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# The Algebra of Need:
# Rethinking the Rehabilitation of Nature
# in Contemporary Environmentalist Discourses

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Abstract

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This thesis proposes need as a key term for contemporary environmental politics. Its argument is developed by way of a critical review of environmentalist discourses articulated around the rehabilitation of nature. It argues that these discourses tend to under-value the fact that nature is a cultural construct, the meanings and significance of which are nested in a social and political algebra of need. Consequently, these discourses tend to under-analyze and under-politicize the role of needs in mediating the human-nature nexus and their importance as a rhetorical resource in hegemonic constructions of environmental crisis. In this light, this thesis offers a complementary mapping of environmental crisis in terms of the discourses and logics mediating the social construction of needs; notably, it considers the role of technology, expert knowledges, notions of history and progress, and the ontological-ideological assumptions constituting the subject who consents to the rhetorical mobilization of needs.

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# INTRODUCTION

1970 was, in the United States at least, a banner year for the environment. In many respects it marked the beginning of its contemporary reconstitution as an object of social knowledge.[1] Life magazine's front cover announcement that "Ecology Becomes Everybody's Issue" (January 30, 1970) signalled at the same time that nearly a decade of revelations about human-induced problems with the natural environment (for the most part related to pollution) and consequent threats, real and projected, to human welfare had produced a broad if loosely defined consensus. The 'fact' of environmental crisis had become an accepted reality configuring commonsense perceptions of material and social realities on the one hand, and their interpenetrations on the other. Indeed, an entirely new forensic vocabulary (environment, ecology, balance of nature, pollution...) had entered everyday speech (Marx, [1970] 1988). Of both that year and the environment, Barry Commoner ironically observed, with the first ever Earth Day in mind, "The environment has just been rediscovered by the people who live in it" (1974: 1).

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[1] Although these opening remarks bear specifically on the American experience with environmentalism, Pepper (1980) gives approximately the same date for the popularization of environmentalism throughout the industrial world.

Strictly speaking, public recognition of these problems had been making the news for some time. Ever since Rachel Carson's controversial plea for environmental sanity and vilification of the agri-chemical industry's poisoning of the biosphere with its "elixirs of death" ([1962] 1987) had succeeded in legitimating public discussion of environmental issues, a steadily increasing number of groups, individuals and media outlets began focusing attention on and mobilizing their energies around the environment. And, after an initial dismissal of environmental advocacy, various members of the economic establishment began to view and exploit the new environmental awareness as an important rhetorical resource. Standard Oil, for example, began to incorporate the new sensibility into its image campaigns. "Their goal was to keep the air clean" (National Geographic, January 1969), was the title of an advertisement boasting of the overriding preoccupation of the engineers designing a new oil refinery.

But it was not until 1970 that official notice and recognition of the environment's rediscovery were given. Appropriately enough, on New Year's Day, then U.S. president, Richard Nixon, made environmental protection the key note of his State of the Union speech. He designated the 1970s as the crucial decade for meeting the environmental challenge. He concluded his assessment of the situation by reminding his audience that "It's now or

never", an expression which has become a major, if not the dominant, locus of virtually all contemporary environmentalist rhetoric, and which, moreover, dampened the optimistic dawning of the age of Aquarius with the menacing sign of the irrevocable. Nixon appeared to give substance to his words by outlining a detailed anti-pollution plan and promised to tackle the problems by tapping "the same reservoir of inventive genius that created [the] problems in the first place" (quoted in Commoner, 1974: 179). Subsequent history has revealed that his administration achieved little in the way of substantive environmental reform. Indeed, many commentators writing at the time (eg., Marx, op. cit.) were quick to demonstrate and condemn the cynicism with which he (and the political elite in general) coopted environmentalism for his own political gain. Nevertheless, for better or for worse, the official history of the environmental crisis had begun.

Echoing both Nixon's techno-logic and the seemingly unanimous expression of public concern for environmental matters, National Geographic closed the year by making "Our Ecological Crisis" the cover story of its December 1970 issue. In his editorial preface to the issue's lead story, magazine editor Frederick Vosburgh voiced the mainstream view that, while severe and wide in extent, the crisis was both manageable and solvable within existing institutional frameworks:

> Though worldwide and enormous, the problems of pollution are solvable by a human race capable of such a feat of science and technology as flight to another heavenly body - given the most precious ingredient of all: "Peace on earth, good-will toward men" (January 1970: 738).

Of course not everyone shared this optimistic faith in science and technology, not to mention the possibility of securing 'the most precious ingredient of all'. Indeed, at the same time as he was making pollution clean-up something of a national New Year's resolution, Nixon was resolutely engaged in the secret bombing of Cambodia, the defoliation of its jungles and the destabilization of its political infrastructure as a means of securing an honourable withdrawal for American troops in neighbouring Vietnam (Shawcross, 1987), not to mention authorizing the military's extensive tampering with the weather there (Berland, 1991). It is doubtful whether Nixon, or the discursive community he typified, viewed as problematic or even antithetical the focusing of scientific expertise for destructive purposes while calling for its mobilization to resolve environmental problems.

Many, such as historian Lynn White, wondered whether the 'inventive genius' responsible for destruction and the subordination of nature to human purposes could or even should be relied upon. "What we do about ecology," he wrote, "depends on our ideas of the man-nature relationship. More science and technology are not going to get us out of

the present ecological crisis" (1972: 264). The core of his argument, about which I shall have more to say below, is that the present crisis is the inevitable result of certain historically rooted commonsense dispositions toward nature that operate to sanction its indiscriminate exploitation in the service of human endeavour. For him, nothing less than something akin to a religious conversion is indicated if we are to turn things around.

Cultural critic Leo Marx, for another, disputed the location and framing of the crisis as a solvable set of material problems: "most of the talk about environmental crisis that turns on the word 'pollution', as if we face a cosmic-scale problem of sanitation, is grossly misleading. What confronts us is an extreme imbalance between society's hunger - the rapidly growing sum of human wants - and the limited capacities of the earth" (op. cit.: 159). Essentially, he was arguing that while some technical expertise will need to be brought to bear, the kind of knowledge required to address environmental issues adequately is first and foremost political knowledge. Any substantive analysis of environmental crisis (and here he was specifically addressing environmental activists) that is not equally a political analysis is incomplete.

What both White and Marx underline is that environmental problems have both a forensic and a deliberative dimension; that is, the way in which

environmental problems are conceived and understood will in large measure determine and circumscribe the universe of possible (acceptable) responses to those problems. At the moment of its rediscovery, the environment became a site of epistemological and political contestation. To the extent that the fact of environmental crisis entered the everyday forensic vocabulary, it became a rhetorical resource, it became a vector for the articulation and the exercise of political power and authority. The consensus achieved over its existence signalled its acceptance as a legitimate social problem. The issue was no longer one of securing a place for it on the public agenda but of how and by whom that agenda would be managed and controlled.

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At its most general level, the present essay argues for a dynamic cultural and political mapping of what I consider to be some of the key elements of the discursive construction of the present environmental crisis. In particular, I will focus, and argue for a more adequate politicization of, nature, need, expert knowledges, and their relationship both to environmental crisis and to one another. A major premise of the ensuing discussion is that there is indeed an environmental crisis. We are faced with a stunning array of problems requiring both action and

change if the planet is to continue sustaining life as we know it.[2] A second premise is that despite evidence of short, medium and long term environmental problems, little in the way of substantive change has occurred. In the words of one observer, "People reading it [Rachel Carson's Silent Spring, first published in 1962] for the first time today are struck by the fact that all that seems to have changed are the names of the poisons" (Evernden, 1989: 152). In this, the publisher of the book's 1987 edition ironically, and no doubt unintentionally, concurs. The cover notes herald the book as one of those rare documents which have actually changed the course of history. Further down the page, however, we learn that Carson's message remains as pertinent today as it was thirty years ago. But the book could only have changed the course of history if and only if it was no longer pertinent today. This is neither to deny nor to belittle the importance of the environmental movement. Witness, for example, the success of the American anti-nuclear movement in imposing a de facto moratorium on

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[2] It may strike the reader as odd or overly pedantic that this premise be made explicit given the wealth of evidence available to the expert and the non-expert alike. Nevertheless, as the Globe and Mail (June 4, 1991: C1-2) reported recently, a certain portion (unfortunately no indication of size is given) of the Canadian public believes that environmental issues are a hoax. Equally troubling, roughly half the population, according to the same article, neither militates for nor otherwise participates in environmental reform, this despite their acknowledgement of the existence of a 'crisis'.

the construction of new nuclear powered electrical generating stations in the United States. This success is clouded, however, by the fact that, with or without nuclear power, energy consumption in the United States has far from dwindled. Moreover, the nuclear freeze has merely resulted in the construction of other generating stations using such resources as coal (National Geographic, August 1991: 60-91), the burning of which, as the reader is no doubt aware, is a major cause of air pollution, acid rain, global warming and depletion of the ozone layer.[3] As I will argue throughout this essay, the root problem lies elsewhere. While it is important, and indeed crucial, to eliminate or least restrain the immediate producers of biospheric pollution[4], it is equally important to analyze and politicize the logics and enunciating principles that promote and even require their existence in the first place.

In this thesis I propose need as a key term for contemporary environmental politics. Recalling White's (op. cit.) and Marx's (op. cit.) critical positions briefly sketched above, my objective is to examine the ways in which they might inform one another. More specifically, I develop

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[3] For a more detailed discussion of the effects of industrial emissions, particularly with respect to global warming and depletion of the ozone layer, see McKibben (1989: 3-46) and Brown et al (1989: 3-20, 77-98).

[4] I use this expression throughout the discussion as a convenient shorthand for the totality of environmental problems.

this argument by way of a critique of the generic view espoused by White to the effect that our response to environmental crisis, our ability to cope with it, is largely determined by the attitudes we, in western cultures, have toward nature. The various strands of this discourse, which I refer to as the rehabilitation of nature, include a proposed revaluation of nature as having intrinsic moral worth; arguments that we must cease attempting to control, master and/or dominate nature; and the view that we must learn to live in harmony with nature's own equilibrium. It is important to stress that my intention is not to dismiss the rehabilitation of nature as a locus for environmental politics, but to argue that it occludes and often ignores the mediating role of needs in the human-nature nexus. Chapter one argues that environmentally informed discourses articulated around the rehabilitation of nature tend to oversimplify both the sources of and our apparent inability to deal with environmental problems. It develops the argument that these discourses have consistently under-analyzed and under-politicized the social constructions and logics of needs. It argues that nature is a cultural construct nested in and by a social algebra of need. It also examines and challenges the view that the political and cultural transformations which originated in scientific revolution carried with them a reconstruction of nature which legitimated the indiscriminate exploitation of nature.

Chapter two reconsiders these transformations in greater detail, arguing that the emergence of new monopolies of knowledge (which I refer to as expert knowledges) pose a major problem for the claim that humans needs must harmonize with those of nature. Firstly, it is argued that these knowledges mitigate against the creation of the kind of public required to underwrite that harmony. Secondly, it is argued that these knowledges assumed an increasing authority to name the needs which mediate our relationship to nature. Chapter three examines 1) the role of expert knowledges in informing the construction of contemporary environmental crisis; and 2) how need as rhetorical resource has been mobilized both to configure public discussion of environmental problems and to legitimate pollution of the biosphere. Finally, chapter four explores the ontological assumptions underpinning the subject who underwrites or is presumed by the rhetorical deployment of needs in post-war western cultures. It argues that there is a profound contradiction between the existential entailments of that ontology and the exigencies of an environmentally troubled world.

Less explicitly this essay is also intended to redress the relative absence of significant discussion of environmental issues by communication and cultural studies. When these issues are raised at all they are treated incidentally and typically subsumed by a larger critique of

capitalism:

> So many problems of social life are now permeated by capitalist relations that it is almost impossible to escape them. Culture, leisure, death, sex, everything is now a field of profit for capital. The destruction of the environment, the transformation of people into mere consumers - these are the results of that subordination of social life to the accumulation of capital (Mouffe, 1988: 92).

While this author by no means exhausts the range of commentaries and analyses that sweep the environment under their purview, and admittedly she is quoted out of context, her remarks typify the response, or its lack, by the communication and cultural studies' communities. The environment is for all intents and purposes relegated to the status of a substantiating example for a series of claims and propositions about the workings of the social totality under capitalism. A discussion of the reasons for this silence would no doubt be instructive, particularly in light of the recent Gramscian turn taken by cultural studies and the dusting off of his notion of the organic intellectual. But such is not my purpose here. I content myself with employing elements of their conceptual apparatuses to plot and politicize the discourses traversing and constituting the present environmental crisis.

# CHAPTER I:

## THE REHABILITATION OF NATURE

> And God blessed them, and God said to them, "Be fruitful and multiply, and fill the earth and subdue it; and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth." (Genesis 1. 28).

In the preceding section I very briefly sketched two critical responses to the present environmental crisis, those of Lynn White and Leo Marx. These were set against the prevailing technologically informed mainstream response as articulated by former U.S. president Richard Nixon and the 1970 editor of National Geographic. In very general terms, the mainstream response to environmental problems has remained remarkably consistent. In a recent public lecture, for example, former Quebec Premier, Pierre Marc Johnson (1990), who has since become an environmental advocate, argued essentially the same thing as Nixon, to wit, that the extent and the urgency of environmental problems will require an even greater reliance on technology than at present. I will address this position more extensively in chapter 3; for the moment I am interested in the

ecologically informed critique of industrial societies.

The arguments advanced by Lynn White and Leo Marx were not chosen at random. White's position was essentially that coping with environmental crisis will require a transformation in cultural attitudes toward material nature:

> [W]e shall continue to have a worsening ecological crisis until we reject the Christian axiom that nature has no reason for existence save to serve man. (...) Both our present science and our present technology are so tinctured with orthodox Christian arrogance toward nature that no solution can be expected from them alone... We must rethink and refeel our own nature and our destiny (1972: 265).

In sum, the crisis will continue unabated until we accord nature a moral worth and value independent of its use value in purely human terms. For his part, Marx argued that the knowledge required to deal with environmental problems is not purely technical in character but profoundly political. More specifically, he argued that society must come to grips with its spiralling wants and needs and keep them within nature's limits.

While both authors share much in common, they each conceptualize the basic problem in different terms. For White, the 'problem' is essentially attitudinal; our subordination of nature has both caused, or is at least at the source of, environmental problems and stands in the way of their resolution. Marx, on the other hand, deals less with the sources of environmental problems as such, and concentrates instead on the political dynamics of society

that prevent their resolution. Moreover, he is less concerned with defending nature as such, but with asking why contemporary society cannot come to terms with problems as enormous and life threatening as manifestly irrevocable planetary contamination. The analysis I wish to develop in this essay is much more closely aligned with Marx's views. I will argue that coping with environmental problems must go beyond a politicization of constructions of nature and how it is explicitly and implicitly valued in contemporary industrial societies. It needs to be stressed that I am not opposing White and Marx, but contrasting them with a view to developing a broader, more inclusive perspective. I should also note that the present discussion bears exclusively on the Western experience with environmentalism. I shall begin with a discussion of the generic position that White is defending.[1]

In her conclusion to Silent Spring, Rachel Carson seemed to speak for a generation (to come) of environmental advocacy when she bluntly condemned what for her was an atavistic attitude towards nature, one which went a long way to explaining why we have so many environmental problems today:

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[1] I do not wish to exaggerate the importance of White's arguments. I am merely indicating them as a convenient starting point for a cluster of ecologically informed discourses that take the rehabilitation of nature as the necessary locus for environmental renewal.

