An unidentified beast at Green Animals, a topiary garden in Portsmouth, Rhode Island.

4. Looking at the Non-Human

Nature Movies and TV

To anyone not hopelessly prejudiced by the metaphysical apartheid of Christianity and Western thought generally, human beings closely resemble in anatomy, physiology and behaviour other forms of life. The variety of organic forms themselves are closely related, and the organic world, in turn, is continuous with the whole of nature. Virtually all things might be supposed, without the least strain upon credence, like ourselves, to be "alive," that is, conscious, aware, or possessed of spirit.

—J. Baird Callicott, *In Defense of the Land Ethic*

What goes on in the brain of this amazingly human-like creature?

— Voiceover from a National Geographic movie about gorillas

In *Nature's Half Acre,* an Academy Award-winning movie made by the Disney studios in 1951, the opening shot is of a painting. It's the kind of landscape painting familiar from the calendars that insurance agents or gas stations used to give out in the days before colour photography. The painting shows the edge of a meadow in spring, with some aspens to one side and the standard snow-covered Rocky Mountain peaks in the background. On screen the painting slowly dissolves and becomes a movie explaining the everyday life of plants and animals in the wilderness.

Like most nature movies of its time, *Nature's Half Acre* worked a number of themes: friendships, animal instinct, predation and violence, natural disasters, and the idea of territory. But as the title of the movie suggested, nature was itself a theme; and nature's backyard, like our own, was accessible, enthralling, understandable. We were invited into a world so familiar we could hang it on our wall like a calendar illustration.

Today that movie could not be made. Its intimacy with its subject now seems naive, its science bogus, its ethics dubious. The world it tried to depict, and a whole tangle of ideas about that world, have changed too much. Hundreds of nature and wildlife movies have been made in the forty years since *Nature's Half Acre.* Their discontinuous history includes such genres and approaches as animal stories, science journalism, conservationism, ecological advocacy, social anthropology, adventure stories, and tips on hunting and fishing. Often a single TV program will be a hybrid of different documentary forms and will express deeply contradictory ideas about nature and its relation to human culture.

If we look more closely at the history of these popular movies and television programs, we can see the emergence of an untold version of life in North America since the Second World War. In disentangling this history, we will see how changing ideas about nature correspond to changes in geography, economy, science, and politics.

Geography and Progress

The Disney studios popularized the genre of the wildlife movie in the early 1950s, and the influence of their work was felt in nature education for the following two decades. Their first effort was *Seal Island*, which Walt Disney himself booked into a Pasadena, California, cinema in 1948. By the mid-1950s the studios were producing about one wildlife movie a year in their "True Life Adventure" series, including *The Vanishing Prairie* (1954), *The African Lion* (1955), *Perri* (1956), and *White Wilderness* (1958). All of them turned a good profit, and many won Academy Awards.

The Disney movies always told stories, and the stories always began at the beginning — the spring, the dawn, the birth of a bear cub or otter. They ended at the beginning too, with words like new life, rebirth, hope. These were old "eternal" stories about the land, not very different formally from the woodland lore traditionally taught at summer camp or the stories of paradise that have drifted down to us from the Bible and garden history. What does distinguish nature movies from learning how to tie knots or build a snow cave or send semaphore signals is that they often precede all those experiences.

Our ways of thinking about and altering our landscapes these last forty years or so have been shaped and framed by the narrative and dramatic conventions of movies and, especially, television. For example, the time-lapse film sequences of blooming cactus in the 1953 Disney feature *The Living Desert* (another Academy Award winner) did something far more than reveal "nature's mysteries": they spoke to us of a living and intelligible world beyond the fence of civilization, a world we could enter at will and experience in something like human time. The stories and memories of the non-human world were meant to stand in for the stories and memories of our human world, and vice versa.

Yet for all they opened up and "revealed" of life, the early Disney movies also came with their own constricting logic. The animal stories they trafficked in were among other things transparent allegories of progress, paeans to the official cult of exploration, industrial development, and an ever rising standard of living. Those blooming flowers in "living colour" — a signature of Disney's film work — legitimized our metaphors about economic growth. The flowers were typically shown only to the point of "perfection." Rarely did we see them fading, decaying, consumed by microorganisms that returned them to the earth — part of some other economy, a larger collective cycle of life and death of which we humans are also a part. Like nineteenth-century accounts of the "winning" of the American West, these postwar nature stories were told over and again. They were fictions of victory for the new Century of Progress.

Walt Disney's insistence on natural rhythms in the organization of his wildlife movies tells us much about the social and geographical disruptions of the postwar years. Amid the race-related violence and catastrophic urban "redevelopment" of the U.S. city I grew up in, for example (not to mention the disintegration of my family), Disney's stories of a nature "in balance" and somehow outside of history functioned as a kind of utopian fantasy for me. They were myths that I lived.

The narrative summary at the close of *One Day in Teton Marsh* (1966) is especially revealing. It's the end of the day, a thunderstorm has just broken up, and as the clouds move off a rainbow appears over the Teton Range in Wyoming:

Even as the day had begun in calm, so it ended in calm.
As twilight fell, a sense of peace returned to this valley,
A peace heralded by nature's oldest sign and symbol.
The golden orb of the western sun touched the scene with its last probing arrows of light,
And mirror-smooth waters caught the jewelled rays and held them back
in joyous brightness.
As night fell a sense of peace returned to the valley.
All was again as it once had been.
Life was once more triumphant and undefeated.
For the beavers, the otters, and all the denizens of Teton Marsh,
It had been a good day to be alive.
A day to live through and remember.

Disney's nature movies shared another organizing strategy. At their very beginning, just after the credits, they usually showed an animated tableau. A paint brush might appear on the screen and create a verdant Earth. Oceans were sloshed on, mountains dabbed in, deserts and clouds added. Quickly it became clear that we were looking at a cartoon of North America, and we'd look to find where we lived ourselves. Canada, predictably, was white with snow and ice, the West mountainous, the Southwest dry and strewn with John Ford cowboy-movie props, the East green and steamy — or already civilized. Off the coast of New England, where human history always began in these stories, European ships were painted in. Sometimes there would be wagon trains on the plains, or lumberjacks

felling trees in the Rockies. It was all about the conquest of an unpeopled land, a totalizing view of a continent as seen from a helicopter or space ship, a map of the empire. The camera would zoom in, usually on the mountains of the West, and dissolve to a helicopter shot of an alpine valley in spring.

In the 1950s, the West (and its annex, Alaska) could still be the backdrop for frontier myths about an American civilization destined to grow and expand. In the TV show *Space Invaders,* Buzz Corey rid the skies of communists in order to free outer space for U.S. settlement. In the movie *Beaver Valley* (1950), beaver offspring followed their fathers' trails to their ends and beyond, driven on into the unexplored wilderness of the New World. As succeeding generations of beavers settled ever more remote and beautiful valleys, undesirables like coyotes moved in too, taking up some of the elbow-room. And so the West was won.

The movies were not only stories of victory and settlement — natural versions of Daniel Boone legends. Sure, the wildlife movies were the fantasy preserves of an older order, tales of hidden places supposedly untouched by the dislocations of modern society. But they also functioned as lived myths of freedom and space, helping to give shape to the cultural and environmental politics of the coming decades. As such they were part of a long and distinguished tradition of North American nature stories. The people who swelled the ranks of environmental organizations in the 1960s and 1970s grew up on Disney's utopian tales of cuddly fawns and lost but clever dogs — a fact not ignored by the organizers of the campaign to ban hunting of baby seals in the Gulf of St. Lawrence two decades later.

The site of most of the early Disney stories, the American West, was soon enough thrown into crisis, however. By the 1960s the West was closely identified with radical politics, of both left and right. But it was the physical changes of the Western interior that made it a landscape too laden with contradictions for any more *Beaver Valleys.* A voracious resource industry had by the 1960s begun to extract hydrocarbons, uranium, timber, and water power from the earth in quantities never before imaginable. Moreover, the military cordoned off many of the more remote areas of North America over the forty-year course of the Cold War. Enormous tracts of desert and tundra (regions Disney called "incredibly ugly, yet fantastically beautiful") were taken over by the U.S. armed forces in western and northern regions of both the United States and Canada — for bomb tests, practice battlefields, and chemical weapons research.

In those same years, however, a broad-based resistance arose to militarism and the degradation of the planet. For instance, Native people, whose presence in the Disney wildlife movies had been in every way impossible, began to speak their own stories about the Earth — or rather white culture began to listen to them. As the environmental movement mobilized itself and ecological ideas spread through the culture, nature movies shifted their focus from animals to science.

Itinerant nature photographers and filmmakers who didn't take up environmentalism abandoned North America for "undiscovered" lands that could still support narratives of exploration and domination. Africa — the continent, but also the film location that has conflated so many cultures and biogeographies — was an obvious destination, as were other amorphous and historical places, like the South Seas. In more recent years, the Arctic and Antarctic have served a similar purpose.

For their part, the Disney studios began to abandon the puppy-dog movies (the last of the type was 1968's *Charlie the Lonesome Cougar*). The "True-Life Adventure" series itself was canned in 1960, perhaps because the most dramatic outdoor footage had already been used up and maintaining a field crew had become too expensive. Future Disney wildlife movies were filmed on the Burbank lots using trained animals, and they came to resemble popular TV shows like *Lassie, Flipper, Daktari,* and *Sea Hunt.*

Moving the Laboratory Into the Orchard

Following the Disney example, wildlife movies proliferated in the 1950s and 1960s, a trend closely linked to the increased consumption of visual images in all modern industrial societies. The new photographic and video technologies marketed in the years before and after World War II were key to this media wave. Among many other things, these technologies encouraged us to translate our experience of nature into forms accessible to the camera. As a result, our culture today is saturated with the photographic image. The metaphors we use to talk about the act of photography are strangely revealing: we take pictures, we capture or even shoot something on film. These are metaphors of the hunt, an activity that in modern urban culture retains few of the meanings it has in traditional societies. In the sealing and trapping controversies of recent years, for example, the hunt — the activity at the centre of the debate — is represented in completely different ways by the opposing sides.

