of life,
Life is divided into producers, consumers, and decomposers,
Everything is becoming something else;
Everything has a home,
Homes in a defined area form a community;
Inhabitants of these communities live together in competition, cooperation or neutrality;
Man is the chief predator.

Van Matre wanted to marry the science of ecology with the experiential methods of education that had gained ground in the 1960s. He was bluntly critical of traditional nature education, with its various strategies of observation, identification, collection, and laboratory experimentation. For Van Matre the pedagogical strategies of acclimatization, as he has called his approach, are similar to those of language immersion. They stress the sensorial over the taxonomical: wading in marshes, climbing trees, crawling through a forest at night on hands and knees. The aim of these activities is to foster a "personal awareness" of nature. His approach arranges acclimatization programs according to ecological concepts such as habitat, community, soil formation, food chains, and plant succession, as well as the more dubious concepts of "territory," "competition," "producers," and "consumers." In teaching lessons the instructors draw on group-process techniques such as role-playing, consciousness raising, sensory awareness training, Gestalt, and even "grokking." The goal is for students to become familiar with the Earth and eventually feel themselves part of the biosphere.

One of the theoretical bases of this pedagogy is the work of the Swiss child psychologist Jean Piaget, who argued that children acquire knowledge of their environment by actively exploring it. Van Matre's terms "producer," "consumer," and "decomposer" derive from a very different tradition, a widely diffused model of energy transfer first proposed by U.S. freshwater ecologist Raymond Lindemann in the 1940s. Using a flow chart, Lindemann explained how energy enters a lake as light, passes through a number of organisms, and exits as heat. Lindemann's explanation of community energetics — which gave scientific legitimacy to the ideas of interrelatedness and dynamism in natural systems — has become one of the central metaphors of ecology.

Acclimatization activities have trademarked names like Sunship Earth, Earth Caretakers, Earthkeepers, Earth Encounters, and Earthwalks. Laden with gimmicks and props and hands-on activities, they rely on anthropomorphic narratives whose objective is to make the earth, including mud and spiders, familiar. Kids "scratch and sniff" leaves and branches, explore the "underworld" of fungi and crickets, visit "nature's basement" (the soil), and stage a "performance" of dancing seeds and leaves.

All of this activity usually takes place outside the city. IEE argues that urban environments hide natural processes from the incurious and distort perceptions. For the IEE, nature education in the city is too centred on an understanding of the Earth as human environment rather than as a "system of energy and materials." This argument, common to deep ecology, reproduces the ideology of "humanity vs. nature." After all, the Earth is human environment: the question is not whether we should touch it, but how we belong to it. To name "man" as the chief predator of natural communities is an outlandish reduction

of human history that ignores the many examples of societies that have lived in equilibrium with the Earth.

Acclimatization is typical of a certain kind of pedagogy emphasizing discovery and "magic." Its objectives are to change perceptions of the natural world and develop attitudes more conducive to the long-term survival of the Earth and its inhabitants. Yet its ideas about how culture mediates our sense of the natural world are naive. Restoring this planet will involve more than just "feeling" it. Indeed, an emphasis on perception and attitudes has an unfortunate depoliticizing effect. Programs of this kind rarely consider questions of social power and historical change, much less the entanglements of social, natural, and electronic environments. Nor do the educational activities themselves intervene in the material world by actually doing something collectively to restore the earth — like plant a stream bank or start a waste-reduction project.

Acclimatization is justly critical of most nature education, whose roots often go no further than the most traditional science and the market imperatives of the leisure industry. A rhetorical rejection of science, however, with no attention paid to oppositional currents within the discipline, amounts to little more than anti-intellectualism.

Here and there — for the most part outside institutions — there are other educational currents that draw from local, regional, and historical wisdom about the Earth. These are the kinds of teachings you encounter when talking to gardeners who know the parent soils beneath their gardens and the location of sacred groves, or aboriginal healers who can surmount the boundary between the human and non-human worlds and reaffirm our connections to the planet as well as to human society.

Indeed, the aboriginal cultures of North America have much to teach us about how to survive the current crisis of the land. Despite centuries of oppression and dislocation, Native cultures have survived. The resilience of those cultures comes, I believe, from a collective experience of the Earth as home, as a place that is animated and sacred. Respect for the Earth is something that must be taught, however, and for Natives living away from traditional lands, survival schools have been a critical way of adapting traditions to new social circumstances. One of the hopeful progeny of survival schools is a movement to establish Rediscovery Camps for youth. The first camp was begun in Haida Gwaii (the Queen Charlotte Islands) in 1978, and there are now about fifteen in Canada and the United States. The camps are usually initiated by a local tribal council and set up at ancient campsites or villages in the bush. Participants are Native and non-Native, youth and elders, men and women. Each camp is autonomous and develops programming according to local culture and geography and the needs of the community. They teach social and outdoor skills as

well as traditional Native lifeways. They also provide an alternative for youth who are at risk or in crisis. Programs like this politicize the land.