> The "control of nature" is a phrase conceived in arrogance, born of the Neanderthal age of science and philosophy, when it was supposed that nature exists for the convenience of man (1987: 297).

Much of the subsequent ecologically informed critique of industrial societies has turned on questions relating to the (mis)treatment of nature; that is, its subordination and indiscriminate exploitation. Despite many differences, there is a shared effort to rehabilitate nature both as a concept and as a living entity possessing intrinsic worth. As with Lynn White, this critique locates both the source of current environmental woes and the inadequacies of the responses to them in an historically rooted set of commonsense dispositions toward nature. It is variously argued that contemporary constructions of nature (i.e., the conceptual frameworks and everyday vocabularies discursively mediating our relationship to nature) operate as norms that sanction its indiscriminate and ruthless exploitation (Merchant, 1980). Ours is a culture based on the repudiation and domination of nature, writes Ynestra King, "Western civilization is built [and maintained] in opposition to nature" (1983: 118). In industrial societies, nature is conceived primarily as a store of material resources to supply for human needs (Evernden, op. cit.). Considered generally, and without regard for internal differences, the ecology movement "attempts to speak for nature, the 'other' which has no voice" (King, op. cit.:

116); its positive project is to harmonize human needs with those of nature.

In an extensive critique of Western constructions of nature, Carolyn Merchant (op. cit.) traces the genesis of contemporary exploitive attitudes toward nature to the seventeenth century scientific revolution's substitution of a mechanistic paradigm for the organic view of the cosmos prevailing in pre-capitalist feudal society:

> The removal of animistic, organic assumptions about the cosmos constituted the death of nature - the most far reaching effect of the scientific revolution. Because nature was now viewed as a system of dead inert particles moved by external rather than internal forces, the mechanical framework itself could legitimate the manipulation of nature. Moreover, as a conceptual framework, the mechanical order has associated with it a framework of values based on power, fully compatible with the directions taken by commercial capitalism (1983: 193, my emphasis).

But was the death of nature the most far reaching effect of the scientific revolution? Was nature even killed off? In either case, what bearing does this shift in paradigms have on present environmental problems? While it would be an exaggeration to claim that Merchant represents the entire spectrum of ecologically informed thought, particularly with respect to her historical reconstruction and location of contemporary attitudes toward nature, her conceptualization of the problem is representative of a particular way of looking at environmental crisis. As I mentioned at the outset, it argues that the treatment of nature is mediated

by historically rooted commonsense discourses about or constructions of nature. To the extent that we conceive nature as subordinate, intrinsically worthless, etc., we will act accordingly. Moreover, until such time as we reject these constructions, we will have difficulty resolving problems in the natural environment. Consider, for example, Joyce Nelson's claim:

> Clearly, a society in which dirt and soil are considered "unclean" and the lowest form of matter is bound to be in environmental trouble. "He treated me like dirt ," we say, or else, "He treated me like shit." Two of the ingredients traditionally most necessary to good agricultural practice - dirt and manure, have become, in our society, the epitome of debasement (1990: 35).

Nelson draws extensively, although not exclusively, on Merchant's discussion of pre-scientific revolution agricultural practices to make her case. It is in most respects a redemptive discourse, one arguing that we have lost a view of and an attendant relationship to nature based on respect for it and a high esteem for its life giving and life nurturing capacities. But was this the case?

At first glance, there is much to support this view. Francis Bacon, a figure who stands at the end of the High Renaissance steeped in the organic world view characterized by the Great Chain of Being (Tillyard[2]) but who was resolutely against Scolasticism's five hundred year old grip on the appropriate objects and methods of learning and

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[2] Dates for publication or copyright are not indicated.

knowledge (Dick, in Bacon, 1955: ix-xxviii), was influential in establishing the basis for a scientifically informed society. In effe the dream that possessed him throughout his years of government service was that of organized scientific research as a means of improving conditions of life: "the matter in hand is no mere felicity of speculation [his condemnation of Scolasticism] but the real business and fortunes of the human race" (ibid.: xv). Although he did not specifically challenge the organic view of the cosmos[3], his writings challenged the cyclical view of history by asserting that humans could control their destiny. He viewed knowledge as incremental and not subject to implacable laws of history. Indeed, his New Atlantis helped set the conditions for the institutionalization of scientific activity and its legitimation as the dominant mode of intellectual inquiry; the College of the Six Days' Works described in that work (first published in 1627) became the model for the establishment of the Royal Society in England in 1662, not to mention the Académie des Sciences in France as well as other similar institutions elsewhere in Europe (Leiss, 1972). His published works, particularly The New Organon (NO), The Advancement of Learning (AL) and New Atlantis (NA), do effectively see in the unlocking of nature's secrets the possibility of establishing the empire

[3] The universe as mechanism or giant clockworks was the legacy of Newtonian Physics.

of 'man' over nature. Moreover, they are charged with a vocabulary of conquest, domination, empire, probing and moulding of nature to human purpose: "[The] extension of the power and dominion of the human race itself over the universe" is the "most wholesome" and "more noble" (1960: 118, [NO]) of human ambitions. Of the other lesser, base ambitions, he counted the ambition to enhance personal power at the expense of others, and the ambitions of the state in subjugating its subjects. Of the technological innovations of his times, he wrote that their effect was and should be more than to guide nature's course, but "they have the power to conquer and subdue her, to shake her to her foundations (1955: 176 [AL]). And, in New Atlantis, an unfinished work, he described a rationally ordered and scientifically informed community in which knowledge was mobilized to uncover the workings of nature: "The End of our Foundation is the knowledge of Causes, and the secret motions of things; and the enlarging of the bounds of Human Empire, to the effecting of all things possible" (1955: 574 [NA]).[4]

Bacon's concept of the mastery of nature became part of the standard vocabulary of the seventeenth century, and

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[4] The Foundation in question was Salomon's House on the imaginary island of Atlantis, a rationally ordered and scientifically informed society. In the preface, Bacon says "This fable my Lord devised, to the end that he might exhibit therin (sic) a model or description of a college instituted for the interpreting of nature and the producing of great and marvellous works for the benefit of man, under the name of Salomon's House, or the College of the Six Days' Works" (544).

became a central rhetorical figure in the securing of a privileged place for the new natural philosophy. In a book defending the founding of the Royal Society, Joseph Glanville asserted the objective of the new science was to insure "that Nature being known, it may be mastr'd, managed, and used in the Services of humane Life" (quoted in Leiss, op. cit.: 79, emphasis in original).

And, as many commentators argue (eg., Leiss, op. cit.; Merchant, op. cit.), Bacon's concept of the mastery of nature and its attendant vocabulary of conquest and domination have survived intact until the present day. One certainly finds a distant but recognizable echo of Bacon's dream of a scientifically informed society in works of popular science fiction characteristic of the late nineteenth and twentieth century, such as Jules Verne and H.G. Wells, in particular the latter's Things To Come, in which the technical mastery of nature is in lock-step with social progress: "We [shall] direct our energies to tear out the wealth of this planet, and exploit all these giant possibilities of science that have been squandered hitherto upon war and senseless competition. We shall excavate the eternal hills..."[5]. Less explicitly, a General Telephone & Electronic advertisement quipped: "After carefully considering how to improve telephone service between Hana &

[5] Taken from William Cameron Menzie's 1936 film version of Wells' novel.

Wailuku [two cities on the island of Maui], we decided not to move the volcano" (National Geographic, December 1972). The implication, however exaggerated and impossible, is that the volcano could and perhaps should be moved given the appropriate circumstances. Or, what amounts to the same thing, the volcano is no impediment at all even if it cannot be moved. More generally, the advertisement inscribes itself in the view that nature is alternatively an obstacle to be surmounted, a challenge to be met or a force to be rivalled. The accompanying photograph of the volcano towering majestically above the surrounding cloud cover only reinforces the implied majesty and power of human ingenuity and will. Nature is subordinated to human purpose, be it for improved telephone service or for the improvement of nature itself to produce, for example, greater crop yields by means of herbicides, pesticides, chemical fertilizers or even genetic engineering.

But, in my view, such readings of the Baconian program are somewhat misleading, particularly with respect to Merchant's claim that it contributed to the establishment of constructions of nature that sanctioned its indiscriminate exploitation, constructions which, she argues, ultimately signalled the death of nature and subordination to human purpose. But were Bacon and his successors really advocating a radically 'new' attitude toward nature? Or were they articulating an attitude which had always existed

within a radically new social and political project? I shall return to these questions shortly.

At the level of philosophic debate, Bacon was doing nothing more than challenging the then dominant view that syllogistic reasoning alone was a sure route to knowledge. For Bacon, like Robert Boyle who lobbied for the creation of the Royal Society, theoretical utterances and propositions that were not demonstrated by rigorous and sustained experimentation were worthless:

> Man, being the servant and interpreter of Nature, can do and understand so much and so much only as he has observed in fact or in thought of the course of nature. Beyond this he neither knows anything nor can do anything (Bacon, 1960: 39).

Indeed, the title of his most substantial work, The New Organon (or new tool) was an allusion to an earlier "organon" or tool that flourished after the rediscovery of Aristotle in the twelfth and thirteenth centuries. His argument, notwithstanding its aggressive vocabulary, was intended primarily to shake up the conceptual framework of prevailing epistemology.

The issue, however, was not merely philosophical in character. When Glanville took up Bacon's humanitarian rhetoric, he was merely doing what amounted to good public relations. The specific mandate of the newly founded Royal Society was far from strictly humanitarian. The England of the mid-seventeenth century was emerging from a civil war and faced with an antagonistic Europe. Chief among the

objectives of its leadership was the consolidation of its own political power; this it hoped to achieve shoring up its economy and provide employment for a restless and disaffected populace (Burke, 1985). As such, the specific mandate of the Royal Society was to encourage natural or experimental science as a means of stimulating inventions intended to profit trade and industry (ibid.).

Still, it could be argued that the break up of the organic view of the cosmos and its replacement by a mechanical order articulated within a nascent commercial capitalism entailed a more extensive exploitation of natural resources. It is quite true that post-feudal societies placed greater demands on nature than their predecessors. But this is beside the point. There is virtually nothing in the historical record to suggest that attitudes toward material nature were any more or less exploitive beforehand. The change with respect to the exploitation of nature was not qualitative but quantitative.

In his discussion of nature and culture in Western thought and practice, Clarence Glacken (1967) argues convincingly that human societies since antiquity have always been actively engaged in the exploitation of nature and its resources. Such activities included mining, hunting, metallurgy, drainage, canal building, animal husbandry, improving crop yields by cross fertilization and so on, and date from early Egypt. Notwithstanding any

belief that the earth was divinely ordered for life, that all matter, animate or not, had a pre-ordained place in an organic hierarchy, the role of humans was to reign above it and to improve it as they saw fit (ibid: 116-149). In a similar fashion, Fernand Braudel (1985) relates that the exploitation of nature in the middle ages was very aggressive and limited in extent only by economic considerations and the lack of technology. Certain fish populations in the Black Sea, for example, were virtually extinct by the end of the fifteenth century because of overfishing. Equally, entire forests had been cleared to supply energy for metal works and the maintenance of naval and merchant fleets. The application of technology to the manipulation of nature was limited, he argues, because human labour power was less expensive and easier to exploit.

The point I want to make here is at once historical and conceptual. In a summary fashion I have tried to show that the advent of the mechanical order, as Merchant (op. cit.) calls it, had little if anything to do with the creation of an exploitive attitude toward material nature - this attitude has existed for several millennia. If anything, nature did not die but was reinvented and articulated within a class struggle that culminated in the secularization of political power and the recasting of economic relations of production. It is indeed true that the organic view of nature died, but primarily as a model for ordering social

relations of power. When Merchant argues that the new mechanical order was articulated within a framework of values based on power, she neglects to mention that the same is true of both all the conceptions of nature that preceded it and those that succeeded it.

From antiquity to the present, prevailing constructions of order in the universe have borne an uncanny resemblance to order in human affairs. We, for example, live in a constantly expanding universe, the result of a big bang that scattered an infinite number of particles in all directions and for all time. Microscopically, there do not even appear to be any smallest or ultimate particles. We also live in a world the commodity horizon of which, like the universe's event horizon, is constantly expanding. Not so long ago, we lived in a Darwinian jungle in which evolution was defined as survival of the fittest in a never ending struggle between the various species and life forms. This view permeated society from the middle of the nineteenth century until the present. Ideas of natural selection have been used to inspire and legitimate everything from capitalism, fascism, racism, sexism and marxism (Burrow, in Darwin, 1978: 11-48)[6]. Moreover, even the word 'evolution' is often construed as an increase in quality and/or value. We speak

[6] Indeed, Burrow reports that Marx wanted to dedicate the English language translation of Capital to Darwin, who demurred.

of more highly evolved animals, primitive single celled organisms, and from time to time someone tries to argue that some groups within the human species are more advanced along the evolutionary ladder than others. In this respect, contemporary constructions of nature are little different than their predecessors. Each reflects, and is discursively mobilized to legitimate, a given social order; changes in those constructions are allied with, or contribute to creating the conditions for, changes in that order. The medieval chains of being were based on a particular cosmology in which every constituent, human and non-human, had its place. They acted normatively and justified particular allocations of social roles and power; that is, social status and political authority were grounded on the premise that they conformed to order in nature, itself divinely created (Leiss, op. cit.). Moreover, this order was viewed as unalterable and coextensive with the good and the just. Thus, resistance to change became a primary objective; change in any fundamental way was a threat to society as a whole. It is against this background that the domination of nature emerged as a theme in social and political thought. Nature - the order of things - was a pivotal site of contestation during the struggle for social control. The death of nature that Merchant laments was the death of the feudal order based on oaths of fealty, servitude and bondage.

Perhaps it will be argued that I am the one who is missing the point. At most, all I have done is shown that arguments such as Merchant's, historically situating the genesis of contemporary exploitive attitudes in the scientific revolution are guilty of misreading history. The issue remains the same: nature is typically described in demeaning language, it is constructed as something to be dominated and twisted to fit human purpose, that the heart of the matter is that anthropocentric value systems inhibit or otherwise impede environmental renewal, and this regardless of their historical origins. This, as mentioned above, is certainly the view held by Lynn White (op. cit.), who argues that an exploitive attitude toward nature is coextensive with Christianity. But why stop there? As Glacken (op. cit.) argues, the tendency to want to improve and manipulate nature pre-dates Christianity by at least two millennia. Moreover, there is archaeological evidence to suggest that even Neolithic settlements had their own 'environmental' problems associated with systematic and extensive exploitation and transformation of their natural surroundings.[7]

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[7] The PBS documentary, "The Environmental Revolution", part one of Race To Save The Planet (aired in 1990) speculated that these settlements were among the first to engage in the clearing of forests to fuel fires required to transform quarried limestone into plaster for house construction. Moreover, they also virtually eliminated surrounding wildlife, and were eventually forced to relocate because of problems associated with deforestation and over-grazing.