Most popular representations of nature are organized around the eye, an organ that is itself surrounded by ideologies encouraging a separation of the human individual from the natural world. This tendency is accentuated by the imperatives of science, an activity that ascended in Western culture at about the same time as perspectival painting, in the sixteenth century. The roots of Western science lie in Greek natural philosophy and Pauline Christianity, which conceived of nature, in the broadest sense, as the corrupter of a transcendent human soul. Canadian environmental philosopher Neil Evernden argues that the problem is still older than that, that the eye is the predominant human sense.

It provides access to the world in a particular way, and while it gives us much, it also conceals. Vision permits us the luxurious delusion of being neutral observers with the ability to manipulate a distant environment. The gain is objectivity, but the loss is any notion of interrelation between the elements of the visual field. We see only what is, not how it came to be.

But it is not so much the predominance of the visual that is important here as it is the *separation* of the visual from the rest of the senses. The camera, with its insistence on perspective and the narrow field, exaggerates the eye's tendency to fragment, objectify, and estrange. Staring through a viewfinder, we experience the physical world as landscape, background — the Earth as if seen from space, or as map. At the same time, the snapshot transforms the resistant aspect of nature into something familiar and intimate, something we can hold in our hands and memories. In this way, the camera allows us some control over the visual environments of our culture.

Wildlife movies — like realist wildlife genre paintings — promise us that photographic intimacy with nature. Over and over again we're led to remote valleys "where time is still measured by the passing seasons," where there are hidden places "inaccessible to man," where the entire photographic field is in focus and the animals return our anxious glances. Very often nature movies can't deliver because this restricted medium alone — and its appeal to the eye and, less so, to the ear — can't bridge the cultural and philosophical abyss between us and what in recent years we have come to call environment. Most North Americans see wildlife on TV or at the movies before they see it "live" at the farm or the zoo, animal park, or campground. In films nature is easily constructed as a resource or a commodity to be consumed as scenery, or it is shown in some abstract form as matter capable of producing energy. Usually in these movies we're supposed to be able to sit back and "view" nature without becoming involved in it. This detachment is an illusion that nature movies at least partly promote. Many of them don't reveal the deep involvement with nature necessary to their making: large crews, helicopters, camera blinds, sets, telescopic lenses, remote sound, and trained animals flown in from another part of the continent. In other words, nature films traffic in images that are ordinarily invisible. Our ability to produce these films of "life in the wild" is an index not only of our power over nature but also of our distance from it. For the closer the members of a film crew get with their cameras and paraphernalia, the further nature recedes from their experience, and ours.

Canadian nature film maker Bill Mason. Nature movies traffic in images that are ordinarily invisible. Our ability to produce them is an index of our power over nature, as well as our distance from it.

On the other hand, we are aware of the technical apparatus that makes this "visual experience" possible, because we are surrounded by it every day. In this technologized culture not many of us can watch a wildlife movie without

asking ourselves how it was made. At the beginning of the Disney nature movies it used to be explained that we were about to be told a "True-Life Adventure Story" — a narrative form with an especially rich history in North America. With a movie, however, special problems come up about how to represent the natural world as truth. Before the invention of photography, it wouldn't have made sense to say that the story you're about to tell is "true to life." But Disney went out of his way to assure us that the scenes were "completely authentic, unstaged and unrehearsed."

None of that is true of course. There is ample documentation of animal training — and animal abuse — in nature movie productions by the Disney studios. As well, film footage for many of the early Disney productions was acquired from independent filmmakers. The studios themselves explained that "filming nature" is more complicated than it seems. *Filming Nature's Mysteries*, a 1956 Disney production for the education market, examined how the nature movies of the day were made. It showed how, in the "True-Life Adventure" department of the Disney studios, engineers designed camera fittings and lighting systems for a variety of field conditions. It showed experts building blinds in marshes, igloos in the High Arctic, and watertight boxes for underwater filming. Technicians brought animals out of the wild and into the lab for equipment tests. They used time-lapse photography to film "the miracle of plant growth — a process so slow it can only be disclosed by special camera techniques that compress time." Eventually, the film says, by "moving the laboratory into the orchard," time-lapse photography is able to reveal "the lifeforce surging within the core of the apple."

In another example, scientists cut away an ant hill and insert a window pane and shade for observation. The next day, we're told, "The ant colony is performing in a normal manner, and photography can proceed. The cameras can now probe the secrets of life." Yet those cameras were set up according to the conventions of TV drama: multiple cameras for action and reaction shots, close-ups, slow motion. There's a lot of editing involved. In many wildlife movies, animal performance in front of a camera is presented as animal behaviour. These approaches continue to the present day in work that is popularly understood to be scientific. In a recent program funded by the fur industry and the governments of Alberta and Canada, captured animals were herded into immense fenced-off pens in the bush so that video cameras could record the effects of various alternatives to the leg-hold trap. Regardless of what we think of trapping fur-bearing animals, there is something odd about assuming that the behaviour of animals in a pen will tell us something about the right way to go about living with them, and killing them.

In that sense, Disney's early wildlife movies were an outlandish enterprise. They mobilized the latest technology, pointed it at the earth and tried

to imagine a vital world with no humans in it. The contradiction that Disney's work flaunted — this is nature as she really is even though we've staged it all — only works if the culture draws a sharp distinction between the human and the non-human. Nature is in part a human construction after all. Like a set of maps laid over the earth, our culture's ideas about nature are already out there on the land itself as we move around it.

The history of animal movies is closely linked to the development of both the movie camera and field biology. Eadweard Muybridge began his research into moving pictures by studying animal locomotion in Sacramento, California. In the 1870s he used twenty-four still cameras to take serial photos of a racehorse galloping along a track. A few years later he staged a tiger attacking a buffalo at the Philadelphia Zoo, setting a precedent for the sacrifice of animals that became a standard in TV entertainment. Muybridge's interest in animal locomotion still finds an echo in the wide use of slow-motion in wildlife movies. Etienne-Jules Marey, a zoologist at the Collège de France, used movies as data in his studies of animal behaviour. His shots of a flock of birds, taken in 1878, provided the first moving picture of animals in the wild. From the time of Muybridge and Marey the camera — still and moving — has played a key role in the development of biology. Many early movies were made by scientists at a time when field research was still a marginal activity within most disciplines.

The spread of photographic technologies in the early twentieth century promoted what the National Geographic Society called, in its 1989 video *Cameramen Who Dared*, "the golden age of photographic exploration." Much of this exploration was of the non-human world, and shots of animals became common in travelogues and Hollywood adventure movies. Carl Akeley, a U.S. taxidermist, used a movie camera to document animal poses. John Williamson, a cartoonist for a Virginia newspaper, took the first underwater pictures from a "photosphere" that he built below the surface. In 1914 Williamson filmed *20,000 Leagues Under the Sea*.

The most celebrated wildlife filmmakers of the early century were Martin and Osa Johnson, a husband-and-wife team from the U.S. Midwest. Martin had learned photography using an early Kodak camera while travelling around the world as a cook for Jack London. Between 1917 and 1937 the Johnsons made about thirty immensely popular adventure movies. Most of them were shot in Kenya or New Guinea, with titles like *Among the Cannibal Isles of the South Pacific*, *Jungle Adventures*, *Trailing African Wild Animals*, *Congorilla*, and *Baboona*. The best known work, done in Kenya, had the backing of the American Museum of Natural History and Kodak founder George Eastman. The Johnsons

set up a lavish mountain camp alongside a Kenyan lake used as a film set for most of the animal action. Martin Johnson, mechanically adept, developed all his film in the camp and devised a field movie camera that became an industry standard. The Johnsons believed they were filming "the world as it once was." Today their movies seem an embarrassing amalgam of bad anthropology, natural history, and adventure — a formula that has meant "box office" right up to *Raiders of the Lost Ark*.

Our ideas about nature are drawn not only from movies and television, but also from our experience of the land. For many North Americans living in the post-war years, the natural world was the site of great ambivalence. Rural cultures were massively displaced during and after the Second World War. Modernization brought suburbs, expressways, and industrial agriculture to the landscape. In everyday material life, nature was a laboratory full of "things" to be observed and increasingly managed in the name of social mobility and economic progress. Yet at the same time people persisted in inventing a kinship with a natural world understood to be in some way authentic, primeval, and immanent — as if trying to make sense where there was none.

Disney's *Filming Nature's Mysteries* opens by talking about the long history of animal photography — something the film says has been going on "since the invention of the camera ...and that will continue for as long as man is fascinated by nature." The pictorial landscape is far older than the camera, of course. But by the 1950s Disney was able to invest the depiction of landscape with a new urgency: it was now necessary to "get wildlife on film before civilization could wipe them out." That not only takes technical expertise. It also requires an understanding of what the project is about in the first place. For Disney, nature movies (like most of his work) were made both to educate and to entertain. It was as if, in living our modern urban lives, we had few other ways to experience nature, to "understand her mysteries." Disney wildlife movies would explain, map out, *show* nature for all to enjoy. Nature was worth learning about, worth saving from the encroachment of civilization — whatever that might be taken to mean.