Another community-based project is the Adopt-a-Stream Foundation in Seattle, which has set up stream enhancement programs in schools, neighbourhoods, and community groups. The Foundation's handbook — easily adaptable to other regions — provides a thorough introduction to stream ecology and the relationship between land-use patterns and watershed quality. It details how local groups can become stewards of degraded watersheds: everything from how to conduct wildlife surveys and fish incubation, to planting stream banks, monitoring storm-drain outfalls, and talking to the media.

The East Bay Regional Parks District in the San Francisco Bay Area runs an educational program that ought to be a model for parks departments everywhere. All its activities are on-site and involve active participation in the specific ecosystem of each of its fifty parks (which comprise about twenty-five thousand hectares of urban, urban fringe, and undeveloped areas). In Sunol Park in the headwaters of Alameda Creek, for example, hikes and workshops focus on food webs, stream studies, and larger watershed issues. At an Ohlone village site in Coyote Hills Regional Park, kids learn how to make baskets and construct shell-mounds. In Contra Loma Park, a hike climbs to a ridge to view the California Delta, then descends to a proposed landfill site to discuss the impacts the site would have on the area.

A sophisticated teacher's guide divides the parks into types of habitat. It discusses both the natural and cultural history of the East Bay, moving from geology to climate and on to agriculture, ranching, Native American history, mining, the effects of importing eucalyptus from Australia, and the ecology of salt marshes, oak woodlands, chaparral, and grasslands.

Staff naturalists in the East Bay parks are adamant that nature education involve restoration. A walkathon proposed by a business group to raise money for the parks was turned by staff into a "rockathon," in which kids solicited donations for each bucket of rocks they carried to an eroded stream bank. The Junior Rangers is an after-school and weekend group for nine to twelve-year-olds. For a $100 annual fee, they go on two backpacking trips in the parks as well as log hundreds of conservation hours. They are taught various skills: camp craft, map reading, shelter making, survival techniques, afforestation, and exotic plant removal.

The East Bay Parks have an enormous amount of public support. Adult volunteers meet weekly to work at clearing debris and replanting, and the parks recently won a $225 million bond issue from local communities for programming and land acquisition — an extraordinary accomplishment in an era of a declining public sector.

There are many other promising educational projects under way in Canada and the United States. Many of the best are small efforts that address local biological and social situations. Save the Rouge Valley System, an organization dedicated to preserving a river valley on the eastern edge of Toronto, has found that its links to local schools have broadened and strengthened its constituency. Denver public schools, the parks department, and two foundations have sponsored the Greenway Experience, which trains "educationally-at-risk" high-school students to lead elementary-school kids on tours of the Platte River Greenway, which traverses downtown Denver. The students build self-esteem while teaching others about the history of the river and its relation to the city. The Land Institute in Salina, Kansas, offers courses in permaculture and perennial prairie cultivation — bucking a century of industrial agriculture. Conferences are important places for smaller environmental groups and isolated bureaucrats to exchange information and compare strategies. Most large environmental organizations have also found that education is an essential part of their work as well. The Audubon Society, the World Wildlife Fund, and Ducks Unlimited all sponsor school programs.

Promoting the "Safe" Environment

Governments produce an enormous amount of material about the natural world — for schools, non-government organizations, tourists, rural property owners, and the mass media. The materials include curriculum guidelines, maps, technical studies on pollutants or recycling, fishing quotas, development guidelines, tourist brochures, synopses of research on sewage treatment, pamphlets on vegetable gardening and crop rotation, prospectuses for investors in the recreation industry, videos on water quality, resource assessments, species profiles, instruction kits for schools, contracts with industrial developers, pesticide and mining regulations, and environmental assessment documents.

In part, all that paper is a byproduct of an immense research apparatus whose chief task is to manage the natural world according to the priorities of those in power and the common sense of the day. But the reports and pamphlets and magazine ads are also publicity, for in any modern organization, public or private, public relations is a central activity. This publicity is also a key component of nature education.

In most Western economies today, one of the primary roles of the state is to ensure maximum freedom and profitability for the private sector. An important part of this task is the building of consensus about what constitutes a sound and just economy. How is wealth created and distributed? What are the relations between growth, progress, consumption, and the quality of life? Which activities are included in official accounts of the economy, like Gross National

Smokey the Bear, the mascot of the U.S. Forest Service and symbol of its fire suppression campaigns since the mid-1940s. Smokey had another life as the cartoon character Yogi Bear of Jellystone Park, but today his official career is in some jeopardy as ecologists come to understand the beneficial effects of fire on many ecosystems.

Product? How are we to account for the declining states of our air, water, and soils? How much of the "lifespan" of a commodity or development — from production and marketing to distribution, consumption, and disposal — is entered into the "environmental impact" ledger?

The assumptions of Western economies are rarely debated in public forums, yet they have a direct and enormous impact on landscape, on the way we think about and live in the natural world. The task of building consensus about the economy, however, is complex, and differs from one era and culture to another. Debates about forest management, for example, resonate differently in the United States than they might in India or Germany; similarly, a dam that was built without opposition in the 1950s might not win public acceptance today.