Sally Gearhart argues that "transforming one's environment goes beyond simple adaptation to that environment. It implies a motive more intense and a desire more aggressive than the altering of ourselves for survival" (1983:171). But is this true? Apart from the fact that she never explains why transforming the environment 'implies' an aggressive desire, Gearhart overlooks the fact that it is an inescapable condition of biological survival that all life forms not only transform but create and maintain their environments.[8] Assuming that material needs of some form or other will exist as long as human history, humans will have little choice but to appropriate and interfere with nature (Schmidt, 1971). In virtually everything we do, we appropriate nature, be it something so simple as breathing, or something far more complex and infinitely more appropriative such as organizing ourselves into densely populated urban centres. Of course, there is a profound difference between gathering berries and hunting game to ensure the survival of small nomadic bands and operating coal fired electric generating stations to ensure the survival of complex industrial societies. In the former, the impact on the environment is local and limited in extent. The latter may entail strip mining and the emission

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[8] According to James Lovelock's Gaia hypothesis, all life on earth creates and regulates its own environment; indeed, life is its own environment (Cayley, 1991).

of chemicals causally related to acid rain, genetic altering of organisms, global warming, etc. At an abstract level, however, the two activities are similar. Both seek to address the perceived and constructed needs of a given collectivity, both appropriate, exploit and transform the natural environment, and both are directed at relatively short term benefits.

No doubt it will be argued that the similarity of these two activities is only a similarity in attitudes toward nature, that the effects of the latter activity on the environment will create the necessity for a change in those attitudes while the former did not. I do not dispute this. The point I wish to raise, however, is that in addressing questions related to environmental protection, it is essential that the factors mediating human relationships to nature be considered. It is not enough to show that a given culture has attacked nature aggressively and without regard for its limits or moral worth. In constructing a moral universe in which material nature is re-conceived as a living entity, a moral subject, it must be remembered that "Nature is not a positive entity to which men can simply return" (Schmidt, op. cit.: 154). Nature is a discursive construct, a cultural category (Leiss, op. cit.), articulated within and by rhetorics of need. To the extent that environmental discourses articulated around the rehabilitation of nature ignore or underestimate need as a

mediating factor in the human-nature nexus, the revaluation of nature as a living being possessing intrinsic moral worth is, as I will argue shortly, problematic. Present knowledge of nature's laws, it is true, has been used as stratagems for its occupation and extensive and unthinking exploitation. Nevertheless, the environmental issues confronting human societies are practical and social in character. They require not only a re-assessment of material practices and a respect for nature's limits, but a politicized re-assessment of the determinants of those practices.

The virtual explosion of evidence about environmental problems in the past decade has been accompanied by an increasing number of voices speaking for nature; it is no longer Ynestra King's "the 'other', which has no voice". No self respecting documentary on nature would sign off without reminding viewers of the increasing threats to nature, that life is a delicate balance between all species including humans. Even National Geographic, which could never be accused of being overtly progressive, has modified its approach. Whereas once it thought nothing of describing Kenya's lucrative trade in ivory (February 1969), it has now joined in the chorus of voices condemning the practice (May 1991). The popularization of nature has effectively secured a privileged if ambiguous place in public discourses on the natural environment, both as an end in-itself and as a means

of ensuring human well-being. Still, as I indicated above, the environmental crisis shows no signs of letting up. While the reasons for this lack of substantive change are complex and no doubt due in good measure to the cynical appropriation of environmentalist discourse by the political and economic mainstream, one element of public debate stands out. It is one, moreover, that environmentalist discourses articulated around the rehabilitation of nature have consistently under-analyzed and failed to politicize adequately. This element is none other than need. While the environmental movement has been defending the rights of nature, and condemning human aggressiveness toward it, and advocating a harmonization of human needs with those of nature, little effort has been devoted to explore the social construction of need on the one hand, and the importance of need as a rhetorical resources on the other. But the rhetoric of need, manifest or presumed, has played a central role in shaping and delimiting environmental awareness and praxis from antiquity to the present.

At a recent press conference held to defend the Grande Baleine hydroelectric project, Quebec Premier Robert Bourassa argued, "We need this project [to meet increasing demand... (...) Otherwise the environment] will be the first one to pay, because we will have to resort to coal, petroleum and nuclear powered generating stations" (La Presse, May 17, 1991: B1, my translation). Given the

cynicism with which this particular dossier has been handled, it is uncertain whether Bourassa intended these remarks as a threat or a promise. This aside, the strength of his argument, the extent to which it acquires legitimacy, hinges on its major unexamined premise. We need Grande Baleine, or other electric generating stations, as a solution to a complex of needs, the audience's knowledge and appreciation of which are quietly but effectively presumed and reinforced without ever being made the object of explicit discussion. Bourassa's argument appropriates the defense of nature and articulates it within a socially recognized horizon of need. The meaning of need (i.e., its suasive force) has remained remarkably constant since Bacon's day. Then as now we tend to accord it a quasi-ontological status. After all, Descartes' cogito is only possible after it has fed itself. It experiences, knows and constructs both itself and the world in the act of transforming and appropriating the world to satisfy its needs. It is not alone in the world and the labour required to satisfy those needs is divided into various strata and specializations. Moreover, as William Leiss argues, "at the higher levels of productivity the expression and satisfaction of needs is increasingly mediated by societal factors" (op. cit.: 84). We need food, clothing, housing and so on. In order to achieve those ends, most of us need a job, perhaps a means of transportation, certain tools, and

socially organized support systems and infrastructures such as schools, roads, sewers, armies and so forth. This list goes on indefinitely and expands exponentially. For each item we add on to it, a new set springs up, over which most of us have little control. But we submit ourselves to the apprehension of need; that is, we organize ourselves and allow ourselves to be organized in the social and material realms as producers and consumers of the means to satisfy our needs. The question becomes not so much whether needs exist or whether a particular set is valid, but how and by whom the universe of need is constructed, articulated and validated.

The modern project as formulated by Francis Bacon, and as understood and acted on by his contemporaries, consisted in the control of nature to provide for human needs, which, in turn, was a necessary basis for the establishment of an egalitarian society ordered and informed by the principles and discoveries of natural philosophy, or what we call science. What did not and perhaps could not have occurred to Bacon is that the universe of need might explode and expand in all directions, that, as Ian Angus argues:

> The accumulation of greater and greater "means" to the modern goal of security and mutual recognition permanently delays arrival at the end. The end remains a motive for perpetuation of the means, which in turn delays the end - a vicious dialectic without hope of resolution" (1989: 86).

Bacon's ideal with respect to the mastery of nature as a means of providing for the needs of humanity has reached its apogee (perversely, many would argue) in contemporary consumer cultures. The scientific and industrial domination of nature has effectively produced a wealth of commodities to provide for every need. But it is also on the way to rendering the environment unfit for life as we know it. To the extent that we do not control the economies and infinite proliferation of need, both we and the environment will continue to be held hostage.

## CHAPTER II:

## THE ALGEBRA OF NEED

> In God willing and knowing are a single thing in such a way that, by the very fact of willing something, he knows it - Descartes.
>
> Human knowledge and human power meet in one;...that which in contemplation is as the cause is in operation as the rule - Francis Bacon.

The preceding chapter was intended to problematize ecologically informed discourses articulated around the rehabilitation of nature. I concluded with an apparent opposition between need and material nature. Human interactions with nature are mediated by conjunctural articulations of need; a full reconciliation between nature as object/entity in-itself and as object/entity for us is impossible (this point has not been lost on environmentalists and will be discussed below). Strictly speaking, 'nature' should always be written with inverted commas, for it is not a positive entity but a more or less interrelated and internally consistent complex of phenomena that are always already apprehended as meaningful. Meaning, however, is not an essential quality of nature but is

ascribed or imputed. Nature is known only through these meanings, which emerge as it is experienced by social actors in a contingent and exigent world. 'Nature' is an object of social knowledge, a cultural category (Leiss, 1972) and a discursive product always already laden with meaning and value. The social construct 'nature' stands between us and noumenal nature - the material substrate of experience. It is, moreover, the only nature that we know.

I raise the phenomenality of the construct 'nature' as a prelude to discussing the oft repeated argument that we must harmonize human needs with those of nature. Despite its intuitive appeal, this proposition is extremely complex and, as I will argue, problematic as a rallying locus for the environmental movement. Firstly, there is nothing at all clear about what 'nature' is. Secondly, what does it mean to live in harmony with nature? Thirdly, how and by whom or according to which logics and knowledges are needs (human and non-human) named and articulated? Finally, how do these logics and knowledges frame public discussion (and apprehension) not only of nature but of the real? This brief list of questions by no means exhausts the range of possible questions. I indicate these particular questions because of their connection with the rehabilitation of nature and their relationship to needs, which is the subject of this chapter. These questions will not be dealt with in any particular order; they are indicated as problematics

which need to be explored. I will focus them by raising a set of issues related to the cognitive and moral authority of the non-expert public. I will argue that the presumption by harmony-with-nature arguments of an audience or a public sufficiently empowered to bring about the proposed changes is highly problem, particularly in the context of capitalistically and rationalistically informed technological societies. Ultimately, the recovery of nature and popular struggle for environmental control necessarily involve the struggle to control the social and political body. "We tend to forget, this is our country, we the people," said one member of a citizens' group militating for the closure of a toxic waste dump, "And that's what our Constitution and our Bill of Rights say: We the People. We have to take it back and be responsible for what happens."[1] As the story of that particular struggle went on to show, taking back one's country entails the struggle to control, manipulate and refuse (as the case may be) the logics and expert knowledges that construct the real. But here I am getting ahead of myself.

As I suggested above, the idea of harmonizing human needs with those of nature has a great deal of intuitive appeal. It is one, moreover, which environmentally informed discourses of almost every stripe incorporate in some form

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[1] Taken from "Now or Never", part ten of the television documentary Race to Save the Planet (op. cit.).

or other. It is easily grasped and can serve as a useful slogan for mobilizing popular support. It is not, however, without its problems, ones that, in my view, go to the heart of the issues related to the present environmental crisis.

At first glance the argument works because it is apparent that we do not live in harmony with the natural environment. The evidence to this effect is both overwhelming and abundantly clear in everything from toxic wastes to a surplus of greenhouse gases in the atmosphere. Thus, the cry has gone up that we must regain a lost harmonious relationship with the earth:

> Now on Race to Save the Planet, the story of how human beings once lived in harmony with the earth, of how we changed and grew in numbers, of how we invented new ways to use the earth and destroy the environment. And then, of how we discovered what we had done.[2]

What is interesting here is the way the text goes to history not only to locate the source of environmental problems but to legitimate itself. It signals that the ensuing series of programs will re-narrate and reinscribe the story of human beings. In this, it resembles a major strand of environmentalist rhetoric and operates as an implicit critique of the modern idea of progress. It relies on the fact that its audience either holds or is at least aware of the view that history is the history of positive

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[2] From the narrator's introduction to "The Environmental Revolution", the first episode of Race to Save the Planet (op. cit.)

progress from primitive societies to modern ones, that contemporary societies represent the best in history. It turns that view upside down, urging the viewer to reconsider history as the history of decay, as the loss of an earlier garden state: human beings "once lived in harmony with the earth;" our story is the story of how we "invented new ways to use the earth and destroy the environment". Its critique of modernity with its veiled reference to Genesis casts it within the moral opposition of good and evil. The loss of harmony enjoyed by human beings in a state of moral grace coextensive either with the goodness of God or just goodness itself is the result of how we changed and began to destroy. In this context, 'destroy' is the coded carrier of evil, it configures or valences the meaning the viewer is to place on history. Unlike most narratives, however, it cannot invoke the closure typical of stories in which the ending flows ineluctably from the beginning and the middle. It is, after all, a race to save the planet. As the series unfolds it relates how it is possible to regain the harmonious state described at the beginning. The tragic end is only a possible end, one that will fully realize itself if we do not take the situation in hand.

In the introductory chapter to Silent Spring ("A Fable for Tomorrow"), Rachel Carson employs a similar rhetorical device:

> There was once a town in the heart of America where all life seemed to live in harmony with its

> surroundings. The Town lay in the midst of a checkerboard of prosperous farms, with fields of grain and hillsides of orchards...
>
> Then a strange blight crept over the area and everything began to change (..). mysterious maladies swept the flocks of chickens; (..). Everywhere was a shadow of death...farmers spoke of much illness among their families...
>
> No witchcraft, no enemy action has silenced the rebirth of life in this stricken world. The people had done it themselves (op. cit.: 1-3).

Presumably, the pastoral imagery is meant to underwrite and inform the book's message. In an important sense, it is the book's message. The ruptured harmony was brought about the people themselves. The idyllic town serves as a counterpart to the stricken world of the present. It represents both what we have lost and what we can regain by re-establishing the harmony. The book itself is a detailed account of how it was lost and the steps required to regain it. Like the introduction to Race to Save the Planet, Carson's fable evokes/constitutes and mobilizes the 'memory' of an idealized past to criminalize both the present and the history that created it. In this, she is invoking what Leo Marx refers to as the moral geography of the pastoral idea that informed the emergent American psyche in the eighteenth century: "it is a moral position perfectly represented by the image of a rural order, neither wild nor urban, as the setting for man's best hope" (1964: 101). It is a negotiated middle ground; nature is not so much to be subdued by human intervention but managed: "All this is not

to say there is no insect problem and no need of control. I am saying, rather, that control must be geared to realities, not to mythical situations..." (Carson, op. cit.: 9).

To put these appeals into some kind of perspective, consider the introduction to Harvesting the Clouds: Advances in Weather Modification, written by U.S. meteorologist, Louis Battan:

> The advance of science over the last few decades has been truly spectacular. Physicists have probed deeply into the atom and are making rapid strides in the utilization of nuclear energy. Though certain diseases still remain to be conquered, medical scientists have had great success in extending human life and are on the threshold of learning the secrets of transplanting human organs. Airplanes are moving almost three times the speed of sound. Computers are so fast that... The catalogue of scientific progress goes on and on. The results are being felt in virtually everything we do.
>
> Science is moving forward on a very broad front. But certain frontiers are in need of much greater investigation and exploitation. This book deals with one of them, weather and climate modification. (...)
>
> Effective large-scale weather modification is still a long way off, but...[i]n view of the crucial nature of this problem, it is essential that the required investments be made (1969: xi-xii).

The end is in sight, if only we make the necessary effort and mobilize the appropriate resources. Weather modification is inscribed in a rhetoric of social and material progress made possible by scientific progress; it is an extension of the "catalogue of scientific progress" that has been applied to "crucial" problems such as disease

control, improved means of transportation and, the author hopes, the control of meteorological conditions.