Science and tourism had drawn maps of nature long before Walt Disney. Movies, television, and amateur photography introduced a new populist imperative for nature: it had to entertain. How do you film the environment of a fish? If you're Disney, you look for what's both unusual and familiar. You film some fish chasing each other and have the voiceover comment: "Here, drama is everywhere. These waters have their full share of life's problems and conflicts." Nature in these movies is both impossibly close and impossibly distant, and perhaps that is our fascination with it.

From Cry of the Wild, *a 1971 film by the National Film Board of Canada. Popular culture has invested the wolf with the most savage and barbaric characteristics.*

Looking at Animals

"The cameras probe the secrets of life..."
"For the first time on the screen, the mysteries of ants are revealed..."
"Our search also leads to the beauties of nature's garden..."

What is this search about? What are they trying to get on film? The object of all this scrutiny of nature is first of all the land itself. Western (that is, North Atlantic) cultural history is full of examples of a desire to live in a world of nature uncontaminated by human presence. Yet this quest for paradise — which in the history of colonialism has placed aboriginal peoples in an impossible position — is not just a negation of modern civilization. It is also a positive reaching out to embrace the other animals that inhabit this Earth. But what is it that we see when we look across the abyss of ignorance and suspicion and yearning that separates human from wolf or elephant or cow? What do animals mean in human culture?

English writer John Berger points out that, historically, animals interceded between humans and our biological origins. They worked and played alongside us on the land. Mortal and immortal, like us and unlike us, animals have until very recently been at the centre of our world. Human language is saturated with their presence, and in traditional cultures animal fables continue to be a central form of expression. Animals led lives parallel to and yet distinct from ours. This dual relationship made for a companionship like no other.

In the last hundred years, however, animals have been slowly excised from the everyday lives of most Westerners, an excision recorded in the subsequent proliferation of zoos and animal toys and animal movies. No longer our companions or workmates — except non-autonomously as pets — animals seem to have no more secrets to tell us about ourselves. They've been reduced to machines devoid of spirit, to everything that is strictly biological in the world. Indeed, industrial animal husbandry and scientific research construct animals as *less* than machines. They're merely components of production. We cannot be fond of the animals we eat from the supermarket, for example, any more than most of us today can eat the animals we are fond of. This is a history that parallels that of science and capitalism. Over the past two hundred years the natural world has been inscribed with the logic of production and consumption, and, conversely, human social distinctions are now understood to mirror the diversity of species found in the non-human world.

If we ponder the recent history of the wildlife movie industry — everything from Walt Disney's early work through *Mutual of Omaha's Wild Kingdom* and Lorne Greene's not-so-*New Wilderness*, to the more science-oriented traditions of National Geographic and CBC-TV's *The Nature of Things* — we see a record of the slow recession of animals into history. There they begin to merge with all that we call primitive in the world: primal landscapes, indigenous peoples, and a displaced human biology. The archaic becomes synonymous with everything we understand to be lower on the evolutionary ladder. The wolf is a good example of this. As a figure of the primitive, the wolf has been invested with the most savage and barbarian characteristics. It stands in opposition to everything that is meant by civilization. Unlike modern *homo sapiens, canis lupus* fills an appropriate niche in its environment, rather than seizing a thousand.

The wolf has been shunted to the margin physically as well as culturally. For decades, many Canadian provinces and U.S. states had official wolf eradication programs. Other predator species, like the coyote and bear, are under similar pressure in the western United States. With the encouragement of trophy hunters and developers, wolf eradication programs were government policy in British Columbia until late 1988, and unofficial wolf kills appear to be on the increase. These programs are carried out through a bounty system, aerial gunning safaris, and bait laced with strychnine, cyanide, and "1080" (sodium monofluoroacetate, a nerve toxin). The poison bait ends up killing many other species as well. The provincial government of British Columbia has even argued that wolf control programs preserve forests; its logic is that the government cannot justify "the retention of unlogged caribou habitat if, because of wolf predation, caribou cannot use, or underutilize the habitat currently being reserved from logging."

I bring up the wolf not so that I can argue for the preservation of yet another wildlife species, although in the short term we'll have to rely on such

rearguard tactics. Instead I want to signal that the wolf lives at one extreme of human contact with the natural world; pets live at the other. In the territory between dwell the remaining thousands of animal species, each grafted with a different human value, from the exotic to the useful, from the pestiferous to the ignored. Most wildlife movies focus on the larger, "higher" mammals and pay little attention to invertebrates or plants. Moreover, the dramatic conventions of TV insist on individual protagonists to carry the story along, usually ignoring serious discussion of animals-in-community, or habitat.

In part, wildlife films are a record of lost species, a memento of times and places we once have felt close to in the natural world. But why are these things important to us? Perhaps it is because we feel ourselves to be also out there in the world, beyond our skins if not beyond our culture. For all the clumsiness and naiveté of the probing cameras, these movies reveal a deep desire simply to be in the world. That "lifeforce" in the core of the apple that Disney tried so hard to film must finally be the life in our own human bodies, which are inextricably connected to the rest of the biophysical world.

When Disney moved the laboratory into the orchard, the orchard was a changed one. It was changed first of all by the techniques of industrial agriculture in the postwar years. It was also changed by the eye itself, for as the eye casts itself out over the earth, it constructs the landscape as it goes. But the landscape we make images of changes from one moment to another. In other words, human culture, as well as human biology, intervenes in our experience of nature. Part of our cultural heritage in the West is a deep belief that humans are the source of all value and meaning in the world, that we are the Earth's only subjects. Since the advent of science, the "exterior" world of reality has been disenchanted, purged of its spirit.

But as much as that is the dominant tradition in modern industrial societies, there remain everywhere vibrant cultural traditions that still imagine (and experience) the world as place to live rather than space to colonize. We articulate those traditions above all in popular cultural forms. In our snapshots and movies and music, and in the way we tell fishing stories or plant our gardens (to say nothing of our rituals), we try to speak of a reciprocal experience of an Earth understood to be animated, even sacred.

One of the ways human societies have always done this is to transfer human behaviours and motivations onto the natural world: the act of anthropomorphism. Anthropomorphism can be a radical strategy in a culture like our own, where the frontier between the human and non-human is well policed, where nature is usually talked about as a field of objects to be observed and managed for the "public good." Yet domination of our natural neighbours has perhaps had its price in alienation and loneliness as a species. It is also becoming clear that the Earth resists all our attempts to control it.

Humans have always invented ways to form an interactive relationship with the Earth, often by endowing that Earth with the qualities of the only subjects we know — ourselves. Nature and wildlife movies (and particularly the early work of Walt Disney) are thus one expression of a long human tradition of investing the natural world with meaning. Those meanings are as often as not laden with sexism, colonialism, and species hierarchy — witness the number of cars, tractors, and military machines named after animals. Still, the anthropomorphic gesture is a means of making the world beyond the garden wall intelligible to us, and of breaking down the ideology of "humanity vs. nature."

Bear Country and *Beaver Valley* are good examples of Disney's early work in the genre. Made in the early 1950s, they are stories of human families living like bears and beavers in a North American Arcadia. Here, we're told, "Nature is the dramatist." Mother bear looks after the youngsters while papa bear hunts for food. The cubs are taught to be obedient — to stay out of trouble or they'll get sent to the den to bed. Meanwhile, when he's out fishing papa bear greets lordly moose, timid deer, and Mrs. Wren opening her family's summer cottage. Over in Beaver Valley life is much the same, only in that society beavers seem to be mired in wage labour while otters practise primitive communism. Beavers are solid (Canadian) citizens who build solid houses. And not only houses, but dams, canals, bridges, and other engineering works. They're helped in this by crayfish bulldozers. Well-mannered and unassuming, the beavers disapprove of the carefree otters — vagabonds who sleep anywhere and have no respect for honest work. All of the animals in the valley are heterosexual, of course, and observe marriage — with celebrations and proper honeymoon protocol.

The stories are punctuated with a Disney trademark that persists from his cartoons: orchestrated vignettes of organic rhythms. Mud gurgles, frogs croak, blooms bloom. Grebes stage pageants, pelicans perform classical ballets. It's enthralling; the world hums and cooks to a human choreography and middlebrow orchestral music. Just like in the cartoons — the most pointedly anthropomorphic of Disney's work — these humanized animals are able to break all kinds of sexual and bodily taboos. They are always farting or falling on their asses.

The barnyard was the scene of Walt Disney's first cartoons, whose subjects were mice, cows, ducks, and dogs. The domestication of animals is an ancient anthropomorphic act. It is the transformation of the non-human into human surrogates. Disney's move from the U.S. Midwest to Los Angeles was

part of a rural migration that took place throughout North America in the first half of the twentieth century. His animal cartoons and nature movies must be understood in the context of the reorientation of the North American economy away from farming and its culture.

In the 1960s and 1970s, scientific (and pseudoscientific) understandings of animal behaviour began to supplant the anthropomorphism that for so long had characterized popular representations of nature. Pop anthropologists such as Desmond Morris and Robert Ardrey used animal studies to excuse contemporary social organization. This new tradition dismissed Disney's beaver families and cricket orchestras as being "subjective." Instead the new science taught us that animal "guards" aggressively patrol well-marked territories; that the dominant male fights with other males to control the clan and its women; that the animal kingdom is divided into predator and prey.