Increasingly, therefore, the state has found that management of public opinion about what has come to be called environment is at least as important as management of natural systems themselves. Over the past thirty years there has been a growing sense in North America (as elsewhere) that the assimilative capacity of the biosphere — a capacity long used as an unacknowledged economic resource — is reaching its limits. Examples of degraded ecosystems have become more frequent and familiar, more talked about. We understand them to be more serious than ever before. We have entered an era of continual and systemic environmental crisis.

As the crisis has deepened, it has spread outward to encompass the entire planet and inward into our very bodies, further blurring the distinction between human and environment. Consider these "natural" disasters of the past thirty

years: regular oil spills in all the world's oceans since the 1960s, the use and testing of atomic weapons, the corporeal deformations of thalidomide, blanket aerial spraying of herbicides in Vietnam, DDT in Arctic mammals, smog, cancers, AIDS and other widespread immunological disorders, eutrophication of the Great Lakes, flooding and starvation in Bangladesh, deadly industrial chemicals at Love Canal, dying whales and dolphins and caribou, PCBs in gasoline and rainfall, overlogging, desertification and famine in the Sahel and in Haiti, acid rain right across the northern hemisphere, "accidents" at nuclear power stations, ozone depletion, global warming, destruction of agricultural lands and tropical rain forests.

The Earth is dying. The scientific evidence, if we need it, is staggering. In 1989 the "Vancouver Declaration on Survival in the 21st Century" summed it all up:

An accelerating increase in population growth over the past 150 years from one billion to over five billion with a current doubling time of 30-40 years;

a comparable increase in the use of fossil fuels leading to global pollution, climate and sea-level change;

an accelerating destruction of the habitat of life, initiating a massive and irreversible episode of mass extinction in the biosphere — the basis of the Earth's ecosystem;

an unimaginable expenditure of resources and human ingenuity on war and preparation for war.

And all licensed by a belief in inexhaustible resources of the planet encouraged by political and economic systems that emphasize short term profit as a benefit, and disregard the real cost of production.

Catastrophism, however, is an approach that neither government nor industry can afford. As the crisis has grown, state resource agencies have become locked into crisis management. As early as the 1950s, when controversy began to rage in the United States about damning river canyons in the Southwest region, state and federal officials organized sophisticated media campaigns in support of development. Ironically, while some government agencies continue to promote increases in the consumption practices of the North American middle class, other agencies fight a rear-guard action to preserve what's left of natural systems. The apparent contradiction is conscious government industrial strategy: provide industry with security of supply, manage public opinion, and create and maintain markets through trade regulations and foreign policy.

For instance, in the administration of fish and wildlife, resource agencies manage animal populations and habitats by monitoring migration and feeding patterns, regulating hunting and fishing, and encouraging "compatible"

Extinct	Blue-eyed Mary
Endangered	Cucumber Tree, Furbish' Lousewort, Gattinger's Agalinis, Heart-leaved Plantain, Hoary-Mountain Mint, Large Whorled Pogonia, Mountain Avens (Eastern Population), Pink Coreopsis, Pink Milkwort, Prickly Pear Cactus (Eastern Population), Skinner's Agalinis, Slender Bush Clover, Small White Lady's Slipper, Small Whorled Pogonia, Southern Maidenhair Fern, Spotted Wintergreen, Water-pennywort
Threatened	American Chestnut, American Waterwillow, Anti-costi Aster, Athabasca Thrift, Bird's Foot Violet, Blue Ash, Bluehearts, Colicroot, Giant Helliborine, Ginseng, Golden Crest, Kentucky Coffee Tree, Mosquito Fern, Nodding Pogonia, Pitcher's Thistle, Plymouth Gentian, Purple Twayblade, Red Mulberry, Sweet Pepperbush, Tyrrell's Willow, Western Blue Flag
Vulnerable	Broad Beachfern, Dense Blazing Star, Dwarf Hackberry, False Rue-anemone, Few-flowered Club-rush, Green Dragon, Gulf of St. Lawrence Aster, Hill's Pondweed, Hop Tree, Indian Plantain, Lilaeopsis, Marcoun's Meadow-foam, Prairie Rose, Prairie White-fringed Orchid, Shumard Oak, Soapweed, Swamp Rose Mallow, Victorin's Gentian, Victorin's Water Hemlock, Western Silver-leafed Aster, Wild Hyacinth

A list of endangered plants in Canada, as compiled by the Committee on the Status of Endangered Wildlife in Canada. Canada had 195 endangered plants and animals in 1990, many of which are part of endangered ecosystems we are only beginning to understand.

industrial and recreational development. Government and business try to manage public debate, such as it is, by producing educational materials for rural communities, hunters and anglers, and school kids. These include information signs posted on highways and in parks, as well as innocuous fact-sheets distributed at shopping malls and county fairs. Most of this material — like profiles of wood ducks, coyotes, or cod — has changed little in the past forty years. Other pamphlets, however, have had to explain the complex relations between resource development, regional employment, and global trade. Still others have had to introduce entirely new vocabularies. They use new terms, for instance, to describe the slow retreat of plants and animals from the landscape. They now classify vanishing species as rare, vulnerable, threatened, endangered, extirpated, or extinct.

While the resource ministries still talk about harmony and wise use — their mandate, after all, is to promote the exploitation of natural resources — the newer government environment agencies have the far more difficult task of explaining the radically changed relations between humans and environment; so their educational materials tend to be more sophisticated.