Not unlike the preceding authors, Battan both positions his readers with respect to history and grounds his own argument in a particular interpretation of it. Indeed, the success of the argument is in large measure dependant on the audience consenting to the idea of history as positive progress. The striking difference, of course, is one of emplotment (White, 1978). The historical facts in each case are the same, but are coded differently (antithetically). Where the former see decay, Battan sees (and argues for more) progress. The former idealize a past state lost because of human intervention in nature; Battan posits this state as the attainable objective of that same intervention (Berland, 1991).

But the differences go beyond an orientation toward history and bring us to the questions related to the construction of needs. Carson's project calls for a harmonizing of human needs with those of nature, whereas Battan opposes them to it. In Battan's universe, nature is an entropic other always threatening to destroy human society. It is dangerous and unpredictable, lurking in the background like a disease that can strike at any moment and without notice. Science and technology stand at the ready, and even anticipate problems yet to arise. But as Ian Angus (1989) argues, the project's fulfilment is delayed

indefinitely, each new advance creates new possibilities and defines new needs and new scarcities. To this effect, Langdon Winner suggests that "[t]echnologies are structures whose conditions of operation demand the restructuring of their environment" (1976: 100). Walter Hood, in his discussion of Heidegger's conceptualization of technology, makes a similar argument when he suggests that we "dwell in the space opened by technics" (1972: 356). Technology is not, as it is for Aristotle, Hood argues, extrinsic to being - a mere means to specified ends, but inseparable from it. The technological space in which we reside is a boundless contextual totality constantly structuring and creating new possibilities for experience, to such an extent that it becomes a condition of that experience, thereby insinuating itself into the fibre of being. Consider, for example, this 1963 Bell Telephone System advertisement:

> Picture you with a kitchen extension phone, enjoying its convenience and helpfulness. And picture the chops that won't burn, the puddings that won't boil over, because you'll never have to leave the kitchen to make or take a call (National Geographic, October 1963).

The accompanying photograph is of a smiling housewife standing in her kitchen, coffee mug in hand and chatting over the phone. She is first constructed as bound by a set of obligations, which limit her possibilities for socialization; she is situated in a particular social space, which the advertisement offers to open up. She is invited

to project herself into a more attractive social environment made possible by - conditional upon - technological intervention. The technological component of this redrawn social environment is itself a necessary agent of her resocialization. Similarly, the introduction of refrigeration technology both into the home and into commercial food outlets 'allows' us the convenience of grocery shopping only once a week, to such an extent that the weekly trip to the grocery store becomes an institution. It also creates the conditions for a cultural economy built around the existence of supermarkets. It too becomes an agent of (de)socialization as we no longer visit the butcher, the baker,... on a daily basis, not to mention creating a demand and a need for packaging, plastics and assorted other materials. Moreover, nature's products are rediscovered as instantly and always available - apples, for example, are picked in September to be eaten the following summer. Similarly, fruits grown in the tropics find their way onto shelves in Montreal. At a certain point, a life tuned to the availability and management of foodstuffs based on the seasons quite simply disappears. In this world, the idea and the necessity of restraining the consumption of basic goods is almost without meaning - most of us have never experienced this necessity.

Technological innovation is not just a means of satisfying and perhaps creating new material needs; its

articulation in modern industrial societies creates political economic imperatives. The widespread introduction of technology into what is now a global market place begins at a certain point to impose a structural necessity for a commitment to increasing the presence of technology. Technology has become a central locus of economic development, a key to the mode of prosperity and the way of life underwriting what Battan takes as our "inalienable right" to everyday amenities such as showering, washing the car and filling the pool (1969: 8).[3] Consider the response of Travis Manning, academic and contributor to a 1968 Liberal Party of Canada global policy review, to what he calls the problem of excess productive capacity in agriculture:

> The apparent solution would be to restrain the development and introduction of new technology... This solution overlooks two constraints: Canadian farmers are in direct competition with farmers in other countries; other sectors of the economy will continue technological innovation that will increase their relative economic power...unless agricultural technology keeps pace (1970: 145-146).

Manning's logic is impeccable even while it is condemning us to technological innovation. It is at once Sartre's Huis Clos and Kafka's The Castle; there is neither issue nor point of arrival. Economic survival is conditional on an increasing commitment to technology. An analogous situation

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[3] I am indebted to Berland (op. cit.) for drawing my attention to this passage.

exists in the field of international relations, particularly as it pertains to national security. Consider the following advertisement for Douglas Laboratories, a U.S. military supplier:

MILITARY CHESS

> ...in Douglas Laboratories, researchers are working on making missiles invisible to detecting devices. Every advance they make is communicated to another group of... engineers that seek out and destroy "invisible" missiles. When the second group succeeds, those hiding missiles in the sky go to work again to break the checkmate. Continuous improvement is needed if the U.S. is to maintain leadership in Missile technology. (National Geographic, November, 1965).

Reading this advertisement twenty-five years after it was published, one is hard pressed to imagine that anyone could ever have taken it seriously and not recoiled in horror. But that would be to forget that the American notion of sustained prosperity has been, since the second world war, explicitly linked to its own security as a nation-state, which, in terms of American Foreign policy, has always meant rooting out the "conditions of extremism wherever they exist and imposing a norm of peaceful behaviour on all states" (Tonelson, 1991: 36).[4] The spiral of needs in Battan's universe is unchecked, it goes on forever recreating itself from within and protecting itself from an enemy without - even if that has meant manufacturing

[4] To be sure, Manning is Canadian and the author of "missile Chess" is American. Nevertheless, the underlying logic is identical and both speak from a shared global vision.

a manichean world of absolute good and absolute evil as the ideological arm of sustained progress and prosperity (I have in mind here Ronald Reagan's evil empire and George Bush's depiction of Sadaam Hussein as evil incarnate).

It is difficult to imagine how nature might be rehabilitated in this scheme of things. But suppose it were. As I indicated earlier there is ample evidence to suggest that there is some movement in this direction. Of course, it could always be argued that this rehabilitation is either cynical or inauthentic (or both). The recent emergence and spread of animal theme parks and zoos converted into cageless natural habitats, for example, represent what is the most pathetic about this rehabilitation. As one commentator argues, they serve to conceal past and present crimes against non-human species (Seibert, 1991: 49-58). Just as green products operate to resolve the conflict between consumption and environmental conscience (Marshall and Craig, 1991), natural habitat zoos discursively enclose 'nature' within urban civilization in a semblance of coexistence. They are sites of fusion of conflicting discourses, modernity and progress on the one side, and preservation of nature (more precisely, endangered species) on the other. The former disarm the latter while simultaneously allowing and incorporating their expression.

For all its easy to grasp simplicity and appeal, the middle ground represented by Carson's town remains forever

beyond reach. Her evocation of it is problematic because it is too simple. Notwithstanding her sincerity and the accuracy of her ensuing exposé of the rank stupidity and shortsightedness of the agri-chemical industry, and despite her convincing account of how nature might be controlled without either abusing it or poisoning the biosphere, she fails to come to grips with the rootedness of rhetorics such as those epitomized by Douglas Laboratory's "Missile Chess" and Battan's "inalienable rights". Moreover, she leaves out any real discussion of the social construction of needs and the attendant relations of production and authority implicated in their articulation, production and satisfaction.

In this respect, it is doubtful whether the kind of community required to underwrite Carson's town exists in contemporary industrial societies. The harmony with nature that she and others such as the authors of Race to Save the Planet and Carolyn Merchant postulate should perhaps be more adequately viewed as a cultural homogeneity that no longer exists. While Carson emphasizes a rupture with nature, she ignores the fact that what disappeared more anything else was a conception of community or public life predicated on face to face relationships, a public similar to the one advocated by John Dewey (op. cit.) and whose apparent loss was lamented by C. Wright MIlls (1956). In the tradition of Aristotle, it is a conception of public life in which the

audience of rhetorical discourse could reasonably be expected to serve as a mediator for bringing about the desired change.

The point I am leading up to here is the central issue of the present discussion. I have no quarrel with the view that nature is held in low esteem in industrial society, that generally speaking we live at a remove from nature and no longer live in tune or in harmony with its cycles, rhythms and equilibria. I grant all that, but wonder how much it has to do with the production of environmental crisis or with what steps must be taken to resolve it. It seems plausible enough to describe environmental crisis in terms of an absence of harmony with nature, if by that is meant its over-exploitation and disregard for its limits. Whether it is a loss of purposive, respectful harmony is, as I suggested earlier, another matter entirely. In this respect, the issue goes beyond quarrelling over the correct or appropriate reading of history with respect to past human relationships to the natural environment. It introduces a set of questions related not only to the articulation of human needs, but those of nature itself and the dynamics of negotiation and the circulation of knowledge in the public sphere as well. I am less inclined to dwell on locating causes or sources of environmental crisis than to locate the reasons for the apparent difficulties in resolving it.

This is not deny to the importance of historically

rooted cultural dispositions. The question is which ones should we be paying attention to? For when Rachel Carson argues that the control of nature "should be geared to realities, not to mythical situations" (loc. cit.), she implicitly raises the question of how and by whom these realities are defined. By the same token, she opens up a space for the eventual disarming and/or cooptation of her own critique. This is essentially what occurs in Robert Bourassa's (op. cit.) defence of the Grande-Baleine Hydroelectric project. Bourassa, it will be recalled, defended the project precisely on the grounds that, in his view, it best addressed the double concern for societal needs and the protection of the natural environment. In effect, his argument has a double warrant, each of which attributes and articulates the audience's concern for and knowledge of environmental problems (Farrell, 1976). His project is clothed in Carson's own rhetoric.

In a similar vein, when the authors of Race to Save the Planet say that "we invented new ways to use the earth and destroy the environment" (loc. cit.), and when Bill McKibben (1989) completes his lamentation of nature's loss of independence with the almost bitter accusation that we are the ones who are in control of the planet's destiny, there is something extremely problematic about the use of the word 'we'. To the extent that environmental problems affect all the planet's inhabitants, 'we' do indeed have a

problem. After all, acid rain falls on rich and poor, bourgeoisie and proletariat alike. But is it valid to say that 'we' are in control? At one level, this use of 'we' operates rhetorically to personalize environmental problems, to make them our own, to make us aware that we are affected by them and to make us feel that if we are not in control, then perhaps we ought to be. But this inclusive 'we' occludes the fragmented nature of the social, the social archaeology of the alienating mediations separating speaker and audience on the one hand and experience and its explanation on the other.

This point can perhaps be drawn out by way of a contrast between the cultures represented in two works of art separated by four hundred years of history: Bruegel's Wedding Feast and any one of Andy Warhol's soup cans (the one I have in mind is the single can of tomato soup). In the former, members of a sixteenth century village community are seated around are large wooden table in the midst of celebrating a wedding. Overlooking the scene are two crossed sheaves of wheat, held together and fixed to the wall by what appears to be a simple wooden harvesting implement. Indeed, it frames the scene, gives it meaning and expresses a propinquity to nature that has all but disappeared in industrial societies. Here perhaps is the harmony with nature eulogized and held up for view by Carson, Merchant, Race to Save the Planet and others. The

participants appear to be healthy, sane and contented. They are quite literally enjoying the fruits of their collective labour. For them the labour process is transparent and unified. One can imagine them sowing, tending and harvesting their fields, then transforming the wheat into foodstuffs and ultimately consuming them.

In Warhol's painting there are neither people nor sheaves of wheat. A two dimensional soup can, the ready to be consumed end product of an anonymous production process, veils its origins. As in the case of Bruegel's villagers, life is still organized around the production and consumption of goods. Unlike them, however, the hands that work the fields and transform the raw materials are invisible. Nor are the logic and the knowledge that organize and inform the production process apparent. There is a complete separation of production and consumption. Like its objective referent, the soup can appears ex nihilo, ready for consumption; its origins are a mystery. For Bruegel's villagers, the relationship between the sheaves of wheat and the food on the table is transparent; collectively and individually, they participate in and understand the knowledges and logics which make up the entire production process.

My purpose here is not idealize Bruegel's village, it had all the disadvantages and rigidities typical of oral cultures. Its universe was pre-ordained and time bound

(Innis, 1951); both the natural and the social orders were coextensive with the good (God's Will), and that good was often cruelly enforced. It was a world in which everyday conceptions of time, social place, community, the state, knowledge and so forth were radically different from our own. It was also an unstable universe. Bruegel's village stood with a foot in the not quite modern world; its foundations were slowly coming undone in part as a result of the Reformation, in part as a result of the impacts of new technologies (in particular the printing press), the slow emergence of a new social order based less on the will of God than on the demands of an emerging mercantilist class which required social and political change in order to thrive.[5] In effect, it existed in a universe on the verge of mushrooming into something unknowable by any one individual.[6] In pre-fifteenth century Europe, knowledge was for the most part local and oral in nature. For the feudal serf, all that needed to be known was present and mediated by immediate sense perceptions contained within a very limited horizon. And it would be fair to say that he or she could claim to know the universe in its entirety; the

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[5] For a fuller account of this period (mid-14th to late 15th century), see Burke (1985: 91-124).

[6] I am alluding here as much to the demise of generalists such as Aristotle who were equally versant in physics, metaphysics, political science, etc., as to the fragmentation of the production process.

universe that mattered that is. Indeed, the entire effective universe was contained within a radius of fifty miles or so. These communities were largely self sufficient, relying on agricultural and other locally available material resources to satisfy their needs. For things like growing crops, meeting needs and so forth, there was no great mystery. Life was "regular, repetitive and unchanging. (...) There was virtually no part of this life-without-fact that could be anything other than local" (Burke, 1985: 91-92). For information on spiritual matters and moral codes, the Church was the final arbiter. For the largely illiterate population, cathedrals and religious statues were "encyclopedias in stone and glass" (ibid: 91), and reinforced the notion that things were as they always had been and always should be.

The four hundred years of cultural transformations separating the worlds of Bruegel and Warhol are too complex for me to discuss them here in anything other than a cursory fashion. I introduce them only to address what I take to be one of the most far reaching effects of the scientific revolution and the onset of the modern world. In contrast to Carolyn Merchant (op. cit.), the most significant transformations occurred not only with respect to nature, but concerned the overthrow of monopolies of knowledge rooted in and circumscribed by a culture of argumentation and face-to-face communication by the articulation of a

factually oriented mode of certain knowledge within the logic of a then nascent commercial and political elite.

Influenced by what he took to be the positive and beneficial effects of the invention of the compass, the printing press and gunpowder, Francis Bacon questioned the relevance of an essentially syllogistic mode of reasoning that could only aspire to consistency (Dick, op. cit.). In his view, these inventions had done more to affect peoples' lives than all the achievements of scolasticism, and led him to advocate a new, more certain mode of inquiry:

> The discoveries which have hitherto been made in the sciences are such as lie close to vulgar notions, scarcely beneath the surface. In order to penetrate into the inner and further recesses of nature, it is necessary that both notions and axioms be derived from things by a more sure and guarded way, and that a method of intellectual operation be introduced altogether better and more certain (Bacon, 1960: 42, NO).