For the moment, it will be enough to refute these last pronouncements in passing. Feminist anthropologists and others have pointed out that terms like aggression, dominance, and instinct have been used by scientists in so many different contexts that they have lost all meaning. More recently still, many biologists have argued that it might be more useful to look for paradigms of co-operation and symbiosis in nature; and sure enough, they are there to be found. If we think of boundaries in experiential rather than visual terms — or even rather than in the legal terms of property — territoriality comes to mean something quite different too. Current biological theory suggests that animals sense themselves to be truly part of the larger world; their selves extend beyond their skins to encompass an invisible region that includes the whole integrated web of relationships they're part of.

Looked at again in this light, Disney's wildlife movies take on new interest. At least in Beaver Valley the world looks habitable. Compare that to the sterile and militaristic baboon societies portrayed in the science documentaries of later years. In *One Day in Teton Marsh*, made by the Disney Studios in 1966, we learn that animals aren't just a bundle of DNA — they're social beings that need to hang around with friends. In Disney's work the otter is often chosen as the prime social vertebrate. When the otter protagonist of this story loses his friends in a landslide, he becomes lonely, "and loneliness can destroy the will to live." Without others of his kind he is out of his world. Eventually, being the hippy that he is, the otter wanders around, hooks up with a new network of friends, and is able to resume his hunting and gathering.

Humans were never visually present in the natural settings of Disney's early movies. But then, with such familiar, utopian stories, we don't need to be. Despite the otters' respect for private property and the sexual division of labour, the world of Teton Marsh is at least a world full of life, a dwelling-place. To the

extent that films like this sum up our relations with nature, they are about us. But more than that, Disney's early work anticipated some of the debates in the natural sciences today. Among biologists there is a countertradition to the usual arguments about territory and boundaries. Scientists now argue that the central tenet of ecology — that everything in the world is interrelated — is to be taken seriously, not casually. It seems that for science itself, there is no longer any certainty about where to draw the lines between one organism and another, about whether the living and non-living worlds are truly distinct, about whether we can study humans outside of the context of the natural world we live in. Organism-and-environment are now thought of as a unity. Despite their juvenile anthropomorphism — or maybe because of it — Disney's early movies lie within this tradition.

From Pastoralism to Scientism

The dominant trend in nature movies in both Canada and the United States has always been conservationism — the idea that the natural world should be used wisely or it won't last. Walt Disney's work of the 1950s was in many ways a departure from this trend. By foregrounding the anthropomorphic character of our relations with the natural world, his movies emphasized the *experience* of the non-human (as problematic as that might be) over the use of it.

Disney's early work had coincided with a momentous change in human demography. In the postwar years, rural cultures were in rapid decline as large sectors of the population resettled in urban areas. Nature was newly out of reach for most North Americans. Disney's wildlife movies were one way the culture reintroduced the idea of nature into everyday life, in what were obviously very changed social circumstances. Like Disneyland, or even the long tradition of the suburb with its extensive lawns, the movies functioned as a bucolic idyll for a popular culture saturated with images of technology and the domination of nature.

It was not only society that was changing. The land itself was being extensively developed — "harnessed" was the word most often used in government and corporate publicity — not the least by new technologies of transportation and communication. The conservationist movement, which seemed to be in decline in the North America of the 1950s, had re-emerged by the 1960s, ironically reinvigorated by two decades of technological expansion. In the public imagination, it had once again become necessary to protect and save the Earth and its resources.

The difference between *showing* the animals and *saving* them is a telling one. A charming fable produced by the National Film Board of Canada (NFB) in 1960 gives a sense of this transition. *Beaver Dam* tells the story of two farm

boys who discover a new beaver dam downstream from a hayfield ready for harvest. These beavers are cut from Disney cloth; they sing a "work song" as they go about their earnest industry:

Work will keep you merry
Work will keep you well
So don't be in a tizzy
Just keep busy, you'll feel swell

When Dad notices the flooded field, he tells the boys he's afraid the beavers will have to be killed. While their old man hides on the bank with his rifle, the boys alert the beavers and break open the dam. The field dries out and the hay is saved. After the harvest, the beavers rebuild the dam and at the end of the movie the boys go swimming in the restored pond.

The presence of humans in this story signals the change. Conflict has "inevitably" developed over the presence of a rudimentary technology — the plough — and its effects on nature. Two children step into the breach and heal the wound. The world is restored to a garden where humans and animals can live in harmony. What is important here is that it is humans who take the initiative. By saving the beavers the boys help us all re-establish what we understand to be the proper constitution of the natural world. We also, in this parable at least, invent an ultimately non-intrusive role for technology.

As the effects of the immense physical development of the postwar years began to be felt at large in popular culture, it seems that Disney's vision became too limited. The human role in the natural world (for good or bad) could no longer be ignored. The Disney studios also took part in this change, most obviously in *Hang Your Hat on the Wind*, a 1969 fable in which a kindly Franciscan missionary who runs an animal shelter helps a Navajo shepherd boy find a lost white colt. The padre and his charge spot the napping Chicano rustlers from a pesticide plane and get some tourists to help chase the bad guys in dune buggies. In the end the colt is returned to its owner (a blond California woman who drives a convertible) and peace is restored to what is imagined — to put it in more contemporary terms — to be the ecological society of the Navajo.

The seminal body of work in the conservationist tradition is probably *Mutual of Omaha's Wild Kingdom*. Begun in 1963, the show was still being produced in 1990 and has been syndicated in forty countries. It was originally hosted by zoologist Marlin Perkins, the director of the St. Louis Zoo and host of an early-1950s TV show, *Zoo Parade*, about animal behaviour. At the beginning of each

A swift fox reintroduction program on the Canadian prairies. "Drug-and-tag" TV shows like Wild Kingdom *justify their action-packed plots by promoting biological research.*

program Perkins sat in a leather armchair in his library and talked about saving animals. Thanks to his zoological colleagues and the valiant efforts of professional photographers, Perkins would report, scores of species had been rescued from the brink of extinction.

On *Wild Kingdom* animals had to be captured before they could be saved. The show's strict formula (known in the industry as a "drug-and-tag movie") involved chasing animals around a savannah in a Land Rover long enough to get some action shots. Tranquillized and caged, the beasts were hauled off to be studied in the laboratory, where if all went well they would reproduce. The argument that Perkins, Jim Fowler, and other TV biologists made is that because of the incursions of human civilization, the natural environment could no longer support wild animals in an efficient way. Human expertise — which turned out to be a tangle of medical technology — would be necessary for the survival of wildlife.

The *Mutual of Omaha* commercials that punctuate the show emphasize this point. One tells how the insurance company has not only saved a disabled man from certain death but also made his life worth living again by buying him a remote-controlled TV and a wheelchair van. (It was in a car accident that the man was crippled in the first place.)

You might say that good intentions are the only thing that separates *Wild Kingdom* from Buffalo Bill Cody's Wild West Show. As a scout and sharpshooter in the second half of the nineteenth century, Cody had helped open the U.S. shortgrass prairie to settlement by whites. White agrarian civilization was thought to be a more efficient use of the land than the "wasteful" nomadic traditions of the various aboriginal civilizations of the plains. In his later years Cody staged a travelling Wild West Show celebrating the victory of farmer and

cowboy over bison and Indian. In the circus tents that toured Europe the tamed American wilderness lived on, just as today the same tawdry and ambivalent story of civilization is retold in TV wildlife shows.

Perkins always insisted he was telling "the animals' side of the story" on *Wild Kingdom*. In an interview with the Canadian Broadcasting Corporation (CBC) program *The 5th Estate* in 1982, he explained the methods of TV conservationism:

The philosophy is educational, you see. But if you don't have a little entertainment and action, you don't get the opportunity to tell your story. We have excellent wildlife photographers. Sometimes it takes weeks to get something on film.... We never predetermine the exact script. Our footage is taken in the wild kingdom itself.

What Perkins wouldn't talk to the CBC about was the wildlife photography industry. In the salad days of the 1960s and 1970s, several U.S. and Canadian TV production companies worked full time on the many wildlife shows that followed Wild Kingdom. Most outdoor footage was shot in Florida with trained animals and the assistance of the Florida Freshwater Game Commission (which rightly saw no contradiction of their mandate). Like doctors, lawyers, or horticulturists, wildlife photographers belong to professional societies and go to conventions where film footage is bought and sold along with animals for use in movies, zoos, game farms, and private collections. The films made with this footage often differ little in their formal conventions from the Disney work. Shots and sequences are worked out beforehand on story-boards similar to those used in filming television dramas. Whatever research the biologists might be doing off camera, what ends up in the programs teaches us little about animals.

Since *Wild Kingdom* began, other conservation shows have developed new techniques and themes. Sound production has become more sophisticated, and a show with a decent budget might use up to twenty-four tracks to record wildlife, narration, music, and sound effects. *Wild Wild World of Animals*, produced by Time-Life from 1973 to 1976, is a good example of more recent work that is still trapped in the contradictory logic of wildlife conservation. Its mission is to document the rescue of animals from human recklessness. (It's as if we set out to destroy other species in order to save them.)

An episode on the Okefenokee Swamp in the southern United States attempts to lay out the basics of ecological science. The swamp, we learn, "can take care of itself." Forest fires, once the bane of conservation efforts, now "serve a definite purpose." Humans are unwelcome here. Even our presence in the production of the show is denied by the narrator's syntax: "These are pitcher plants. One *has been slit open* to reveal the downward-pointing hairs which trap the insect." Too destructive of natural systems, the narrator banishes

us from the swamp: "Like spanish moss, which supports itself and exists apart from its surroundings... Okefenokee Swamp is a wilderness in a capsule, existing by, and of, itself."

These are not the lessons of ecology. No life exists apart from its surroundings. The myth of the self-supporting organism is an appendage of the ideologies of the frontier and the free market, in which it's every "man" for himself.