Consider, for instance, the task of promoting, or even describing, the quality of water in North America. In many parts of the continent we can scarcely swim in lakes, bays, and rivers that for centuries have nourished us. Subsurface aquifers are often either contaminated or drying up.

Popular descriptions of water quality range from pure to potable to safe to polluted. The meanings of all these terms have subtly shifted over the past thirty years. For water quality specialists the criteria for purity number in the hundreds. These break down broadly into chemical, microbiological, physical, and radioactive categories. The factors involved in measuring toxic substances include lethality, sublethality (promoting cancer or infertility), mutagenicity, persistence, and bioaccumulation. In one process, biomagnification, many substances become more concentrated as they move up through the food chain. For this reason, for example, the presence of toxins in the Great Lakes can be detected in gull eggs long before they show up in air, water, or human tissue.

Environmental health issues have become a tangled problem, not only because they pose grave liability problems for governments (witness industrial conflicts such as Johns Mansville with asbestos, Union Carbide with pesticides, Kerr McGee with radioactive materials), but also because so little is known, or knowable, in the little time we seem to have. The effects of long-term exposure to most of the hundred thousand chemicals now in commercial use are not known.

Since the 1960s the task of monitoring and testing the environment has grown into an immense enterprise that employs millions of North Americans and takes up the bulk of most environment ministry budgets. Technicians study the contribution of farm runoff to nutrient overloads in streams and lakes, pesticide residue on foodstuffs, the concentration of heavy metals in sewage sludge, the effects of acid deposition on forests, and the effects of introduced parasites on pest populations. Treatment facilities tend to lag behind detection technologies. Chlorine-based water-treatment plants, for example, introduce a highly toxic group of chemicals known as trihalomethanes into drinking water. Detection technologies in turn lag behind the introduction of new chemicals, many of them untested, or tested under dubious conditions.

Testing for toxins presents distinct technical and epistemological problems. Some chemicals can't be measured because they're present in concentrations too low to be determined with existing technology (which is currently able to detect parts per quadrillion, or the equivalent of one second in thirty million years). The existence of other chemicals is not yet proved. Once chemicals are isolated and studied, their health risk can be extremely difficult to ascertain — not the least because science refuses to acknowledge its cultural and social biases. Risk assessment, which has grown into a vast activity, often focuses solely on the human organism — despite ecological evidence that the biosphere is a whole system in which it is impossible to single out one organism for study. "Maximum Acceptable Concentrations" of toxins are determined by a complex formula that is extrapolated from such social factors as size and character of the population

Consumption guidelines for fish caught by anglers

Consumption Frequency					
Long-term consumption	No restrictions	0.2 kg/wk. (0.5 lb./wk.)	0.1 kg/wk. (0.3 lb./wk.)	1 or 2 meals per month 0.5 kg/mo. (1 lb./mo.)	None
One-week vacation	No restrictions	10 meals 2.3 kg (5 lb.)	7 meals 1.5 kg (3 lb.)	1 or 2 meals 0.5 kg (1 lb.)	None
Two-week vacation	No restrictions	5 meals per wk. 1.3 kg/wk. (2.8 lb./wk.)	4 meals per wk. 0.8 kg/wk. (1.9 lb./wk.)	1 or 2 meals/wk. 0.5 kg/wk. (1 lb./wk.)	None
Three-week vacation	No restrictions	4 meals per wk. 1 kg/wk. (2.1 lb./wk.)	3 meals per wk. 0.6 kg/wk. (1.4 lb./wk.)	1 or 2 meals/wk. 0.5 kg/wk. (1 lb./wk.)	None

Children under 15 and women of childbearing age should eat only fish in  category.

Some government agencies publish consumption guidelines for fish contaminated with industrial toxins like mercury, mirex, DDT, and PCBs. The relationship between toxins and human health is rarely one of cause and effect, leading to endless technical debates about safety. In this chart from the 1990 Guide to Eating Ontario Sport Fish, *fish in the first column are the only species recommended for "women of childbearing age."*

at risk, average body weight, life expectancy, typical daily intake of air and water, reliability of toxicology studies, and relative danger compared to other social risks. These maximum figures are typically adjusted (usually upwards) to conform to existing detection and treatment technologies.

Often, government publicity announces that levels of a given contaminant are "safe" — or the now more common term, "acceptable" either because they are present in minute quantities or because they exist in the "background," that is, in some other, imperceptible environment. Scientists often use risk/benefit analysis — yet another interpretation of toxicological data — in defence of industrial chemicals or nuclear-power generation on the basis that their social benefits "outweigh" their potential risks. They often count growth and profit generation among the benefits, while leaving social and environmental costs outside the calculus altogether.

It makes for an odd world. On the shores of Lake Ontario, government signs guide fishers through the complexities of what kind of species to eat how often and at what time of year, how to remove cancerous tumours, and how to avoid ingesting the fatty parts where toxins are most concentrated. Official pronouncements deem the same waters safe to drink.