In calling for the advancement of knowledge, Bacon was calling for and attempted to articulate what came to be commonly referred to as the scientific method, an epistemology based on careful and painstaking empirical observation and verification.[7] The most well known and lionized example of the success of the scientific method is Newtonian mechanics. Newton stands at the successful end of a century old effort more or less begun by Galileo to

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[7] Darwin attributed his own successes to strict application of Bacon's ideas, so much so that he acknowledged Bacon by quoting a passage from The Advancement of Learning on the title page of The Origin of Species.

mathematize nature. He, along with his predecessors and contemporaries, reinscribed the natural universe as a mechanism, a sort of eternal clockwork set in motion by a divine creator. The workings of material reality were made over nto abstract principles, which although knowable, were not readily apprehended by day to day experience:

> ". ..the ideas of the Newtonian paradigm. ..do not accord with what the. .. evidence of our senses tells us about the world. (...) Classical Newtonian science tells us that we are wrong, and that what we think we see is unreal (Pepper, 1984: 47).

The point I wish to bring out here is a familiar one, but needs to be made all the same. The successes of the new natural philosophers such as Newton reverberated throughout the social and political arenas. The scientific method became the dominant epistemological model not only for the physical sciences but also for conceptualizing and organizing virtually all other spheres of life. The culture of argumentation characteristic of the middle ages began to lose its vitality:

> ...there was a decline in the conviction of the cogency of "trivial" argument, that is an argument in the essentially rhetorical language of the trivium as against argument in the essentially mensurative language of the "quadrivium" (Marx, 1988: 166).

Opinion gave way to factual knowledge (Burke, 1985). Debates were resolved by appeal to a growing body of written evidence, which relocated the site of epistemological and moral authority from local custom and lived experience to

anonymous and expert communities of discourse. The contemporary commonsense notion of factually based truth had made its appearance ("My job is to gather and report the facts; the facts are what is important," said CBS anchor Dan Rather during a recent television panel discussion), and with it came a new intellectual elite, a new epistemological excellence. The scientific community became the new priestly class (Lessl, 1989) whose voice took on the authority formerly held by the clergy.

More importantly for the present discussion, this new epistemological elite became vested with the authority, and to a certain extent the power, to name the real; that is, to settle disputes about what was and what was not the case. Particular facts become associated with particular communities of experts. Indeed, these communities of experts establish the rules for what counts as facts (Khun, 1962). Just as the scientific community has its facts, so do Dan Rather, Travis Manning, Douglas Laboratories and so on. The spirit of rationality and verifiable knowledge came to inhabit the modern consciousness[8], it became its commonsense category for received knowledge, and facts became its currency. 'Our' consent to this arrangement is

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[8] Indeed, as Weber (1984) argues, the rationalization of social intercourse was a precondition of the emergence of modern capitalism.

so much reinforced by myriad rituals and utterances that only rarely do we stop to question it. It is woven into the fabric of what we consider to be the true. Even Christian fundamentalists have understood the basic social reality that people respond better to an argument spoken from a position of scientific objectivity. In its latest apparition (circa. 1978-82), the creationist movement both in Canada and the U.S. began calling itself 'scientific creationism' in order to lend credence to its attacks on received Darwinian evolutionary theory. The point is not whether they could legitimately claim a scientific foundation for their arguments; rather, it is the mere fact that they deployed the legitimacy of science as a rhetorical resource, infusing their arguments and version of creation with the generally accepted authority of science.

Similarly, a recent controversy in Quebec that saw biologist, Gaston Naëssens tried and acquitted on charges of fraud and malpractice with respect to his treatments for cancer and AIDS (treatments not recognized by the official medical community) became the object of an often shrill and never indifferent public debate fought in part on the opinion pages of Montreal newspapers. One particular confrontation is worth considering briefly. It concerns an exchange of letters between Gaston Naëssens and Dr. Augustin Roy, President of the Corporation professionnelle des médicins du Québec and one of Naëssens most vehement and

outspoken opponents. More than anything else, the conflict was over what constitutes legitimate science. Roy accused Naëssens of not playing by the rules of the scientific game: "As for 714X, it is a product whose effectiveness has not been demonstrated. Health and welfare Canada ... [says] ...that it has no data supporting the claims...the innocuity...and the stability of this product" (La Presse, Jan. 26, 1990: B3, my translation). For his part, and in defence of his products and his methods, Naëssens took pains to cloak his arguments with the aura of science: "There is nothing epic about research; it consists in hard work and perseverance, built on multiple observations, satisfactory and reproducible results (La Presse, Feb. 4, 1990: B3, my translation). Bacon, Newton and Darwin would have surely agreed; this is the essence of science, the sure way to the true. Although the facts are what are at issue in both of these examples, what underlies both arguments is the ethos of the speakers: who best represents Lessl's "priestly voice" (op. cit.)? That voice is not at issue; in both cases it is the final arbiter and provides the locus of judgment.

The doctor orders such and such a treatment, and it is so: "Health is packaged into medical services, to such a degree that at a certain moment health becomes whatever a doctor does to you" (Illich, 1974: 38). Health, to paraphrase Althusser (1970), is always already packaged into

medical services. We, in contemporary society, have no memory of anything else. Most of us were born into a world of medical services, a world where doctors and other recognized experts determine what is true and what is best. But, as in the above examples, the issues are not merely related to some set of arcane facts about quasars or quarks; they are about how a hegemonic spirit of rationalism and an attendant scientifically informed expertocracy inhabits everyday consciousness and constitutes an invisible web of social relations of power and authority to which people more or less consciously consent.

The medical example is an appropriate one. It is less in nuclear physics than in the more mundane day-to-day sciences with which we frequently come in contact that the relationship between truth and power - the interpenetration of the neutral 'is' of science and the value laden 'ought' of moral judgment - is more easily grasped (Foucault, 1980: 109-133; Line, 1990: 35-57). Medical science, as we know it, is a recent social phenomenon. It dates from the eighteenth century when it was recognized that a healthy citizenry makes a healthy work force which, in turn, makes for a healthy and prosperous body politic (Burke, 1985: 195-238; Foucault, 1980: 166-182). Physicians were increasingly called upon to perform health services in the name of an overall state policy. Moreover, they came to assume a moral authority; their domain of expertise was extended beyond the

purely physical to the spiritual well being of individuals and society at large. A poster distributed in London in 1831 during the height of a cholera epidemic shows this connection in an interesting way. After listing disease symptoms and various remedies, it concludes with a note at the bottom claiming that the best prevention of the disease is "moderate and temperate living,...but the great preventative...is found in due regard for cleanliness and ventilation" (reproduced in Burke, 1985: 221). Foucault (op. cit.) underlines the disciplinary function assigned to the medical community generally and physicians individually as their social roles were subsumed under the generic heading of police: "The health and physical well-being of populations comes to figure as a political objective which the 'police' of the social body must ensure along with those of economic regulation and the needs of order" (1980: 171). Regulating food and water quality as well as street cleanliness also fell under the rubric of public health.

Acting within this juridico-political framework, physicians came to occupy a position of epistemological and moral authority mediating the experience of the body and its explanation. Health, as Illich (op. cit.) pointed out, came to be defined and determined within the discursive parameters of a medical institution whose utterances were grounded in objectivity. The body itself almost became a foreign object reconstructed and particularized as the

exclusive object of medical knowledge. Like Newton's reality, everyday sensual knowledge of the body was dismissed as unreliable and ultimately false. The body mechanism, as it came to be viewed, was analytically dissected into so many parts the naming and understanding of which was given over to an institutional elite answerable at one level to the State, to itself at another, and hardly at all to the patients themselves. As James Burke writes:

> As medicine became more scientific, moving its attention from bedside to hospital to laboratory, the involvement of the patient in his diagnosis dwindled and vanished. (...) The patient was now represented by numbers, temperature profiles, photographs of lesions and statistics (1985: 237).

Armed with the confidence of certainty grounded in its successes with, for example, the effective elimination of the threat of cholera, the bio-medical community began speaking to a wider range of socio-political issues that extended beyond a purely biological realm. Health came to assume a wider meaning that informed social as well as physical well-being. The medical corps came, in effect, to play an increasingly important role in determining what is normal in a given society. Problems such as social deviance were medicalized and constituted within a scientific vocabulary against which most laypeople are powerless to argue.

The point here is not to vilify medical science and its practitioners. After all, one is grateful for protection

against malaria, polio, cholera, bubonic plague, etc. The issue has to do with epistemological and moral authority, with the colonization of the real by expert knowledges. To a large extent these knowledges are crucial in the stipulation of which aspects of 'nature' are desirable and undesirable, menacing and safe. For when Rachel Carson urged that the control of nature be geared to realities, most of us would be inclined to agree. But determining just what those realities are, how they are stipulated, takes us to the heart of connection between recuperating the natural environment and reclaiming social control. Moths that feast on knitwear and malaria bearing flies are both a part of nature, as are salmonella and polio bacteria. The issue comes down not only to where the line is drawn separating those aspects of nature we would like and arguably need to control and those which we should either leave alone or treat with greater respect, but also to how and by whom that line is drawn.

## CHAPTER III:

## WHAT EVER HAPPENED TO *SILENT SPRING* ?

Unlike most crises, environmental crisis in its contemporary form has extended over a relatively long period of time - approximately twenty-five years. To be sure, there were earlier moments when the same sort of problems manifested themselves and were objects of public debate and legislative action. In 1952, for example, a series of 'killer fogs' brought death to thousands of Londoners, resulting in that country's Clean Air Act. Afterwards, however, the matter more or less dropped from view. In the public arena at least there was no sustained investigation of the systemic nature of the problem. In the present decade, no such dismissal is possible. Indeed, one is forever hearing news reports of opinion surveys that consistently situate the environment among the top worries and priorities of the general public. Awareness of the crisis coats the experience of everyday life with a patina of anxiety, constructed and sustained by countless declarations, policy utterances, politico-legal battles, news reports, advertisements, books, films, songs, documentaries ..., so much so that soon, if not already, an

entire generation will have never experienced the world in its absence:

> 1970:
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> Unless something is done to reverse environmental deterioration, say many qualified experts, horrors lie in wait. (...)
> In a decade, urban dwellers will have to wear gas masks to survive air pollution (Life, January 30, 1970: 32)
>
> 1990:
>
> It seems that everywhere you look the environment is under stress. (...) By the year 2000, that's less than ten years away, the earth's climate will be warmer than it has been in over a hundred thousand years. If we don't do something, there'll be enormous calamities in a very short time (Meryl Streep, 1990)*.

At first glance, it would appear that little has changed. The dire predictions continue to cast a shadow over everyday life; each decade may be the last for life as we know it. Indeed, in many respects little has changed, except the extent to which the environment has become recognized as a legitimate social and political issue, and the degree to which environmental awareness has resignified natural phenomena. Russet coloured leaves, a sign of summer's end and the imminent return to school, have also become the insidious markers of acid rain. Beautiful sunsets are less awe-inspiring when we recall that their colours are produced by light refracting through highly

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* From the introduction to "Now or Never", part ten of Race to Save the Planet (op. cit.)

toxic particulate matter spewed into the atmosphere by automobiles, refineries, factories and so on; they are the worrisome legacy of the promise of prosperity signalled by the reassuring plumes of steam locomotives. A July heat wave is no longer just the dreamy dog days of summer when time seems to come to a standstill. Now it augurs planetary warming with its attendant droughts, melting polar ice caps, climatic chaos... Indeed, even many of nature's less benign humours have been reinterpreted; "More evidence of global warming as violent storms lashed Great Britain this week" (CBC Newswatch, January 20, 1990), began one news story, which, interestingly, made no further reference to global warming. It is itself evidence of the extent to which the environment has been redefined as problematic and woven unquestioningly into everyday perceptions of the world, so much so that the environment has become a carrier for commercial messages. A recent locally produced television commercial for a home heating system, for example, grafted the environment onto its sales pitch. The words 'environmentally friendly' were flashed repeatedly on the screen. No explanation was given and none was needed; the words spoke for themselves. The author(s) could unproblematically attribute environmental knowledge to the audience. To all appearances it was crudely tacked on as an afterthought. Nevertheless, it is another indicator of the extent to which environmental awareness has entered everyday

consciousness. Forty years ago, it would have been either a nonsense or have had an entirely different meaning.

The environment has also become a major preoccupation of government decision makers. It is now routinely factored into policy statements, made the mandate of government departments and so on. The federal government's latest Speech from the Throne, for example, made environmental protection one of its top priorities: "Au cours des prochains mois, mon ministre de l'Environnement mettra en oeuvre diverses initiatives...[qui] assureront aux Canadiens...la pureté de l'air, de l'eau et à l'amélioration de leur qualité de vie" (reproduced in La Presse, May 14, 1991: B3). Notwithstanding this embracing of environmental issues by the political economic establishment, the environment remains an important site of contestation, an implicit challenge to and critique of the hegemonic discourses coopting it and making environmental discourses their own. This should hardly come as a surprise. The history of resistance inevitably becomes the history of its amalgamation. As Richard Gruneau writes, "[t]he moment of resistance needs to be understood both in the way it opposes hegemony and is often contained by it" (1988: 26). Rhetoric, like rain, falls on the good as well as the evil (Self, 1979); that is, there are no a priori guarantees concerning the ownership of topics of discourse. The question, as Self points out, is to determine the extent to which virtue and

persuasion have become unstuck. Or, to revert to the vocabulary of Cultural Studies, the opposition/containment dynamic is a reality, but in many instances some containment is both necessary and desirable. Like so many other sites of resistance and negotiation (eg., the politics of gender and race), environmental advocacy has always had among its major objectives the securing of a place for environmental issues on the mainstream political agenda on the one hand, and the raising of public consciousness on the other. By and large, these objectives have been met, perhaps not in the desired way, but they have been attained nonetheless. The question is whether the oppositional space opened by environmentalism has been closed off or not, whether its critical edge has been disarmed, and, most importantly, whether the process of its absorption by mainstream discourses has blunted environmental reform. One wants to know how the crisis has been constructed, by which voices, in which terms and in which arenas. The interpretive parameters of the above mentioned Speech from the Throne are interesting in this regard. The relevant passage is introduced in the following manner:

> Mon gouvernement estime qu'il est tout à fait possible d'étendre la prospérité du Canada tout en préservant notre environnement naturel (La Presse, ibid.).

And concludes with:

> Au cours des mois à venir, mon gouvernement consultera les gouvernements provinciaux et les leaders du secteur industriel et des milieux

> écologistes pour explorer...des façons novatrices d'atteindre les résultats souhaités en matière d'environnement sans nuire à la prospérité économique (ibid.).

But who defines 'quality of life', 'Canada's prosperity', 'economic prosperity' and, for that matter, 'natural environment'? How and by whom are these terms articulated and concretized? Who are the constituent speaking members of the discursive community(ies)/public(s) deciding 'our' environmental fate? These questions go to the core of environmental crisis as it has been constructed since the beginning of the 1960s.