Typically there are two roles for humans in the conservation TV shows. Either we are destroyers of nature — developers, poachers, careless campers — or we are saviours of nature — scientists intervening to save an endangered species or citizens organizing to create a park. Sometimes, most of the time in fact, we're both. Likewise, there have been two dominant models for land use since World War II: total development or total preservation.

The immediate vicinity of most national parks is a good illustration of this. Many park borders are lined with everything high-brow culture considers the most hideous manifestations of humankind: motel strips and gas stations, hydroelectric projects, mining and timber operations, fast food outlets. Many parks and wild areas were created as part of a trade-off between conservation organizations and industry. A dam here for a grove there. This is institutionalized in many urban situations where developers who want to build a skyscraper are required to build its "opposite" on an adjacent lot — a park (or, increasingly, the mere gesture of a few trees). Conversely, when wilderness areas are built, existing human settlements must be bulldozed, not because they're too indecorous, but because the boundary between the "human" and the "natural" must be well marked.

Over the past thirty years, TV conservationism has continued to document nature, enumerating the decline of this or that species, presenting schemes for crisis management, and assuring us that aggression and the notion of private property have a natural origin. Yet increasingly these programs have also begun to critique the doctrine of economic growth. Perhaps they've been forced into this new position by the collision of the conservation ethic with rural lands increasingly burdened with shopping malls and leisure developments. On an episode of *New Wilderness* from the mid-1980s, host Lorne Greene inveighed against hydroelectric projects in Tasmania that are threatening the habitat of the Tasmanian devil. Yet on the same program Greene presented a brief report — a "tip of the hat," he says — on the saving of the California condor. The young birds of prey are now being bred in the lab, "well away from the rigours of the outdoors." We watch scientists feed them with eye-droppers. Another success!

The suggestion in the Tasmanian case seems to be that human civilization should not encroach on the territory of the natural world; nor should the natural world move too far into human territory, like the Tasmanian devils who

"steal" from farmers. But, as in California, the laboratory seems to be a special place, a kind of demilitarized zone where the rules are in suspension, or at least in the human favour. Perhaps the lab is the new wilderness itself. If so, it is a wilderness in which the natural and the human are inextricably bound up with technology. In the U.S. films of the past thirty years — think not only of *Wild Kingdom*, but of the National Geographic series, *Wild America*, and *Nature* — the focus of the camera has shifted from the *face* of the racoon or shark or what have you to the hypodermic needle or submarine or helicopter — in other words, onto the technics that intervene in rescuing nature on our behalf. This work is able to sound an alarm about the developing crisis at the same time that it recuperates conservationism within the most traditional kind of scientific practice.

Humans have always "intervened" in nature, but by the early 1960s our relations with the natural world were broadly understood to be in crisis. From the mid-nineteenth century on, a great many popular social movements had mobilized in response to an accelerating rate of species extinction and displacement. The urban parks movement, wilderness preservationism, communitarian socialism, Romanticism, agrarian populism: as much as these anti-modern movements developed different approaches to the cult of progress and the domination of nature in North America, they were all responses to the industrialization of the land.

Conservationism had its beginnings in the same period. Land was recognized as a limited resource that must be used efficiently. The movement's initial objects of concern were buildings and natural areas; protection of animals, trails, and rural land came later. As it became articulated by Gifford Pinchot and other U.S. agronomists and industrialists of the early twentieth century, conservation was not at all opposed to the production economy. Nature and its products were commodities, subject to supply and demand, scarcity and abundance, and constantly in need of management. As an industrial strategy, conservationism is deeply intertwined with the modern Western world-view.

Today we're surrounded by the shortcomings of conservationism as a political strategy. Despite a century or more of hard work by lots of well-meaning people, the Ark is sinking. The complex and diverse organism of the Earth that has taken millennia to develop is in steady decline. As species after species disappears from the planet forever, complex relationships are simplified and life of all kinds becomes more vulnerable. Even on its own limited terms, the conservation movement has been a dismal failure.

By the 1960s this failure was obvious to many critics and conservationism began to be reshaped. The modern environmentalist movement that mobilized itself over the following twenty years rearticulated conservationism in a way that drew from both ethical and scientific traditions while often compromising its opposition to industrialism.

The environmental movement arose at a moment when North American economies were trying to find ways to convert an immense military apparatus into "peaceful" enterprises — industries, government agencies, and universities that produced not only commodities for the "good life," but also ideas about the relation of science and consumer society to the natural world. Not many years after the bombing of Nagasaki and Hiroshima, for example, the U.S. government began talking about "atoms for peace." In the late 1950s it proposed Project Plowshares, a scheme to use nuclear explosions to redirect rivers, drill for natural gas, move mountains, and dig harbours.

Sea Stories

Since the mid-1970s especially, the place of science and technology in coming to terms with the natural world has preoccupied most nature and wildlife movies. Two influential nature programs document the shift from animals to technics.

One of those programs had its beginnings in France. Jacques-Yves Cousteau launched his career as a broadcaster by making movies about aqualungs, an underwater exploration device he invented in the 1930s. By 1951 he had outfitted his first ship, the *Calypso*, with funds from the Direction générale du cinéma français, the French navy, and the ministry of education. Not long after, he began a financial association with the National Geographic Society of the United States.

The diverse funding for Cousteau's expeditions gives us some clues about the hybrid nature of the documentaries. Cousteau talks about his work as "diving for science." For each voyage, he assembles a technical research team under the auspices of his Office français de recherches sous-marines. The scientific purpose of the voyages is never all that clear. The crew do basic field work, such as collecting specimens and observing animals, but Cousteau spends a large part of the edited programs on what can loosely be called sightseeing: boating, diving, and underwater photography. This arrangement — travelogue cum scientific documentary — became the model taken up by National Geographic and other filmmakers in the 1960s and after.

Cries from the Deep, a 1981 movie about the North Atlantic fishery co-produced with the National Film Board of Canada, is a good example. Like most Cousteau movies, things begin in a relaxed way, with the *Calypso* and its crew roaming around the Gulf of St. Lawrence, periodically stopping to lower camera equipment into the sea or to disembark and talk to people in the outport

The dominant tradition in nature movies is conservationism, a political movement with few victories in its one hundred-year history.

Industrial fishing practices have decimated marine communities in most of the world's oceans.

communities. The discussion lurches from nineteenth-century whaling economies to cod habitat to the relation between icebergs and the geography of the sea floor.

By and by the diving crew notices that they are seeing very few fish, even among the shipwrecks that typically function as both marine feeding areas and stage sets for underwater photography. Almost reluctantly Cousteau raises the question of overfishing. He does this by showing different methods of catching fish: line fishing, jigging, the "squid pump," drift nets, and trawling.

We learn that by far the method most destructive of marine habitat is trawling, a massive enterprise conducted in the Grand Banks area, off the coast of Newfoundland, by ships from both Atlantic and Pacific nations. The film shows us the truly industrial operation of the trawlers — including the conveyer belts and assembly lines that help haul fish out of the sea in vast nets (some of them 150 kilometres long), and the on-board equipment that processes and freezes the fish for trans-shipment. Fully 50 per cent of the catch is of species that are unmarketable; they are discarded, dead, a "prodigious waste," Cousteau tells us. While the film doesn't discuss the global economy that encourages industrial fishing, it does succeed in conveying, on a visceral level, its character.

Most discussions of fish methods and quotas mask the problem of overfishing in talk of interspecies conflict: between whale and caplin, whale and human, lobster and seal. The offshore fishery has been seriously (and perhaps irrecoverably) depleted by trawlers in recent years. The industry has driven large sea mammals close to shore where they compete with inshore fishers for dwindling numbers of fish. Grey seals "raid" lobster habitat, and whales get caught in driftnets, often destroying them. At the time *Cries from the Deep* was made, the Canadian government, in a particularly obtuse response to the crisis, was hiring crews to shoot seals thought to be endangering fish quotas. The cull has since been discontinued, and the government is now researching biological control of the seal population.

The issue is not surprisingly more complicated than it appears at first. For centuries, seal populations off the Newfoundland coast have been controlled by a spring hunt. Local hunters clubbed the pups of these harp and hooded seals, called whitecoats and bluebacks respectively, on ice floes not far from shore. The seal carcasses were used for clothing, tools, and food. As the hunt was capitalized, an international luxury fur industry grew up based on rifle hunting from large ships. Greenpeace successfully targeted this hunt for "baby" seals in the early 1980s and the market in seal furs subsequently collapsed. Yet after opposition from aboriginal groups who argued that the hunt is part of their traditional economy, Greenpeace retreated, even admitting that its campaign had been a mistake. The hunt has since resumed its place in the local subsistence economy,

although the Canadian government no longer permits the use of large vessels or the hunting of pups.

The resulting increase in seal populations has had an effect on the fishery well beyond the ability of seals to eat up commercial fish. At least one species of seal is an intermediate host for a worm that attacks cod. Yet there is one other factor to consider when puzzling through this vortex of changes, and that is the effect of pollution from the Great Lakes-St. Lawrence watershed. As *Cries in the Deep* tells us, the small beluga whales of the St. Lawrence River, to name only one species, are now "technically extinct." The remaining 350 belugas are sterile, due to upstream pollution (mainly aluminium smelting in the Saguenay and Akwesasne regions), although the movie does not name the source of the problem.

As with other Cousteau films, the filmmakers organize the narrative in *Cries from the Deep* using shots of divers entering and leaving the water, followed by a brief chat about their findings with Captain Cousteau as they peel off wetsuits and warm up on board the ship. The other device is a recurrent helicopter shot (the *Calypso* has a landing pad) that situates the ship for us in its changing seascape. Like Disney's work, Cousteau's movies are marked by an impulse to beautify the natural world. *Cries from the Deep* offers several long and rhapsodic shots of jellyfish. At one point the narrator speaks of the beauty of this "theatre of the deep" — not far off the mark, considering the pivotal role in these movies of music and lighting, and the often flamboyant *mise-en-scène*.