Toxic chemicals and their intimate relation to cancers and immunological disorders have reintroduced an immanent sense of the biological to everyday life. Note, for example, the rich social and cultural history substances such as lead and mercury have assumed over the past few decades. These metals have escaped the worn path from soil to industry, entered households, foodstuffs, bloodstreams, and genes, and finally ended up as the subjects of television documentaries and art. The other formerly "invisible" materials of air and water now have a tangibility they didn't have before. Many other substances, however — most of them new to the biosphere since the 1950s — are imperceptible. We find it

difficult to see and feel evidence of PCBs, radiation, ozone, and pesticides in the environment, a fact that has encouraged the development of disciplines with names like "risk perception management."

The cultural and political consequences of these physical transformations are complex. Canadian geneticist and broadcaster David Suzuki argues that the imperceptible and incremental nature of some forms of environmental degradation — the slow rate of global warming, for instance, compared with something like a new expressway — encourages cultural adaptation rather than opposition. U.S. historian Stanley Aronowitz, on the other hand, points out that these developments also indicate a new awareness of nature as a constraint — a boundary condition for human endeavour — as well as an historical and moral agent.

As evidence of Aronowitz's argument, there are sensitive programs emerging from government environmental agencies at every level. Where backed with funding and political commitment, some of these programs can have a far-reaching effect. The U.S. Environmental Protection Agency — an agency still on its feet despite the attempts of the Reagan administration to sabotage it — has declared water quality its top priority for the 1990s. Following this lead, the U.S. Fish and Wildlife Service is encouraging people to have their backyards or neighbourhoods declared wildlife refuges. The agency will help with plans and contribute plants. A similar program in the city of Eugene, Oregon, offers tax breaks for property owners who create wetlands or other wildlife habitat on their land.

Corporate Environmentalism Comes of Age

Advertising and promotion about nature are not restricted to government agencies. The history of corporate advertising also has much to tell us about the contradictory ideas of nature that have flourished in contemporary culture over the past forty years. Until well into the 1970s, the private sector flaunted its capacity to extract materials from the earth. By the end of that decade, however, corporate publicity had shifted towards a more conservationist, resource-management model. Environmental advocacy advertising became common, particularly among oil and petrochemical companies. Today many of these campaigns are part of "image enhancement" and "damage control" initiatives launched by newly expanded public relations departments.

In the mid-1980s, for example, the Agricultural Chemicals Association changed its name to the Crop Protection Institute, thus shifting attention away from its work and towards a hackneyed construction of nature as adversary. Most readers will be familiar with the rapid growth of corporate environmentalism that has followed industrial phenomena such as toxic chemical discharges

Streambank protected by willow plantings.

Trees that are not windfirm can blow down in a timbered leave strip

A promotional pamphlet from the logging transnational MacMillan Bloedel, explaining why their clearcuts often extend right down to the water. The willow plantings on the left are usually not done. In the rejected scenario on the right, fallen logs catch sediment, and help create the pools many fish need. Neither option proposes an alternative to clearcutting.

in Bhopal, India, oil spills in Alaska and the Gulf of Mexico, and radiation discharges in the United States, Canada, and the Soviet Union.

These publicity campaigns are aimed at recapturing political initiative from the social movements. They are also part of the business opposition to a decade and more of environmental regulation — a system that has not only raised costs within industry but also rendered capital much less flexible. By the mid-1980s, corporations had made decisive moves to contain and co-opt the environmental movement. Within the energy and resource sectors, a recent tactic has been to organize community support among citizens', church, and labour groups. The Center for the Defense of Free Enterprise, a U.S. business lobby, has organized small anti-environmental groups all over North America. Typical names are Share the Forest, Northeastern Nova Scotia Truth in Forestry, and Oregonians for Food and Shelter. The Centre for Conflict Studies, a military think-tank in Fredericton, New Brunswick, runs seminars to instruct corporate image managers in counterintelligence tactics. A less benign corporate strategy is legal harassment. Tactics include bringing charges against environmental groups and demanding "deposits" from plaintiffs in class-action pollution cases.

Environmental law has become an industry in itself. In early 1990 the U.S. government filed criminal charges against Exxon for dumping oil in Prince William Sound, Alaska, in 1989, an occurrence Exxon long claimed to be "an accident."

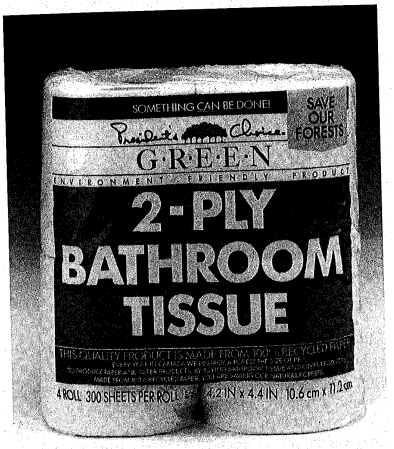
Since the mid-1980s, corporate ethics has been a "growth industry," as an Ontario Hydro official remarked at a conference. Many corporations, especially those in the chemical and energy business — the most polluting sectors of the

An old-growth sitka spruce talks to his grandson about the uncertain future of old-growth forests in a TV spot called "The Talking Rainforest" from British Columbia. Environmental groups now spar with corporations for access to the media.