A number of commentators trace the origins of contemporary environmental activism to the 1962 publication of, and controversy surrounding, Rachel Carson's Silent Spring. Neil Evernden, for example, writes that the book's publication represents "one of the most remarkable incidents in the history of nature preservation.(...) Silent Spring evoked a reaction that has never entirely subsided" (1989: 152). Bill McKibben, for another, hails the book as a watershed event, recalling that,

> "had she not written when she did about the dangers of DDT, it might well have been too late before anyone cared enough about what was happening. She pointed out the problem; she offered a solution; the world shifted course. This is how this book [his own] should end, too" (1989: 139-140).

While I find McKibben's assessment of the book's impact to be somewhat misleading and exaggerated, it is quite true, as I will argue below, the controversy surrounding the

publication of Silent Spring had a considerable influence on the way environmental questions were subsequently treated and interpreted. As I suggested earlier, however, the world did not shift course. If anything, as Evernden himself points out, the generic problems she addressed remain substantially the same today. Indeed, DDT, a major focus of her book, was not banned (in the U.S) until 1972, a decade later. In the year following the book's publication, U.S. President John Kennedy's attempt to solicit the public's interest in environmental issues "was greeted with a yawn. The subject bored him, [and] it bored the audience" (Life, January 30, 1970: 23). Furthermore, one could legitimately ask whether her book was, in any direct sense, about nature preservation at all. Strictly speaking, Silent Spring was published after environmental debate of a sort had begun. In December, 1961, Life magazine devoted a special double issue to the debate over the degradation and contamination of the natural environment, a debate which had been growing in importance since the late 1950s.

I raise these matters not to quibble but to situate Silent Spring, and to explore and understand the formative moments of current environmental debate. Nor do I wish to diminish either the importance or the influence of Silent Spring. One could do much worse than rely solely on her book for an authoritative discussion of environmental issues. It is, in my view, an accurate, important and often

ruthless exposé of industrial practices and their effects not only on non-human nature but on human health and, potentially, the long term genetic viability of the human race. In her own way, moreover, she addressed and articulated many of the issues which have became the key loci of subsequent public debate. In effect, her book contains a jumble of critical discourses and rhetorical voices. It operates simultaneously, and not always relatedly, as a lament for a lost harmony with nature; an explicit and implicit critique of a way of life predicated on materialist notions of progress and prosperity, unlimited consumption, the right of individuals and corporations to possess and dispose of property in whatever ways they see fit, the impoverishment of citizenship and public discussion and awareness, and the equally bankrupt morality of the scientific and industrial communities as well as the links between them; and, finally, as an urgent and fearful warning to the planet's inhabitants.

Notwithstanding the controversy generated by the book's publication, the kind of critique it advocated was very quickly disarmed. At one level, however, we can agree with Evernden's assessment that the reaction she provoked never entirely subsided. She articulated environmental problems in a new and original way that synthesized what at the time were two separate discourses - one resurgent, the other emergent. Moreover, the way in which the book was received

established a pattern for environmental debate that has indeed not subsided.

In the United States, a vocal preservationist lobby had existed since the middle of the nineteenth century. For the most part, particularly after the turn of the century, this lobby consisted of property owners, naturalists and sportsmen interested primarily in protecting the sanctity and integrity of wilderness retreats from the encroachment of industrial society (Marx, 1988; Oravec, 1984).[2] They promoted their cause - the preservation of nature as wilderness/as end in-itself, in a language and with a set of interests that elicited little sympathy in what was a largely urban population. Indeed, even their ideological commitment was perceived as being at odds with mainstream pragmatic discourses about material progress and development: "preservation ...implied a radical social critique. The highest valuation of nature as preservationists interpreted it, presumed a rejection of a way of life advocated by a materialist and progressive democracy" (Oravec, op. cit.: 454). In sum, environmentalism, such as it was, came to be identified with the interests of an intellectual elite. The nature they defended was literally and figuratively remote and

[2] Apparently the pre-nineteenth century preservationist movement was more populist in character and included elements of the feminist movement such as it was (Merchant, 1980).

inaccessible to the majority of the population (Marx, 1988).

By the 1950s, however, conditions had changed; nature had become popular. Thanks in part to a powerful automobile industry lobby, a network of highways had begun to spring up, thereby 'opening up' nature, connecting city and country (which became suburbia), urban dwellers and the great outdoors (which was made into a commodity by the tourist industry[3]). Needless to say, the new occupation of a formerly inaccessible wilderness was not without its problems. Before long the sullying of its pristine character had become a cause for public concern. By the onset of the 1960s, the long discredited nature preservation advocacy was being recuperated: "Our Splendid Outdoors - The Land We Love and Enjoy...and the Fight to Save It" (December 22, 1961, suspension in original) announced Life on the front cover of a special double issue. The accompanying fold-out photograph was appropriately captioned "Campers in the Tetons". The magazine editorialized about the need to re establish a balance between humans and nature and urged an investment in the "infant art of 'environmental planning'" (15). In the long catalogue of environmental woes Life enumerated, pollution was relatively low on its index of priorities. When it was addressed, it was more in connection with the despoliation of natural beauty and the

[3] For an interesting discuss of this phenomenon, see Alexander Wilson's (op. cit.) discussion of nature tourism.

right to enjoy it than with the potential risk to human health. In general, public debate was portrayed as focused on how best to implement a policy of multiple use management of nature, among which numbered the "not always compatible...guardianship of timber, water, power, wildlife, grazing, recreation and sheer wilderness" (14).

Concurrently, a separate although not entirely unrelated discourse was emerging, a popular discourse that would assume its full measure in the counter culture of the later 1960s. It was a sometimes explicit, sometimes implicit, critique of the modern world as it had come to be expressed or lived in industrial societies, particularly the United States. In 1959, for example, Life ran a four-part series entitled "You and Your Doctor - Science versus Sympathy" (October 12, 1959) questioning the fragmentation and disenfranchisement of the patient in a manner strikingly similar to Burke's (op. cit.) description of the evolution of medical science and practice into highly specialized and exclusive areas of expertise. It was, admittedly, hardly what one could consider as stridently oppositional or offering anything resembling a radical critique of existing social order. Nevertheless, it brought into relief what it considered the lamentable and somewhat intimidating features of the increasing institutionalization of many facets of everyday life. It spoke indirectly about the emergence of a mass society of atomized individuals whose experience and

understanding of themselves (their bodies in this case) and the social were being increasingly mediated by expert knowledges beyond their ken and control. Vance Packard's The Waste Makers, for another, a wide ranging and often disconnected diatribe about the evils of consumerism, the commercialization of American society and the depletion of natural resources, warned that "the nation faces the hazard of developing a healthy economy within the confines of a psychologically sick and psychologically impoverished society" (1960: 276). Packard had in mind the demise of the family, the dislocation of individuals and the channelling of self-identification and self-esteem through commodity consumption. Over all, the book was a generalized critique of a materialist conception of progress and the consequent subversion of an Aristotelian public sphere by market and production logics. Similarly, a number of works of popular fiction were exploring a range of malaises afflicting modern society. Philip K. Dick's The Man in the High Tower (published in 1962), for example, described a society that had lapsed into fascistic paranoia in which power had begun to consume itself. In William Burroughs' Naked Lunch, for another, drug addiction is a metaphor for the American "addiction to materialist goods and property,...to money;...and most of all an addiction to power...to controlling other people by having power over them"

(Burroughs, [1962] 1966: xix)[4].

To be sure, these kinds of critical observations and commentaries were not new; social critique in some form or another has been voiced throughout history. The crucial question has less to do with whether critique exists than with whether anyone is paying any attention to it, with whether it informs a current of opinion circulating in popular consciousness. This, it seems to me, was the case during this period. The above texts were part of a critical, albeit tentative and disconnected, climate; they contributed to the creation of discursive space and a receptiveness for a critique of the good as it had come to be articulated in American society. What I am suggesting is that the moment was propitious for Silent Spring, which stepped into and both informed and was informed by this space. Carson provided a basis for linking nature preservation with a wider social and political critique. Evernden (op. cit.) argues that her book popularized nature. But given the already established interest in and concern for nature, it seems plausible to suggest that she established the conditions for popularizing environmentalism. She extended the meaning of nature, articulating it as the everyday, intimate and invisible

[4] These remarks are from Allen Ginsberg's testimony given during the book's 1965-66 obscenity trial in Massachusetts.

nature that most of us take for granted, the one which, in the final analysis, we hold the most dear - the air we breathe, the water we drink, the food we eat and, finally, the biological integrity of our own bodies:

> For the first time in the history of the world, every human being is now subjected to contact with dangerous chemicals, from the moment of conception until death...they occur virtually everywhere,...in fish in remote mountain lakes,...and in man himself. For these chemicals are now stored in the bodies of the vast majority of human beings regardless of age. They occur in the mother's milk, and probably in the tissues of the unborn child (1987: 15-16).
>
> This pollution is for the most part irrecoverable; the chain of evil it initiates not only in the world that must support life but in living tissues is for the most par irreversible (ibid.: 16).

Chapter titles like "Elixirs of Death", "Beyond the Dreams of the Borgias" and "Indiscriminately from the Skies" are rhetorical markers locating the source of the problem in the shortsighted practices of the chemical industries. The force of her argument derives not so much from the defence of nature as such (although this theme is definitely present). It demonstrates how the abuse of nature affects its human inhabitants. She gave a new meaning to Life's (1961) appeal for a harmony with nature, one that went beyond aesthetic values and utilitarian concerns. By locating the problem the way she did, she focused the emergent social critique in a concrete and urgent matter. The same institutional arrangements responsible for the impoverishment of the social were causally connected to the

"chain of evil" contaminating nature and creating a potentially irreversibly hazardous world for its human inhabitants - her readers. Unfortunately her synthesis did not hold. Nature preservation and life threatening biospheric contamination were subsequently constructed as distinct sites of contestation. Secondly, as I will show, the kind of critique she implicitly advocated was appropriated, dissimulated and reconfigured within a pluralistic frame of ideological reference on the one hand, and a hard-nosed rhetoric of manifest need on the other. Thirdly, contrary to what she, and no doubt many other environmentalists, had in mind, the purchase of expert knowledges on conflict resolution in the public arena continued to mediate and inform public discussion of environmental issues. Let me unpack this cluster of assertions and attempt to collect them into a dynamic and, I hope, instructive, whole.

Silent Spring, and environmentalism generally, produced something approaching a panic that reverberated throughout the industrial community, particularly the agri-chemical business. It posed a direct challenge and threat not only to its balance sheet but also to prevailing rationalistically informed and materialist conceptions of prosperity and progress. While segments of her audience may have been indifferent to the destruction of nature as an aesthetic object, it is less likely that they would ignore a

threat to their own safety. In naming the source of that threat, she invited a rethinking of the metanarratives in force at the time and as they were performed by the prevailing political economic infrastructure. The immediate target of her criticism was the chemical industry, a large and relatively powerful vested interest that played a significant role in shaping agriculture praxis throughout the industrial world. Its reaction was swift and brutal, consisting for the most part in character assassination. Carson was accused of fear mongering, of alarming a nontechnical public (Evernden, op. cit.). The irony of this accusation, of course, is that alarming the nontechnical public was and remains a central objective of environmental advocacy. In Carson's view, this public had good cause for alarm - their lives were at risk. Indeed, her book was intended to bridge the gap between the technical and nontechnical publics, a distinction which she found highly problematic. For her, it entailed the cynical monopolization of knowledge and authority by the former to the detriment of the latter, which was not a true public at all but a site of passive acquiescence:

> The public must decide whether it wishes to continue on the present road, and it can do so only when in full possession of the facts (Carson, op. cit.:13). (...) Who has made the decision that sets in motion those chains of poisoning, ...[who] has decided - who has the <u>right</u> to decide for the countless legions of people who were not consulted that the supreme value is a world without insects? (...) The decision is that of an authoritarian temporarily entrusted with power (127, emphasis in original).

> (...) Public education as to the nature of the chemicals for sale is sadly needed (184).

Essentially, Carson was made the issue. She was branded as an "hysterical woman" who wanted to let insects run the world (Brooks, in Carson op. cit.: x), with the objective of stripping her of her authority as a scientist; i.e., her claim to speak from within the true of scientific discourse was disavowed. The value of her arguments was constructed as being extra-scientific both in form and content, and therefore of no real value at all.

Partial vindication came from then U.S. president John Kennedy's Science Advisory Committee, charged with looking into the problem of pesticides. It concluded that there was indeed a causal connection between pesticide use and threats to human health. It did not, however, address wider issues related to the industrialization of agriculture; rather, it restricted its inquiries to the narrower matter of the use or misuse of particular chemicals. Moreover, of the two voices informing Silent Spring, the pastoral and the practical[5], only the latter was considered. It made the

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[5] I do not wish to suggest that 'pastoral' and 'practical' are necessarily opposed to one another. I use the latter in the sense of a purely technical one constructed as separate from the world of valuation. The pastoral voice speaks from a moral position, whereas the latter typically denies its relationship to the moral domain. An example of the latter can be found in the introduction to a university text book, which explains the role of economics and economists in the clarification and resolution of public controversies: "Economists cannot tell people what they ought to do. They can only expose the costs and benefits of various alternatives so that citizens in a democratic society can make better

question a technical one, a matter for expert knowledges and contained the issues she raised within the parameters of specialized discourse.

This is not to suggest that the matter was shelved or turned over to the exclusive domain of scientific knowledge. The resistance to environmentalism quickly subsided; concern for the environment soon became an important rhetorical resource for corporate image campaigns. A summary examination of environmentally related advertisements placed in National Geographic from 1968 to 1980 reveals a marked tendency to construct a distinction between environmentalism as concern about protecting the public from health hazards (recalling Leo Marx's [1988] comments, this category constructed environmental problems as sanitation problems) and as nature preservation.

Standard Oil, for example, placed a number of advertisements underlining its commitment to the environment. In the previously cited text, "The Goal was to Keep the Air Clean" (January 1968), the specific object of consideration was air pollution:

> When word first got around that [we were] thinking about building a refinery, the people of the community were pleased.
> It would bring jobs and other industries into the area.
> But [we were] concerned about what else it might bring too.

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choices" (North and Miller, 1973: vii). I will discuss the application of this kind of thinking to environmental problems below.

Like air pollution.

This was indeed a reversal of earlier resistance. It preempts criticism by suggesting that it is aware of pollution before anyone even thought it might become a problem. Moreover, by drawing attention to the problem, in the manner of a public service announcement, it deflects attention from the fact that its activities are necessarily polluting. The following year, Standard Oil published another advertisement, this time exploiting the theme of harmonious cohabitation with nature, fish in this instance: "Fish used to be scared when we looked for oil. Now they seem interested" (February, 1969). The ensuing text details the development of what would now be called environmentally friendly technologies. Throughout, the focus is exclusively on nature preservation. The point here is that Rachel Carson's gathering of environmental problems into a single problematic - that, say, air pollution and scared fish should be dealt with collectively and not separately - did not gain widespread acceptance. More importantly for the rehabilitation of nature is that nature as scared fishes or wildlife in general, pristine landscapes and so on become a distinct category of attention and dispute. As we shall see, this category, considered either as a whole or as so many objects of concern, becomes an interest in a market place of interests.