Cousteau's nature movies emerged from a very particular cultural milieu. Cousteau is perhaps above all a sailor. He likes ships and old yarns as much as the technical knowledge his expeditions are supposed to collect. Cousteau's persona as a *bon vivant* helps carry the narrative of these movies. It is the collective life on board the ship, in fact — the meals, the discussions of which wine to bring up from the cellar, the endless stories and jokes told round the dining table — that endears us to the life below the surface of the ocean. This sociability among humans, which on this side of the Atlantic seems somehow "foreign," is rarely sensed in North American nature movies, which go out of their way to present themselves as scientific and objective. Nonetheless, we can say without exaggeration that Cousteau opened up a frontier, and a landscape. His work presented some of the first undersea photography to appear on television, and his style became an industry norm.

National Geographic

The National Geographic Society released its first wildlife film, *Miss Jane Goodall and the Wild Chimpanzees,* in 1965. The movie focused on Goodall and her research on speech and tool use among chimpanzees in Africa. In this early

movie the Disney tradition was still strong: all the animals had names, and the movie was edited to ensure plenty of drama and comedy. By 1967 those traditions had apparently been repudiated. In *Grizzly!,* a drug-and-tag classic, the focus shifted almost entirely away from animals and onto their human saviours. The plot was driven by the work of wildlife biologists. For perhaps the first time in a wildlife documentary,the filmmakers decided to foreground photographic technology. We see them shooting the movie. This technique not only gave an air of objectivity to both movie and field work but also connected the film to the public image of the National Geographic Society. Ever since its founding in 1888, the organization has funded the research of numerous scientists (among them Jane Goodall and Dian Fossey); but it is best known for its photographic documentation of global exploration and "exotic" cultures, particularly in *National Geographic* magazine. The style of *Grizzly!* made it clear that this was as much a photographic expedition as a scientific study.

The Society's first TV special, aired in 1963, was about the ascent of Everest by U.S. climbers. The program's mission, in the words of its narrator, was "to record the first moving pictures ever taken from the summit of Everest." The Society returned to Everest a few years later to send *live* pictures of the summit into North American homes by satellite. Since then, National Geographic film crews have roamed the world in an incessant drive to "uncover the secrets of the past and present." The subjects of their work range from insects to alligators, whales, circuses, railroads, ocean liners, computers, circuses, and gold rushes — as well as the ever-popular search for the lost *Titanic.* Yet despite their broad interests and often cool, scientific airs, the Society's filmmakers created adventure movies that fit squarely in the photosafari tradition of Osa and Martin Johnson. Nature in these films becomes an object of a much larger investigation of the world that goes under many names, among them science, colonialism, and tourism.

A look at some of the animal movies of the past twenty years offers a sense of how this works. The voiceover of the video *White Wolf* (1989) goes out of its way to demystify wolves, denouncing their popular image as "vicious predators." The filmmakers interview wildlife biologists and show them taking their own film of wolves — cameras in front of cameras. On camera the biologists speculate about wolf language and child rearing, play, security, and feeding, all in a way that helps connect wolf society to the taiga, which forms the scenic backdrop of most of the shots. Yet the structure of the movie undercuts the script. The tension of the show is a *dramatic* tension, organized around an edited hunting episode rather than the ideas set out by the biologists. Its structure reproduces the clichés and "typical" behaviours rampant in the wildlife genre right through the twentieth century.

In photosafari movies, nature becomes an object of a much larger investigation of the world that goes under many names, among them science, colonialism, and tourism.

The Grizzlies (1987) is an ambitious film that attempts to address both the cultural and ecological aspects of one of the largest surviving mammals in North America. Narrated by actor Peter Coyote, the program is set principally in Alaska, a state long associated in the American imagination with the idea of wilderness. It opens with a discussion of the place of bears in human, especially aboriginal, history, about how the grizzly is "our elder brother," "our spirit helper" who taught us what to eat and how to survive. The film explains some of the work of wildlife managers — habitat studies, population control — that has been necessitated by conflicts with human activities. Like most National Geographic projects, the movie quietly backs away from political issues. For example, it refers to economic development of the grizzly habitat ominously,

without focusing on specifics. It fails to mention the petroleum industry — the paramount disruptive force in the Alaskan ecosystem. The one conflict that does get considerable attention is the clash between recreation and bear habitat. But the film sums up that situation by documenting "a daring experiment": an attempt by tour organizers to cram sport fishers and adventure photographers onto the same narrow river delta where grizzlies are feeding on migrating salmon. The filmmakers wonder aloud how close these outdoor enthusiasts can get before being attacked. The narrator asks somewhat facilely, "Can Man and bear coexist?" If we are expected to understand the conflict in this way, the answer is clearly no.

But in the program's coda the narrator reformulates the question. "In the old stories," he says, "the bear taught humans how to survive. In this changing world, it seems the secret of how the grizzly will survive is known only to humans." That "secret" might well be known, but the National Geographic Society has cloaked it in its own old stories about the irreconcilable conflict between humankind and the natural world. While this film gestures towards other cultural possibilities, its cynical and accommodationist politics carries the message that the industrialization of wild lands is inevitable; it's only a matter of managing the bears so they'll be able to survive it. Whether or not *we* will survive continued industrialization is a question never considered.

Many of the National Geographic films give science a bad name. They leap over the species barrier just long enough to conclude that nature too is ruled by despots and that only the fittest creatures will survive. Here is the voiceover from a lurid trailer advertising *Africa's Stolen River* (1989):

Beneath this stark façade, the Savuti region of Southern Africa is a land of violent extremes. Savage storms erupt without warning and set the night ablaze. Huge dust clouds loom like an inescapable shroud. This is a world ruled by the sun, the cruel relentless force that binds predator to prey together in a desperate search for water.

But now the river is disappearing. Nature has cut the Savuti's only lifeline. Now death becomes nature's constant companion, and the quest for survival the all-consuming fact of life. Join National Geographic in search of... Africa's Stolen River.

Or consider this trailer for a documentary on archaeological work in Africa. As the film cuts between shots of the Olduvai Gorge and a science lab, the narrator invites us to see a video whose subject, curiously, remains unspoken:

It is the greatest detective story known to man. It springs from a curiosity shared by people everywhere. To understand where we came from and how we got here. Scientists the world over search for the pieces of the puzzle, and then the newest technology is focused

on this most ancient of mysteries. We even study our own simian cousins for clues to our own primitive past.

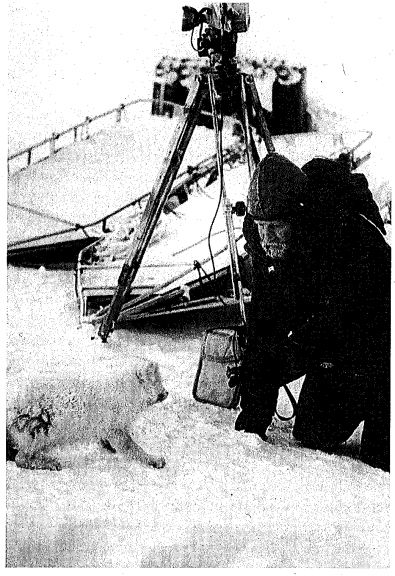
Science Journalism

There is another television tradition that discusses science, and its history, with more honesty and intelligence. By the mid-1960s, basic scientific knowledge about the natural world began to work its way into the scripts of some nature programs. Here at last were the things we never learned from Disney: the diet of a mouse, for example, or the habitat requirements of caribou or sycamore, the sexual preferences of a stickleback, or the place of mosquitos in the food web. The increasingly rich diversity of subject-matter ranged far beyond the anthropomorphic or drug-and-tag stylings that had dominated the genre. In essence this represented a shift from nature to science programming, with all the emphasis those words imply.

But only a few programs have been able to present that kind of research in any larger context, speculating about the social implications of science, perhaps, or acknowledging other ways of knowing the world. The most prominent of these programs are *Nova* (produced by WGBH in Boston) and *The Nature of Things* (CBC), both of them weekly series that examine a broad range of technical and social issues.

The diversity of the nature films that have been produced since the late 1960s reflects the diverse origins of ecology, as well as changes in the way natural science has been carried out over the course of the twentieth century. I can give only the barest outline of those changes here. Over the past century, science has slowly undergone a cultural revolution of sorts. This is especially so in biology, where the retreat from rationalism was most marked and the mechanistic and materialistic biases of science became widely questioned from within. The biocentric (or ecological) world-view that emerged from within science has had an impact far beyond it. One reason the mass media have been able to take up environmental issues over the past thirty years is because those issues were understood to be "scientific" — quantifiable, reasonable, and perhaps above all articulated by scientists working in official institutions. At the same time non-scientific gestures — such as Romanticism, spiritualism, or anthropomorphism — have been de-emphasized or actively attacked. Ecological ideas were now backed by a legitimate science, ecology, so to understand humans as animals it was no longer necessary (and no longer desirable, its proponents would have argued) to develop an ethic.