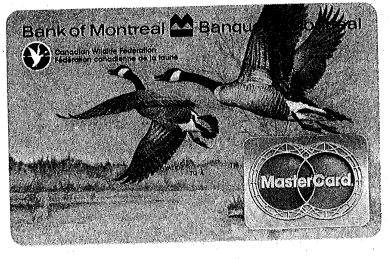
industrial economy — have formed internal "social issues committees" to consider corporate responsibility, corporate "citizenship," and the ethics of technology. As the Canadian and U.S. economies become more privatized, corporations can no longer depend on governments to mediate between corporate industrial decisions and what is usually called the public interest. Corporations have also begun to claim for themselves the civil liberties that in liberal democracies have usually been reserved for individuals. Other questions typically debated in corporate forums are social equity, "right-to-know" legislation, non-human rights, risk allocation, risk management, and risk perception management.

Certainly, nuclear power lies at the centre of many of these controversies. From the perspective of the nuclear industry, opposition concerns have shifted from health and safety issues towards morality. A number of Christian churches have participated in these discussions, through panels such as the Interfaith Program for the Public Awareness of Nuclear Issues and the Task Force on the Churches and Corporate Responsibility. The following questions, from an issue of the industry periodical *Ethics and Energy*, give a good sense of how the issues are framed. What is our obligation to future generations? What is acceptable risk? What are the rights of local communities relative to the rights of the majority? Does nuclear energy violate the trust given by the Creator? Is it appropriate technology? Are the risks worth the benefits? If not, what would be appropriate compensation "for unmitigable impact and for assuming the burden of risks?"

The other major corporate initiative has been investment in the "ecosector" of the economy. At the most superficial level, this has meant capitalizing



"Green" commodities at Loblaws, a Canadian supermarket chain. A broadening environmental consciousness has provided many corporations with new marketing opportunities.



An "affinity card" from the Canadian Wildlife Federation and the Bank of Montreal.

on the eagerness most people have for making some contribution to "saving the planet," as it's usually put. Colgate-Palmolive has developed "ecopaks" (thin-walled plastic containers) for household toxins such as Mr Clean. Supermarket chains promote "green" disposable diapers, made in part with unbleached cotton imported from Sweden. "Biodegradable" plastic bags made a brief appearance in the marketplace in the late 1980s, until environmental groups objected that they merely break down into plastic dust and do nothing to alter consumption patterns. EcoLogo, sponsored by Environment Canada, is a government attempt to regulate this new marketing strategy. Companies stamp its logo — three green doves in a maple leaf configuration — on commodities determined to be "environmentally friendly" after research into the production, consumption, and disposal of the products.

There seems to be no end to the inventiveness of the commodity process. A U.S. firm called The Nature Company markets wildlife calenders and T-shirts, suntan lotion, microscopes, and maps of the universe. Banks offer "affinity" credit cards, so that consumer purchases can help finance the conservation of wildlife habitat. Gas stations sell tumbler collections that commemorate endangered species. "Ecologically responsible" companies and investment services have also set up shop. The big industrial profits, however, are concentrated in two areas: new technologies, particularly in packaging and waste management; and recycling. The lure of recycling profits and "biodegradable" packaging has in many cases discouraged efforts to reduce and reuse materials.

The Canadian government's EcoLogo, a symbol of "environmental friendliness."

Ecology and Ideology

Industrial environmental advocacy and the attendant shifts in consumption patterns have had a measurable social effect, mostly by broadening and popularizing environmental politics in North America. In the larger picture, however, the grave imbalances in our relations with the natural world run far deeper. The domination of nature is linked to domination in social relations, and a serious environmental advocacy must address global economic disparities. It must understand the relations between the financial and corporate institutions of the industrial West and the subservient economies of Third World nations, which are locked into a spiral of export production, overgrazing, fuel shortage, famine, drought, pollution, chronic disease, and infant mortality.

Interest in the environmental effects of development began at the top in the mid-1960s, at a time of widespread ecological illiteracy at every level of the bureaucracy and throughout most of the media. Federal governments in both Canada and the United States created agencies whose mandate — to "protect the environment" in the U.S. formulation — was expected to complement that of the old natural resources ministries, which themselves had been responses to

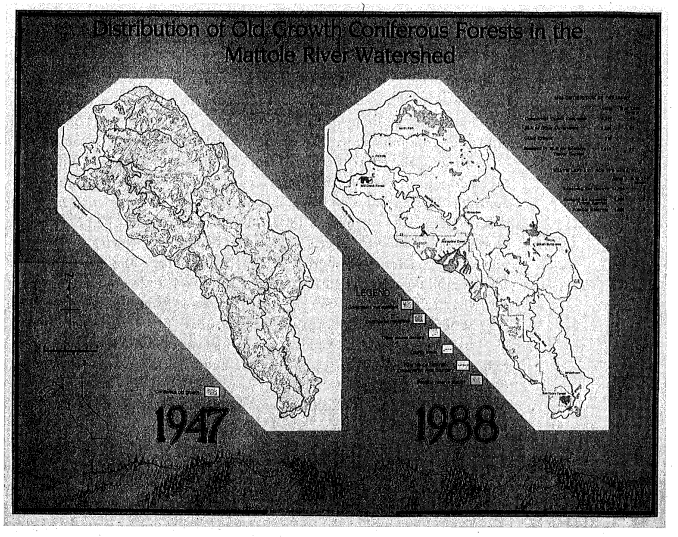
the conservation movement of the early century. Thirty years later, however, it is clear that the mandates of these new environmental agencies have simply not been broad enough to address the social, economic, or cultural aspects of the problems they have attempted to remedy. (Stopping pollution coming out of pipes, for instance, is easy; but once that's done the remaining problems become more diffuse and more cultural.) Cabinet-level decisions regarding taxation or investment, or for that matter, international relations, rarely take ecological questions into account. Co-ordination between government agencies is notoriously poor.