In a series of advertisements run by the Caterpillar company, a manufacturer of heavy construction equipment, over

a period of ten years, environmentalism is firmly situated within a pragmatico-pluralistic frame of reference, which constructs environmentalism as one interest among others. Each advertisement is presented in the form of a dilemma, such as the following with respect to dam construction:

> Are dams good or bad? The answer is both. Because water control, like many problems today, has both environmental and economic impact (National Geographic, January 1975, emphasis in original).

After listing the environmental and economic advantages and disadvantages of dam construction, it concludes:

> No one suggests we dam every river and stream. But responsibly planned projects, like the one at Mount Morris, prove we can balance good and bad - for our environment - and our economy (emphasis in original).

The argument solicits reader agreement and approval by constructing, transcending and resolving a series of oppositions. "That dam destroys the beauty of nature," one voice asserts; "It controls water to help flood destruction," insists the second. For its part, the Caterpillar persona seems to be saying: wrong you're both right, it affects both the economy and the environment. By placing environmental concerns and economic preoccupations in opposition and subsequently subsuming them by a single universe of discourse, both are equated and relativized not only in terms of value but with respect to their objective reality. The constructed and contingent nature of human economies is presented as an unproblematic ahistorical

given, the intrinsic values and reified properties of which can compete in value and importance with those of the environment. By transcending this opposition, Caterpillar posits itself as an objective mediator of a dispute between competing interests of equal value.

Of course the universe presented by these advertisements is essentially a comedic one of happy endings, where compromise is always attained. The fish are happy, people have jobs in a pollution free environment, and opposing points of view are always resolved in a spirit of compromise. At another level, however, they, particularly Caterpillar's, do reflect how the environment has been fragmented into multiple sites of contestation. Indeed, the environment has become so many battles fought by way of formal litigation or through quasi-judicial bodies such as environmental review agencies. Alternatively, it has been treated thematically and made the object of local, national and international debates over issues such as pesticides, planetary warming, ozone layer depletion and so on. In each instance, batteries of experts are called upon to establish causal chains, identify pollutants and polluters, likely effects, cost-benefit ratios..., to such an extent that:

> What it all comes down to is, who carries the burden of proof in the pesticide dilemma? Must damage be done before a pesticide is indicated? Or must a company prove beyond all reasonable doubt that its products will not make the public unknowing guinea pigs, and the environment a laboratory? Definite answers will be long in coming. (...) A farm worker may develop cancer decades after exposure to a

> pesticide. Is the chemical at fault? Could the cancer have been prevented? At what cost? (National Geographic, February 1980, 183).

These are highly complex matters, and rightly the province of expert knowledges. On the other hand, it is not clear that these knowledges should be the dominant mediating voices in settling the outcome. In many cases, however, this is precisely what happens even in those cases where decisions have been made by default because of the failure to achieve a clear expert consensus.[6] But the fact remains that, default or not, with conclusive or inconclusive evidence, expert knowledges play an important role in mediating the outcome. The issue is not so much over whether these knowledges should have a role; rather, the question is whether they construct an arena of choice that conceals a complex of social, political and cultural givens that ought perhaps to be the object of debate. For when North and Miller (op. cit.), for example, claim that economics cannot make the decisions for people but only inform those decisions, they presuppose a commitment to a form of public decision making and debate that constitutes its own objects and predetermines or at least qualitatively delimits the range of possible outcomes. Moreover, it both naturalizes and rationalizes a complex of political and

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[6] For an interesting discussion of this phenomenon, see Charland's (1989) discussion of the Montreal fluoridation controversy.

economic relations and posits its own legitimacy as a privileged discourse because neutral or value free (that is, it is not implicated in the outcome but only serves as midwife). These four characteristics are interrelated and reciprocally inform one another.

"Every action has a cost. (...) Beauty does not come to us free of charge" (op. cit.: 168), North and Miller assert as a prelude to discussing a rational means of settling a dispute between advocates of wilderness preservation and those defending logging companies. Like the Caterpillar advertisements, they assume an ideological commitment to a pluralist society in which interests of equal intrinsic value compete with one another. Conflict resolution can only be achieved by transforming the objects of interest and relativizing them on a measurable scale about which all can agree. In this instance, the scale is income, revenue etc., and the analysis is of costs and benefits and their distribution throughout the entire population. Beauty is thus presented as an interest, which, in its turn, is objectified and measured on a presumed level playing field consisting of rational agents operating in a world of free choice. A similar treatment is afforded oil spills (79-83) and dam construction (103-107). One unforgettable chapter deals with "The Economics of Prostitution" (34-37). While their discussion of prostituion bears no immediate relationship to mental issues, it does reveal how all issues

are, in this scheme of things, reduced to a single set of equations. Moreover, it proposes a model for decision making and conflict resolution in the public sphere in such a way that only certain voices and contents are considered. What is striking about their discussion is that prostitution is considered strictly as an economic activity (which, to be sure, it is), but is entirely devoid of reference to the gendered relations of power that the economic activity reproduces. Indeed, their model can only function when negotiation of those relations is suspended, or at least assumed as an unproblematic given. The objectivity of their model is only possible in a world where everything has been reduced to objects the relative weight and importance of which can be measured on a numerical scale. In other words, and with respect to environmental issues, notwithstanding their claim to objectivity, North and Miller reconfirm a set of institutional and cultural arrangements in which opposition is not so much refused as it is absorbed. One could also say that they merely reproduce the dominant ideology, but this would lead me astray from the subject at hand. My treatment of these positions is a familiar one; it is not my intention to develop it further. The more important issue concerns the ways these approaches have informed the construction of environmental issues, of how that construction carries epistemological and ontological assumptions that permeate and structure environmental debate

the way axioms do mathematics.

Clearly, we do live in a society of conflicting and competing interests. Negotiation and compromise are both necessary and desirable. No doubt cost-benefit analysis has a role to play. But that is neither my point nor the fundamental issue. What the above examples, taken singly or collectively, 'conceal' is an unspoken warrant: the good as it is interpreted, performed or otherwise deployed as a rhetorical resource throughout much of the industrial world. For when the above cited National Geographic article on pesticide use invited reader reflection by concluding with the question "At what cost", the shape the answer would take had already been spelled out by magazine editor Gilbert Grosvernor's editorial preface:

> With a steadily increasing population and a decrease in arable land, the world must use pesticides to maintain high crop yields and affordable food. At the moment there is simply no other way to farm on the scale required. Answers to questions of environmental danger, sensible regulation with diligent enforcement, proper application, and acceptable chemicals thus are a world necessity - THE EDITOR (op. cit.: 145).

This is a reasonable appeal, one that is difficult to refuse. It appears to look a problem squarely in the face and advises a prudent and responsible course of action. There is no question of denying or minimizing the importance of the problem. Indeed, in an earlier paragraph, the author stated that it was one of the most thoroughly researched articles the magazine had ever published. "What we are

telling you here is the bare unadulterated truth, the facts of the matter," he seems to be saying. This truth is then mobilized as the authority and ethos that sustain the claim that pesticides are an unfortunate necessity. The same diligence and concern for the truth that went into documenting the article are transferred to the persona making the normative claim about the needs of the world we live in. Indeed, these needs are presented as fact.

Thus we come to the central axiomatic of environmental debate as it has been constructed and interpreted in industrial societies; the point of convergence for its various strands and nuances - the question of need, of what is necessary to maintain an acceptable standard of living, or quality of life as the Speech from the Throne put it. Ironically, this too can be traced to Rachel Carson: "All this is not to say that there is no insect problem and no need of control. I am saying, rather, that control must be geared to realities, not to mythical situations" (loc. cit.). But what are the realities and what are the mythical situations?

The history of this theme is remarkably consistent. It has become the discursive pivot for the integration of environmentalism into mainstream discourse. Shortly before U.S. president Richard Nixon announced that environmental clean-up was to become a central feature of his political agenda, a Life editorial presented the issue in the

following manner:

> Change, of course, is inevitable; and progress, which is intelligently conceived change, is desirable. There must indeed be more jet airports, highways, housing and power plants, and it is foolish to maintain - as some conservationists do - that their encroachment must be prevented everywhere and at all costs (August 1, 1969: 32).

While this editorial is less blunt than Grosvenor's appraisal of the situation, it is nevertheless inscribed in the same rhetoric of, what I called earlier, manifest need. Of course, there is nothing really manifest about the need at all, but it remains one of the key unexamined premises linking speaker and audience. Jet airports, housing and so forth are quite legitimately held up as necessary to a particular way of life. In doing so, however, Life makes them the sole focus of environmental contestation, thereby concealing the larger totality of which highways and power plants are only a part. Imagine the same editorial with a different catalogue of needs: There must indeed be more hair conditioners, sandwich baggies, electric toothbrushes and chocolate bars, and it is foolish to maintain... Here the needs are somewhat less apparent; nevertheless, in industrial societies, they are part of the same cultural and economic totality as those listed by Life. That totality is the commonsense truth that each text voices, but never fully examines, and with which they articulate the discursive arena within which environmental problems are integrated and understood. Both texts constitute their audiences as

reasonable citizens called upon to exercise practical judgment. Agreement and consent are solicited by attributing knowledge of that commonsense truth to the audience, thereby making its members party to, participants in, the proposed way of dealing with the situation (Farrell, 1976). But by making that truth a shared self-evident one, a common ground for consensus and action, and by fully and unquestioningly accepting and indeed insisting on the reality of, and the need to cope with, environmental problems ("Answers to questions of environmental danger,...thus are a world necessity"), each text subtly operates to inhibit negotiation of those needs. Indeed, critique focused on them is marginalized and constructed as irresponsible: "And it is foolish to maintain - as some conservationists do - that their encroachment must be prevented everywhere and at all costs". In effect, those needs and the political economic infrastructure that sustains and constructs them are naturalized, presented as real. "Change, of course, is inevitable," and change means airports, power plants and so on, not to mention electric toothbrushes and hair conditioners.

In a recent talk he gave as part of a public lecture series on the environment, former Quebec premier Pierre-Marc Johnson (1990) stressed the urgent need to conjugate human economies with those of nature. It had all the trappings of a set speech, and contained a familiar litany of

environmental horrors awaiting us unless society mobilized its energies in the appropriate manner. This is not to say that what he had to say was uninteresting or misleading as such; rather, that it contributed little to what most of his audience already knew. In this, it was an updated version of the way Richard Nixon constructed environmental problems twenty years ago. The difference lay in the amplitude and extent of environmental crisis. That is, we now have a much greater and more frightening idea of what the physical problems are. Echoing the spirit of Nixon's promise to mobilize the inventive genius that had created environmental problems, he argued that the complexity and extent of the crisis had reached a point where a greater reliance on technology than ever before was indicated. Accordingly, he concluded by urging a greater investment in related research and development.

A second and in some ways more important difference lay in how he mobilized the idea of an environmental crisis. During the question period following the talk, he was asked why he had not discussed the cultural and political roots of the present crisis. Specifically, the intervenor wanted to know why there had been no consideration of the possibility that an ideological commitment to private ownership of property and a reliance on the technological mastery of nature might not be the very things that produced the crisis. Johnson's reply is instructive. He sealed the

issue by reminding his audience that he had not come to debate ideology but to propose concrete and practical solutions for a set of urgent material problems. His objective, he stressed, was to get on with the business of righting an environmentally threatened world; ideological debate is a luxury we can ill afford given the enormity and complexity of the problems facing us. Like the presidential committee that responded to Silent Spring and the editors of National Geographic (February, 1980) and Life (August 1, 1969) cited above, Johnson adheres to a discourse that firmly locates the environment problems as so many objects of instrumental reasoning. At the same time, however, it is a discourse that disguises its own ideological commitment. It naturalizes itself through a commonsense appeal to a distinction between technology and ideology, a distinction which is asserted but never clarified. In refusing to debate ideology, as he puts it, Johnson invites his audience to view not only his own position as essentially non-ideological, but also environmental problems divorced from their cultural dimensions.

Johnson's effective use of what Robert Cox (1982) calls the locus of the irreparable allows him to govern or circumscribe the audience's interpretation of environmental problems. The crisis itself becomes the motivating factor in the acceptance of the proposed solution. It is suspended as a not too distant calamity; our actions in the present

will make the difference between survival and disaster. The fear of disaster and desire for survival are mobilized to close the discussion and criminalize dissent. There is no question of ideology here, only life or death. Ironically, he and the discourse he speaks have taken to alarming the nontechnical public. One is entitled to ask, however, whether, in contrast to Silent Spring, the discourse is intended to provoke self-reflexion and change or to command acquiescence and consent. Is Johnson employing the irreparable and the fear it evokes to offer his audience an "opportunity to act before it is too late" (Cox, op. cit.: 232)? Or is he brandishing that fear like a stick? Johnson's rhetoric recalls James Curran's observation about the construction of moral panics, which function to reinforce hegemony and dissuade dissension and critique by "creating a sense of beleaguered unity, transcending class differences, in the face of a dangerous external threat" (1982: 227).

Between Life's "There must indeed be more jet airports..." and Johnson's crisis rhetoric, there would appear to be little room for manoeuvre; the audience is kept permanently off balance. On the one side, a complex totality of societal needs which entail a certain degree (never specified) of environmental contamination are presented as the non-negotiable reality of the world in which we live. As the inevitable result of pesticide use,

pollution, Gilbert Grosvenor seems to be saying, is a world necessity. On the other, when the pollution becomes too much or too obvious to ignore - when the world necessity threatens to bring the world to its end, a crisis is declared and mobilized to engender consent and marginalize dissent. The audience is suspended between the articulation of its needs and its fear of impending disaster.

# CHAPTER IV:

## WHO IS US ?

> We have met the enemy and he is us - Pogo.

> Oedipus: Lord Creon, my good brother, what is the word you bring us from the God?
>
> Creon: King Phoebus in plain words commanded us to drive out a pollution from our land, pollution grown ingrained within the land; drive it out, said the God, not cherish it, till it's past cure (Oedipus Rex: 85-100).

The implications of Pogo's simple declarative sentence render problematic Richard Nixon's faith in the palliative capacities of inventive genius, a faith predicated on locating the environment and its problems outside of culture (its problems are constructed as exogenous variables - objects of instrumental reasoning). Recalling the oracle's injunction to the plague-stricken people of Thebes, Pogo's revelation voices the need for a cultural diagnostic. Pollution and polluter are coextensive; Oedipus personifies the cherished "inventive craft" that solved the riddle of

the Sphinx but which neither sees nor is able to cure the ills it has provoked. On the other hand, Pogo's implicit call for a cultural diagnostic is not as informative as it first appears. The enemy may indeed be us, but that only begs a further question, to wit: Who is us?