Anthropomorphism has been a specific target of science journalism, especially on TV. The attack initially arose from the groundbreaking work in animal behaviour that was carried on during the late 1950s and early 1960s. Field



"The Kingdom of the Ice Bear," a mid-1980s mini-series about the Arctic, on Nature. *By the late 1960s, basic scientific knowledge about the non-human world had begun to work its way into the scripts of some nature shows.*

observations of primates and other mammals — in part an attempt to get the biological sciences out of the laboratory — sought another way of understanding our long history of relations with animals. The seminal work in this tradition was Konrad Lorenz's 1966 book, *On Aggression*. The recognition of the animal roots of human society led Lorenz, an Austrian biologist, to conclude that aggression could only be controlled by cultural means. His book was intended as a call for non-violence and an end to war. Ironically, as it was presented in countless TV programs and newspaper articles of the time, Lorenz's work was misinterpreted as a justification of violence and aggression. For some programming, this was an acceptable theory of behaviour. In others, it was condemned, and Lorenz himself was denounced as a Nazi.

Necessary or not, however, ecology has an ethics. It is derived in part from the close association the science has had with the social movement I call environmentalism. But what is now generally called environmental ethics has earlier beginnings. The science of ecology emerged from two distinct traditions: holistic (or contextual) biology, with roots in Germany and England; and energy economics, a sub-discipline with some currency in the United States. The biological tradition developed the idea of the ecosystem, and in a sentiment new to science, came to regard human action with regret. Energy economists drew similar conclusions from the Second Law of Thermodynamics, which states that energy dissipates. If biological equilibrium is to be maintained, energy economists argued, drastic changes to internal energy flows must be avoided.

By the 1970s, these two strains of ecology combined into a unique science that, in historian Anna Bramwell's words, fused "an intensely conservative moral and cultural critique with the full apparatus of quantitative argument." Ecology is thus uniquely both a descriptive and a normative science. It can not only tell us how to do something in the world but also tell us what to do and whether. As conservationism has increasingly come to be seen in North Atlantic societies as an inadequate way of perceiving and organizing the natural world, ecology has emerged as the dominant natural philosophy. It has also become, Bramwell argues, a new political category, with its own history and ideology, and right and left wings.

The shift from nature to science programs on TV also has to do with the economics of the entertainment industry. The drug-and-tag movies that flourished in the 1970s were in decline a decade later. Their rise had been due in part to a loophole in U.S. broadcasting regulations that allowed nature shows to be exempted from the requirement that one hour of prime time be given over to non-network programming. Once the rule was dropped, the costly nature shows were simply unable to compete for ratings. Science series, on the other hand, have done well. They're cheaper to make, especially since they're popular in Europe (particularly in Germany and England) and can be co-produced with state television agencies there. European co-production has also introduced a different aesthetic to U.S. nature shows, moving them away from quick cutting and melodrama.

There are limits to science journalism. While it is relatively easy for a program like *Nova* to describe bear mating or criticize the whaling industry (now a negligible business compared to whale tourism), the subject of nuclear power has proved impossible for the program to discuss with any integrity. An episode entitled *Back to Chernobyl* (1988) bills itself as "a behind-the-scenes look at the accident and its aftermath." The program is lavish in its descriptions of the 1986 nuclear meltdown in the Ukraine. It shows how entire contaminated forests were cut down and buried in concrete. The robots shipped to the plant to help with the cleanup were unable to be used because their transistors were sensitive to radiation. Some fifty thousand humans, working ninety-second shifts, filled in. Nearly twenty countries received a full spectrum of radioactive fallout, and radioactive material travelled half-way around the world. Estimates of cancer related to the disaster range from two thousand to a half-million cases.

The program mocks Soviet experts who maintain that a meltdown could only happen once every ten thousand years and then tells us with a straight face that "it couldn't happen here." It makes no mention of the several plants identical to Chernobyl that the U.S. military operates for weapons production. When it comes time to evaluate what happened at Chernobyl, the program shrouds itself in objectivity. While acknowledging a widespread opposition to nuclear power, even among many governments, it incessantly invokes the authority of the nuclear priesthood. These aging men — a vestige of the dominance of physics in traditional twentieth-century science — see room for hope. They argue, "We've survived the worst nuclear accident, with modest but not catastrophic results; that's a good start for doing better, for improving safety."

Environmental Advocacy

In recent years many nature films and TV shows have adopted an overtly political stance. The model is the humane investigative science journalism of *The Nature of Things*, produced by the Canadian Broadcasting Corporation. The Canadian nature-TV work occupies a kind of middle ground between the pastoral and scientistic poles of the U.S. tradition. The Canadian films are produced by public agencies — usually the National Film Board or the CBC. The social strategies they develop thus assume the existence of national and public debate on these issues in Canadian society at the same time as they try to articulate regional cultures. *The Nature of Things* has been around since 1960. Hosted by dissident geneticist and journalist David Suzuki since 1975, the show deftly combines science, natural history, and political culture. Its programs are consistently critical of the way science and popular aesthetics talk about nature. Its productions contain no majestic and unpeopled landscapes, no uncharted regions full of bounty. Instead the programs talk about nature in the full social, moral, and spiritual context of human history.

A late-1980s episode, *The Great Lakes: Troubled Waters*, engages politics rather than beauty or paeans to industrialism. The program summarizes current environmental issues in the Great Lakes basin: industrial toxins, agricultural runoff, erosion, and loss of habitat. It quickly dismisses a technical fix: "Science

won't give us answers for seventy-five years. By that time we'll all be statistics." Its discussion engages cultural issues, talking about how the Great Lakes region offers its inhabitants "a sense of place." It says that "having lost our spiritual link with nature, unlike the Natives who once lived here," we have to reinvent that important sense of place. Another program, *Manitoba Wetlands*, argues that it's pointless to talk about an ecosystem without reference to humans. It directly relates the loss of wetland habitat and the consequences for human societies to current agricultural practices.

In 1985 David Suzuki and the CBC produced an ambitious eight-part miniseries called *A Planet for the Taking*. Co-written by Suzuki, William Whitehead, and John Livingston, the program is an eclectic and intelligent historical overview of Western science and technology. Surprisingly philosophical while still being accessible, the show emphatically rejects the domination of nature that has been the mission of North Atlantic societies for the past five hundred years. It argues that humans are part of the natural world, rather than outside of or above it.

The National Film Board has produced a "Perspectives in Science" series for school kids that tries to situate science within a social context. Program topics include biotechnology, acid rain, ecofeminism, multinational corporations and the environment, water quality, and agriculture. Studio D, a women's production office at the NFB, has made a number of films examining nature and gender.

In recent years TV specials have been produced by some of the large U.S. environmental organizations, among them the National Wildlife Federation and the Audubon Society. A 1989 Audubon program, *Arctic Refuge: Vanishing Wilderness?*, narrated by Meryl Streep, cogently examined the debate about further resource development along the North Slope of Alaska. Unlike National Geographic projects, this program did not back away from political issues and in fact thoroughly examined the relationship between Arctic ecology and North American consumption levels.

Social Anthropology Movies

While nature and wildlife films produced over the past ten years have slowly taken up social questions, another film genre has come to nature from the other end, that of human history. These films, which I very loosely call social anthropology movies, demonstrate how difficult it has become to represent nature as uninhabited or "wild." Like biologists, anthropologists have taken movie cameras to the field with them for a long time. Some of their movies — the earliest probably being Robert Flaherty's *Nanook of the North* (1922) — have reached a broad audience. In the years that followed the Canadian centennial, the National Film Board made a series of short movies that documented the cultures of the Inuit and Cree. Movies such as *Group Hunting on the Spring Ice* or *Tuktu and His*

Animal Friends (both made in 1967, around the time of Disney's *Hang Your Hat on the Wind*), and *Cree Hunters of Mistassini* (1974) were sensitive attempts to combine human and natural history for the classroom and TV. They provide no voiceover, no explanation, no translation of Native languages. What we see is simply a putatively primitive people going about their everyday lives. The strength of the NFB movies was that they encouraged an encounter with "the other," in much the same way that the Disney movies attempted to show us the "unknowable" aspects of nature. Again like the Disney work, the NFB movies were marred by a naive attempt at realism that erased the presence of the field-worker or observer. As powerful as they were, the movies were also deeply conservative — and mistaken — in their understanding of aboriginal cultures as static and unchanging and thus doomed in a modern industrial world.

The Tuktu movies were part of a series that attempted to tell "a story of the old days, when people were different from us." A man at the edge of a fire would tell stories of the world as it used to be, when Tuktu's friends were as likely animals as humans. Just as in many TV nature programs it is a young boy who is our entrée to this world of the primitive, of harmony with the world and kinship with animals and other life. The films' introductory remark — that "a minimum of reconstruction is required to film the traditional life of these people" who have had "little contact with white men" — links them to the conservation films. And like the animals and ecosystems that were their subjects, by the time the Tuktu movies were made, Inuit culture had already gone through generations of changes as a result of contact with Europeans — changes unacknowledged by the film.

Things changed further between 1967 and 1974. *Cree Hunters of Mistassini*, made by the NFB for the aptly-named Department of Indian Affairs and Northern Development, was more of a political intervention. Its subject was a modern hunting society in the James Bay area of northern Quebec, a region about to be transformed by a massive hydroelectric development. The film argues that the planned roads and dams and river diversions (and reversals) would destroy Cree society.

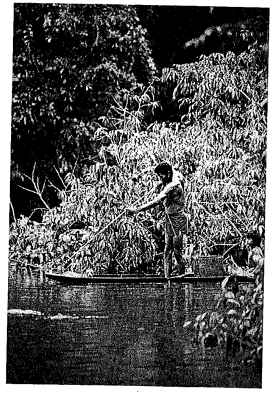
The narrator explains that Sam Blacksmith has allowed film crews on his land "to record the quality and dignity of native life." The movie methodically discusses what it means to be part of a subsistence economy in the northern woods. In winter families fly north for six months to hunt and build winter lodges, set traps, skin beavers and rabbits, make clothing, canoe paddles, and toboggans, and navigate the lakes and rivers. We learn that family hunting territories were a cultural adaptation to Western society, but that old land-management strategies, like monitoring game yields and sharing trap lines while the land restores itself, remain.