Consequently, environmental agencies have come to rely on react-and-cure measures to problems, when what is needed is an approach that anticipates and prevents deterioration of the biosphere. A preliminary report issued by the World Commission on Environment and Development (the Brundtland Commission) in 1985 put the problem succinctly:

Questions of conservation versus development that were once thought to be rather straightforward, subject to "rational" benefit-cost assessment and confined to one or two political jurisdictions, are now seen to be highly complex, involving linkages and feedbacks among agriculture, energy and forestry development and transportation and trade policy, and raising questions of economic gain in the short term versus unsustainable development and massive economic loss and social dislocation in the medium and longer terms.

In the 1980s, to address these more long-term questions non-governmental organizations launched several initiatives, including the World Conservation Strategy as well as the World Commission on Environment and Development.

The World Conservation Strategy was prepared by the International Union for the Conservation of Nature and Natural Resources in 1980, with the support of the United Nations Environment Program, the World Wildlife Fund, the Food and Agriculture Organization, and UNESCO. The document was an early proposal to arrest environmental degradation and integrate conservation with development. It lays out an international framework for the development of conservation policies, to which it invited all countries voluntarily to accede. Its three principle objectives are: "Maintenance of essential ecological processes and life-support systems; preservation of genetic diversity; and sustainable utilization of species and ecosystems." The document also notes a number of high-priority global conservation issues, including the reduction in quality and quantity of agricultural land, overexploitation of fisheries, degradation of river systems, and desertification. More administrative objectives include a broader approach to conservation, enforcement of legislation, and better trained personnel.



Maps showing forest decline between 1947 and 1988, prepared by the Mattole Restoration Council in Humboldt County, California. This kind of information is critical for local environmental education but hard to obtain from corporations and public agencies.

Similar discussions have surrounded other international conventions concerning the "global commons," such as the International Law of the Sea and the Antarctica Treaty. The stakes are high in Antarctica. At least seven nations claim authority in the territory, and many more fish and undertake scientific research there. The continent is known to have large deposits of oil, copper, iron, uranium, lead, coal, zinc, gold, and silver, although most of these are not recoverable given low oil prices and current technology. In 1959 twelve nations signed the Antarctica Treaty to establish a legal framework for exploration and research and in 1988 treaty countries adopted the Convention on the Regulation of Antarctic Mineral Resource Activities, known as the Wellington convention, which adopted legal standards for resource exploitation on the continent. The U.S. State Department argued at the time that the convention gave the continent "legal protection," but in the late 1980s Australia, France, Belgium, and Italy backed out, arguing that resource exploitation in Antarctica should be banned.

These recent studies and documents suggest that there are natural limits to the biosphere and thus to the human capacity to use the external world for

continued development. Yet they don't state this directly. Nor do international treaties provide any social critique — a recognition, for example, that the environmental crisis has in the past fifteen years been displaced to the Third World, or that the consumptive patterns of the affluent nations must be changed.

In its 1987 report the Brundtland Commission addressed some of the shortcomings of the World Conservation Strategy (which has since been updated). The Commission was emphatic in linking environmental and social crises, arguing that the burden for restoring the Earth must be borne by the North — the wealthy 20 per cent of the world's population which at present consumes 80 per cent of its resources. It argued that global equity must be part of any discussion of the ecological state of the Earth. What was not clear, however, was whether the Commission supported increased industrialization to bring the rest of the world up to the profligate standards of the North American middle class — something that would require an increase of five to ten times the current increase in industrial activity. Or are industrialization and consumerism themselves the problem?

The Commission offered a long-overdue critique of government economic-environmental policy:

Environmental policy needs to become a comprehensive, horizontal policy field and an integral component of economic and social policy, whose mission is, at least, to anticipate damage and reduce the negative external effects of human activity and, at best, to propose and promote economic and social policies that expand the basis for sustainable development. In doing so, it should allow for the diversity and uniqueness of specific regional and local situations.

The Brundtland Commission has its share of critics within the social movements. While it succeeded in putting the environmental crisis on government agendas and front pages, the Commission's report did not stray far from the "bottom line" of the global market. In the event, its catch-phrase "sustainable development" has ended up endorsing the status quo. It has become an empty phrase escaping the mouths of administrators and executives, who use it to justify expansion of the nuclear industry, "sustained yield" in forest management, and limitless growth in productive capacity — all to further accumulate capital. At the end of the day, the Commission was not able to relinquish the development model, whose "trickle-down" effects will allegedly have social benefits: "It is essential that economic growth be revitalized. In practical terms, this means more rapid economic growth in both industrial and developing countries, freer market access for the products of developing countries, lower interest rates, greater technology transfer, and significantly larger capital flows."

There have been other critics of the Brundtland Commission. A UNESCO symposium held in Vancouver in September 1989 — "Science and Culture for the 21st Century: Agenda for Survival" — dismissed the idea of sustainable development as an excuse to continue destroying the Earth, because the "social and political will" to disengage with development is lacking. The meeting declaration argued that a mechanical notion of the universe — once a cornerstone of science but now repudiated by it — has over the past two hundred years led to a life-threatening fragmentation of body, mind, spirit, and environment. Science and culture are beginning to reconverge, and survival into the next century will hinge on "the perception of an organic macrocosm that recaptures the rhythms of life" and allows us to reintegrate ourselves with nature. "Science and technology are indispensable for the attainment of these goals," the declaration continues, "but they can succeed only through an integration of science and culture."

If we fail to redirect science and technology toward fundamental needs, the advances in informatics (hoarding of knowledge), biotechnology (patenting of life forms) and genetic engineering (mapping of the human genome) will lead to irreversible consequences detrimental to the future of human life.

Discussions of the future of the Earth are by no means confined to international agencies or the academy. Once science confirmed the notion (long held by primal peoples) that humans are merely one part of the biosphere, dependent upon the stability of the whole, an immense and fascinating debate opened within the environmental movement on the social implications of ecology. In part, the aim of this debate has been to elaborate a social-ecological theory that will move beyond the dualism inherent in conservationism and resource management, and suggest ways of living in and with the world. From this debate new philosophies (and ideologies) have emerged, including environmental ethics, social ecology, ecofeminism, deep ecology, animal rights, and animal liberation.

This debate is also part of an attempt to build a broad and oppositional social movement that will work at transforming modern society along ecological lines. The environmental movement has come a long way since the 1960s. Its initial constituents — and in many ways still its strength — were local groups who focused on local environmental and conservation issues: air and water pollution and pesticides. Since then the movement has grown into a folk culture impelled by a new sense of global limits. Its focus has broadened from contamination to human survival. The impact of the environmental movement has been felt even within the sciences; its ideas have moved back into ecology

itself, investing that science with an ethics and a metaphysics. The political strategies of the movement are as sophisticated and imaginative as any of the twentieth century. Anarchism, feminism, and the politics of European Greens have been particularly influential among radical environmentalists: note, for example, the direct-action tactics of women's peace and anti-nuclear organizations at places like Greenham Common in England or Seneca Air Force Base in New York State.

The debates within the movement have had variable results, as could be expected with any vibrant social movement. After all, the intellectual roots of modern environmentalism are spread wide: American transcendentalism, individualism and survivalism, libertarianism, the Frankfurt School, bioregionalism, existentialism, phenomenology, Marxism, and an eclectic mix of spiritual traditions from Buddhism and Taoism to witchcraft, shamanism, animism, and goddess worship. Movement publications resound with arguments over hunting and trapping, the value of wilderness, spiritual relations to plants and animals, immigration and population policy, vegetarianism, and the nature of forestry and agriculture.

Many of these are questions that could never have been raised as recently as ten years ago and are symptomatic of fundamental changes in the way nature is talked about in contemporary culture. As these waves of activity have moved over the terrain of the "biosocial" over the past decade, however, one thing has become clear: ecological thinking cannot form the sole basis for social theory or political action. Restoring this land must also mean making a place for ourselves within it.

Alongside the environment of the biosphere, though, there is now also an environment of promotion and advertising and speech about nature — its management, its protection, its fragility, its sacredness, its marketability. It is an environment that encompasses the print and electronic media and suffuses the language of both corporations and social movements. It is also an environment in which we must intervene. As George Bradford has argued:

> *Every scar on the Earth's body, every broken thread in its tapestry, diminishes us, undermines our own evolutionary destiny. To save ourselves we must save the Earth. To save the Earth, we must find a way to create a humane, egalitarian and ecologically sustainable society. If we cannot, we will continue around this vortex created by urban-industrial capitalism down to extinction and poison this planet beyond recognition. It may even be already too late, but there is still life in us, so we keep on.*

As Bradford points out, debates about the social meaning of ecology are taking place at a time when the web of life is unravelling before us. Yet the way

forward will not be found within nature (wherever we think that might be), for nature is not "on our side." Clearly, a sense of urgency about the degraded biosphere is not in itself an adequate politics. If we are once again to feel ourselves part of the Earth, rather than its masters, we must learn from the long history of opposition to domination — whether social or planetary. Our opposition to the destruction of the Earth must entail a refusal — and an obstruction — of the institutions and practices that support it. The environmental movement has begun to undermine the social consensus for growth, development, and the promotion of commodified relations with the land. It must now directly engage social debate, for the culture of nature — the ways we think, teach, talk about, and construct the natural world — is as important a terrain for struggle as the land itself.