The movie provides a sense of the complicated web of kinship, land tenure, and wildlife management. At a communal bear feast, part of the food is given to the fire, and care is taken that children and elders get plenty. The Crees bring out drums and sing hunting songs, and three families — sixteen people — pose for the camera. They keep bear bones for the dogs and rub bear grease into hair and guns. At the end of the film a family leaves on foot for its land. "The women will be walking with us, and we will be taking our time."

Throughout the 1980s a number of feature-length movies and TV mini-series explored the natural world in a way that foregrounded human culture and history. *Clan of the Cave Bear* (1986), *Quest for Fire* (1981), and *Koyaanisqatsi* (1983) are examples of this genre. One of the most ambitious films was *Millennium: Tribal Wisdom and the Modern World*, a ten-part Canadian TV series produced by Richard Meech and Michael Grant and shot in Latin America, Australia, Asia, Africa, and North America. The program was sold to Global TV, the BBC, the Australian Broadcasting Corporation, and PBS, to be aired in early 1992. It is hosted by David Maybury-Lewis, a Harvard anthropologist who also heads Cultural Survival, a Massachusetts foundation (and journal) promoting the survival of indigenous peoples throughout the world. In North America its coverage includes the Mohawk, Ojibway-Cree, and Navaho, all of whom are in the middle of bitter political campaigns against military occupation and resource extraction on their lands.

The script is a synthesis of current issues in anthropology, ecology, and cultural theory. While it is driven by a discussion of contemporary tribal societies, it consistently refers back to the historical and contemporary concerns of the West. Through wide-ranging discussions of ecology, art, power, religion, economy, science and magic, and ideas of self and community, the program carefully critiques modern thinking and modern life. One of its themes is that, far from being victims of modern life, tribal cultures have much to teach us in the West. Cultural survival, the movie argues, is now bound up with ecological survival; both depend on the reintegration of nature, culture, and technology.

All of these movies raise questions about what, exactly, a "nature movie" is. Behind that question lie others, namely, what is nature and what has it to do with us? These have become pressing questions in the last years of the twentieth century, and they are not easy to answer — although contemporary popular culture is full of attempts to deal with the issues. Too often, many of those attempts simply collapse the terms, equating the natural with the tribal, the biological and the "primitive." Examples would include *The Gods Must Be*



A scene from Millennium, *a ten-part TV series that examines the relations betweeen tribal and industrial societies. Movies like this make us ask what a "nature movie" is – or can be. Here, a Makuna man and his son fish in the Amazon basin. The Makuna do not farm near the river banks, which they believe belong to the fish. Ecological knowledge is often fully integrated with traditional cultures.*

Crazy (1980), *Greystoke: The Legend of Tarzan, Lord of the Apes* (1984), *Iceman* (1984), *The Emerald Forest* (1985), *Where the River Runs Black* (1986), *Mountains of the Moon* (1989), as well as such Werner Herzog work as *Aguirre: Wrath of God* (1972), *Fitzcarraldo* (1982), and *Where the Green Ants Dream* (1984). At the end of the day, their well-meaning attempts to critique modern civilization differ little from the neocolonialist laments for "a vanishing culture" familiar from the full-colour pages of *National Geographic*.

Among the many types of recent nature movies there are two noteworthy tendencies. The first is a willingness to do something more deeply political than merely argue for conservation. For instance, the fairly traditional movie *Never Cry Wolf* (1983), based on the book by Farley Mowat and coproduced by a private Canadian company and the Disney studios, tries to imagine a world in which humans and animals can once again be proximate, a world in which all life is interrelated and yet autonomous. For the film's main character, a white government biologist, this happens through an encounter with Native culture, which here — unlike in many of the movies noted above — speaks in its own voice without being fashioned as "primitive." To come back to the idea of the eye and its organization of the landscape: one thing that happens in *Never Cry*

Wolf is that the look is reversed. The movie often shows the biologist from the wolf point of view.

Usually animals are the observed. The fact that they can observe us as well has lost all significance in everyday life. At the zoo, animals don't return our intense stares; they're too set apart from the world. But on video and film we can make them return our look (something Disney is famous for) as if they could speak to us. Thus in some contemporary explorations of nature, it is not so much yet another frontier that is charted and explored as it is the memory of an archaic habitat — a time and a place where we could communicate with animals. In films like these, our looking at nature became a looking *back* (or out) to a world in which human cultures have a precise knowledge of their habitats.

The other recent tendency in nature movies — and it is very much related to the first — is the reintroduction of the social into depictions of the natural world. Two recent French films with wide North American distribution, *The Claw and The Tooth* and *The Bear* (1989), seem to once again raise questions about the historical function of anthropomorphism in North American cultures. *The Claw and the Tooth* is an eye-opening documentary about the large East African mammals long familiar from TV and movies. This time, however, we see all of their bodily functions. The movie is full of sex and death, eating and shitting — in short, everything Disney didn't show us. But while the theme of this movie encourages a biological sympathy with lions and antelopes, its aesthetic strategies at once distance us from them. The movie was shot mostly at night, with bright lights like those used in the viewing areas at a safari resort. The filmmakers say the animals get used to the lights with time — a comment that confuses the animals' awareness of filming with a comprehension of it.† In any event, this technique wrenches them from the familiar brown and green context of the African savannah. Bathed in white light against a black background, the animals take on a life that is outside the conventions of realism.

The Bear was made in 1988 by Jean-Jacques Annaud, the director of *Quest for Fire*. It's about the adventures of an orphaned bear cub after his mum was killed in a rock slide. Here again, the acts of eating, farting, fucking, and sleeping are prominent. The bear cub dreams and even has an acid trip after eating some psilocybe mushrooms. Both of these sequences are filmed in wonderfully chintzy animation. There are other ruptures. Despite its Disney theme, the movie explicitly locates itself in human history. Its opening shot of the Canadian Rockies is identified as being British Columbia in 1885. After some scenes that

† This is not very different from the "laboratory in the orchard" films where animal performance is presented as animal behaviour.

A moose relocation underway at Mew Lake, Ontario.

establish the bear cub's story, the movie shifts to the arrival in the area of a small group of hunter-trappers, perhaps scouts for a European settlement party. As the plot develops, the point of view shifts back and forth between human and bear protagonists. While the human plot uses the conventions of the adventure movie, the bear plot is not self-consciously organized around the seasons or other allegories of pristine nature. In Disney's work, the cycle of the seasons — "always enthralling, never changing" — sits in for real historical change. Nature rarely changes in Disney: there is little depiction of succession, fires, or disturbance. In this way, the Disney movies function as an analogue for conventional ideas about the "unchanging nature" of human society. In *The Bear,* on the other hand, there is at least an attempt to locate the movie's "nature" within human culture, to relate natural history to the conventions of time.

As we might expect, the plots converge and bear and human "inevitably" meet. But here again there are surprises. One of the men wants to kill the bear, the other suggests capturing it for a zoo. The movie's titles had included the motto "The greatest thrill is not to kill but to let live," along with an endorsement by the American Humane Society and the World Wildlife Fund. While the imputation of a conservation ethic to one of the hunters may seem anachronistic, the turn in the plot allows the movie to flirt briefly with the conventions of the drug-and-tag movies. The cub is captured and tied to a tree under the guard of a vicious dog. The presence of the dog — and the threat of incarceration in a zoo — allows us to ponder the role of pets as an intermediate species, as intervenors and protectors of humans. In the end, the bear escapes, not to a life of "freedom" in the wilderness but to bear society.

Both of these movies return to anthropomorphism as a cultural strategy for addressing relations between humans and the natural world. John Livingston, a Canadian naturalist, argues that anthropomorphism is a way of seeing wildlife in a human light: that is, in terms of dominance and submission. Many of the movies we have looked at here use human criteria to impose interspecies rank and order on the rest of the world, a notion very likely inconceivable — and certainly incomprehensible — to non-human species. Livingston criticizes the "inferred despotism" of animal study and argues that human observation of animal society often mistakes compliance for submission.

Yet I wonder if an historical appreciation of anthropomorphism doesn't reveal other things at work. At the very least, Disney's anthropomorphism allows animals to be addressed as *social* beings, and nature as a *social* realm. This suggests a breach in the species-barrier between human and animal. The conservation and preservation documentaries insist on that barrier and reject the possibility of interspecies intimacy — a possibility suggested in *Never Cry Wolf.* Anthropomorphism is thus not a program, but an historical and strategic intervention, a step on the way to understanding that the wall between humans and the natural world is not an absolute. It is permeable, movable, shifting, able occasionally to be leaped over — as it always has been by hags and shamans.

Wildlife movies are documents of a culture trying to come to terms with what Bill McKibben calls "the end of nature." Their short history is one of intricately overlain traditions: animal fables, technological fetishism, dissident science, sea and adventure stories, and conservationism. Nature is alternately (and sometimes simultaneously) understood as refuge, community, and commodity.

The history of these movies is thus a figure for the many histories this book wants to tell: cultural, biogeographical, environmentalist, and technological. They have moved from the North American West, to Africa and the North, and back again to North America as the land and its meanings have changed. The movies have both anticipated and responded to the ideas of the environmental movement, and their televised images have helped to organize the way we experience the natural world. Here and there they demonstrate the possibility of entering into social relations with that world.