More precisely, and in keeping with my earlier arguments about the mediating role and rhetorical deployment of needs, it becomes important to know who is consenting to those needs however they may be construed. Underwriting (or presumed by) any use of needs as a rhetorical resource is an audience consisting of subjects of those needs. That is, a subject who both recognizes those needs as needs, and who recognizes itself as having them on the other.[4] By needs, must be understood a contextual totality infinitely larger and more varied than Life's "there must indeed be more jet airports, highways, housing and power plants." What I have in mind are the totality of goods and services corresponding to virtually every aspect of daily life, from paper clips to personal computers, hair conditioners to artificial hearts, lottery tickets to Madonna records..., and even to the apparent need to constantly renew (change) those goods and services such as automobiles, clothing, hair styles and so on. Like it or not each of these goods or services

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[4] For an elucidation of this latter point, see Charland's (1987) discussion of constitutive rhetoric, particularly as it bears on the construction of ideological subjects.

consumes, appropriates, contaminates or otherwise transforms the natural environment. At one level, I am making an argument similar to Leo Marx's claim about the increasing imbalance between the ever-expanding horizon of needs and wants and the finite material substrate (this includes not only resources such as timber for paper but air for breathing) required to create those objects and to keep us alive to enjoy them. At another, I am extending it by inquiring into the ontological assumptions about human nature required to sustain and legitimate the social, cultural and political order indistinguishable from that complex of needs. Ultimately, I will argue that there is a profound contradiction between the existential entailments of that ontology, particularly with respect to the way it is lived, expressed and articulated in industrial societies like our own, and the exigencies imposed by an environmentally threatened world, and this notwithstanding 'our' recognition and acceptance of the seriousness of that threat, not to mention a desire 'we' might have to rehabilitate nature. But here I am getting ahead of myself.

A second element I would like to introduce and pursue in conjunction with the foregoing is conceptual in nature. When Lynn White argues that "we must rethink and refeel our own nature and our destiny" (op. cit.; 265), the nature he seems to have in mind consists in an historically rooted set of exploitive attitudes toward nature. His project is to

make us conscious of these attitudes as the source of current environmental crisis. More pointedly, perhaps, he is concerned with arguing that this crisis will continue until we rid ourselves of them. For reasons detailed earlier, I urge a more extensive cultural critique, one that extends to the social construction of needs. White's position is a generic one admitting of many variations, and has been articulated and refined within different ecologically informed social critiques. By and large, however, these perspectives focus principally on the repudiation, hatred, subordination and/or mastery of nature (eg., Merchant, op. cit.; King, op. cit.; Nelson, op. cit.). Merchant, for one, reconstructs (reinscribes) the social and cultural effects of the scientific revolution around the idea that it constituted the death of nature as an organic animate entity. This death, she argues, sanctioned its piecemeal appropriation and exploitation in the service of human ends. Her positive project, not unlike White's, is to rehabilitate nature, to (discursively) resurrect her:

> Ozone depletion, carbon dioxide buildup,...upset the respiration and clog the pores of the ancient earth mother, rechristened "Gaia," by atmospheric chemist James Lovelock. Toxic wastes. pesticides,... pollut[e] Gaia's circulatory system. Tropical rainforest...disappear as lumberers shear Gaia of her tresses. (...) A new partnership between humans and the earth is urgently needed (op. cit.: xv).

Nelson, for another, analyzes the domination and control of nature in terms of a desire to repress a feminine principle

as life-giving force. Her positive project is the recovery and rehabilitation of that principle. In short, these arguments, and I generalize, attend to what it is we hate, fear, repudiate, repress, wish to master and control, and so on. Theirs is a cultural mapping keyed alternatively to the repressed and the will to dominate, to subordinate everything to human purpose. This they argue lies at the root of environmental crisis, and it is this, moreover, that prevents environmental renewal.

These arguments are not to be taken lightly. My simplistic rendering of them here is intended only to convey a sense of their conceptual orientation, the thrust of their critical approach to the cultural dimensions of environmental crisis. As I have underlined repeatedly throughout this essay, I do not disagree with this view. My dissatisfaction is with its over-emphasis of this aspect of the problem. What I wish to put forward is a complementary approach, which can best be described as one that focuses on what it is we cherish, to use Sophocles' expression. By this I mean what it is that we positively value, namely, the ideological and moral counterpart to the ontology alluded to above. I have in mind the complex of individual rights and freedoms that have come to be the defining principles of contemporary liberal democratic, capitalist societies on the one hand, and the dominant mode of self-expression and identity-formation in those societies on the other. A

clearer idea of what I am trying to say can be had by recalling Louis Battan's (op. cit.) justification for devoting more research energy to the problem of weather modification. What appears at first glance to be a single discourse is actually comprised of two rhetorical strategies combined to form a single discursive whole. To begin with, the reader is presented with nature constructed as a chaotic and dangerous threat to human security. Various natural phenomena such as hurricanes are described with imagery better suited to a military theatre of operations; they are "the firing squads of the atmosphere" (4), and the reader is their intended victim. But the reader is also the person who has the unalienable right to the good life (instantiated by such things as a daily shower, water for the swimming pool - not to mention the swimming pool itself, and so on). It is this second rhetoric that I am interested in pursuing. More specifically, I wish to discuss the subject persuaded by, participating in, agreeing to and embodying this discourse (Charland, op. cit.), the one that recognizes itself as having and valuing this inalienable right. What I have been arguing is that both of the discourses mobilized by Battan require analysis and politicization.

Ours is a culture of politically autonomous individuals. It is predicated on (i.e., its sustaining ideological discourses presume the existence of) mutually and self-recognizing rational subjects, each possessing an

equal measure of 'natural' rights and freedoms, which are typically constitutionally enshrined or otherwise entrenched by judicial and legislative authority. The state, although it may from time to time, in its capacity as overseer and defender of the common weal, suppress individual rights and freedoms, is said to be subservient to individuals, its purpose being to promote their interests and guarantee their right to flourish[2]:

> One central theme emerged from the Harrington Liberal [Party of Canada] Conference - we must rededicate ourselves to the historic goal of liberalism - the liberation of the individual. Repeatedly, delegates rose to declare that the state was the servant of the people, that the economy must serve our citizens. Over and over, speakers proclaimed that our social welfare system, our communications network, our educational institutions, our laws and our cities must be measure by their capacity to expand individual dignity and self fulfilment (Linden, 1970: x).

A more succinct and celebratory commitment to liberal democratic doctrine such as it was expounded by nineteenth century (neo-utilitarian) theorists such as John Stuart Mills (Macpherson, 1972) would be difficult to find, unless, of course, one considers its more distilled version found in the popular refrain: I gotta be me. That it may also be an expression of false consciousness or, worse still, bad

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[2] This individualist ideology is not without its contradictions. Although free and absolutely sovereign, this individual must equally be absolutely disciplined by the authority of the state. For a discussion of this point, see Frederick Dolan's (1991: 191-209) discussion of the Hobbsean character of American national security discourses.

faith, is of little concern to the present discussion. What matters here is that it is a commonly held belief that "man [is] essentially an exerter and employer of his own powers. (...) The end or purpose of man [is] to use and develop his uniquely human attributes" (Macpherson, op. cit.: 166). Neither Macpherson nor the members of the Liberal Party are particularly clear on what self-fulfilment means. Nor is there any indication of how this is achieved or experienced. Nevertheless, this belief, the rights and freedoms that accompany it, and the way it has been lived and concretely exepressed, particulary in twentieth century consumer society, are very much the crux of the problematic I wish to address.

As Macpherson argues, this moral and ontological conception of the subject is of recent vintage. This is not to say that individuals themselves are a recent invention. Rather, the idea of the individual as a political, existential and spiritual category capable of any significant degree of autodetermination not mediated by larger more inclusive social and political categories is relatively novel.[3] Burckhardt argues that prior to the Italian renaissance, "man was conscious of himself only as a member of a race, people, party, family or corporation -

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[3] It is important to underline that I am not subscribing to a model of freely constituted subjectivities, merely that this is an idea that is and has been in circulation.

only through some general category" (1958: 143).[4] Certainly, for Aristotle the idea that the individual existed apart from or was in any sense morally or politically prior to the state would have been nonsensical: "the state is by nature clearly prior...to the individual, since the whole is of necessity prior to the parts" (1960: 5). Moreover, contemporary ideas of universal rights and freedoms were simply unthinkable: "from the hour of their birth, some are marked out [by nature] for subjection, some for rule" (ibid.: 8). Such was his explanation of masters and slaves. But compare this with Robert Nozick's reinvestiture of a Lockean state of nature in which people have perfect freedom to conduct themselves and dispose of their possession as they see fit: "Individuals have rights, and there are things no person or group may do to them (without violating their rights)" (1974: ix). This view, upon which Nozick erects a prescriptive theory of distributive justice within the framework of a minimalist state suspiciously similar to the one implied by Linden, is itself based on the assertion that "there is no <u>social entity</u>...there are only individual people, different individual people, with their own individual lives" (33, emphasis in original).

Whether we choose to agree with Aristotle, Nozick or

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[4] On this point, see also Lynn White's (1978: 47-59) discussion of science and the sense of self.

some combination of both is beside the point. Each erects a political and moral theory around or predicated on very specific ontological assumptions - each theory requires those assumptions. The relative ease with which these ontologies are posited (neither affords them any significant attention), however, belies their crucial importance to their respective moral and ideological universes. Neither Aristotle nor Nozick pause to consider that their respective political subjects are constructs, each required to and called upon to legitimate (by consenting to) the social, political and moral order of which they are participant members. That is, they must recognize themselves as 'being' that ontology as a prerequisite to being (successfully) interpellated by the moral, political and/or ideological discourses informed by that same ontology. Such was the case, for example, in the respective public debates surrounding Quebecois nationalism (Charland, 1987) and the Equal Rights Amendment (for women) in the United States (Solomon, 1979). In both cases, a pivotal, and indeed determinant, discursive struggle was that of articulating and gaining acceptance for the ontological foundations of an ideological discourse. By the same token, (speakers of) moral and ideological discourses which fail to incorporate or (re)articulate prevailing ontological assumptions experience difficulties in making themselves heard in a rhetorical sense. Quebecois political scientist, and former

cabinet member of the Parti Québécois government, Claude Morin indirectly made this point in the days leading up to the collapse of the Meech Lake Accord when he observed that 'Canada' means ten provinces to anglophone Canadians, and two nations or two peoples to francophone (typically Quebec residents) Canadians (La Presse, June 3, 1990: B3). In his view, the failure of the 'Canadian' anglophone discourse to win sympathy and adherence in Quebec is tantamount to its failure to address Quebecois audiences as 'Quebecois' subjects. Such, it seems to me, is precisely the problem with environmentalist discourses of the variety advanced by Rachel Carson's "Fable for Tomorrow." In chapter two, when I suggested that the public Carson was interpellating was problematic, this ontological dimension was an important aspect of the problem I was alluding to. I shall return to this point shortly.

Burckhardt's self-recognizing individual is very much at the centre of Max Weber's (1985) discussion of modern capitalism. Weber argued that the characteristics distinguishing modern capitalism from earlier capitalistic (i.e., profit seeking) activities were the rational organization and creation of a disciplined work force on the one hand, and the widespread institutionalization of a rational system of book-keeping (what today we would associate with such things as the balance sheet, the monthly and annual financial statement, cash flow, etc.), on the

other, both of which were crucial to the regularization of capital investments and the possibility of continuously functioning and rationally administered enterprises (Giddens, in Weber, ibid.: vii-xxvi). Closely connected to this second characteristic was the separation of business from the household - the creation of corporate as distinct from personal and/or family property. The problem, as he formulated it, lay in explaining the creation of this work force. His explanation is both sufficiently well known and controversial for me to wish to avoid entering into its detail. What is important for the present discussion is his idea that modern capitalism required, in order to get off the ground, a radical moral and ontological transformation of the individual subject, a transformation which occurred over a four hundred year period.

At this point, for reasons of expediency, I wish to take a shortcut offered by C.B. Macpherson (op. cit.). To be sure, Macpherson's argument is indeed a shortcut; he collapses almost three hundred years of cultural transformations into a few general theoretical arguments without regard for their incremental and somewhat uneven development. As E.P. Thompson (op. cit.) argues, the successful implantation of industrial capitalism entailed the redrawing of cognitive and social maps. Such fundamental categories as time, space, the sense of self, its purpose and its relation to others were quite literally

reinvented. The contemporary notions of play and leisure, for example, were constructed during this period, and were only possible given the separation between work and social intercourse, work and one's life. These in turn entailed the inculcation of the notion that there was an appointed time for work and an appointed time for leisure (Thompson, op. cit.; Rybczynski, 1991); and, moreover, a place (a physical space) in which one worked, another in which one lived, and another in which one played[5]. But the point here is not so much to discuss the detail of those transformations; rather, it is to bring into relief their end product: what Macpherson calls the infinite consumer and the endless drive to overcome scarcity.

In the context of a theoretical discussion about what he calls a race between ontology and technology, Macpherson argues that there are two sets of ontological assumptions underlying Western democratic doctrine, which are inconsistent and incompatible with one another. One set, described above, is a concept of human beings as exerters and enjoyers of their uniquely human attributes. Translated into a social project, it promotes a society in which individuals are free to express themselves as they see fit,

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[5] This is indirectly discussed by Neil MacMaster (1990) in his discussion of the redefinition and control of public space in nineteenth century England. Rybczynski (op. cit.) also indirectly discusses this subject in his discussion of the construction of leisure and the 'invention' of the idea of the weekend.

so long as that expression does not infringe the right of others to do likewise. The other set, the origins of which date to the seventeenth century, and the articulation of which was coincidental with the emergence of modern capitalism, is an individualist conception of the human agent as "a consumer of utilities, an infinite desirer and infinite appropriator" (op. cit.: 161). This view, according to Macpherson, found its ultimate expression in Benthamite utilitarianism: "Man was essentially a bundle of appetites" (162). I shall return to this apparent inconsistently shortly.

This second ontological postulate was equally the basis for a public morality; that is, appropriation and consumption of utilities were promoted as rights, as a positive moral value - the life of acquisition and material gain, which previously had been condemned, became the legitimate end of the rational subject. This newly invested ontology was required for two reasons. Firstly, as Weber (op. cit.) points out, a major problem faced by the nascent capitalist enterprises was that of finding and creating a disciplined work force, whose members could be relied upon to work for more than what is required to supply their perceived immediate needs.[6] Macpherson's argument is

[6] A problem that plagued employers until well into the eighteenth century was that of establishing a functional relationship between higher wages and higher productivity. Much to their surprise and consternation, particularly in the case of piece wages, when paid more workers tended to work

precisely that the embodiment of the infinite appropriator served this purpose. It both expanded the content of and reoriented the individual's conception of need. More specifically, the infinite appropriator postulate implied that the purpose of "man must be an endless attempt to overcome scarcity" (op. cit.: 166). Scarcity, as he argues, was not new, just the attitude towards it. In pre-capitalist societies, scarcity was a permanent feature of life but it was one that people were taught to accept with resignation, particularity within moral frameworks condemning a life of material acquisition. The new morality and ontology opened up this universe by making scarcity a relative rather than an absolute condition. Macpherson's description of this new ontological and moral state is so well expressed that the passage is worth quoting in its entirety:

> The new view of scarcity was quite different. In the new view, scarcity was indeed also thought to be permanent, but not because of any inability of men to increase their productivity, and not in any absolute sense. Scarcity now was seen to be permanent simply because, relative to infinite desire, satisfactions are by definition always scarce. What was new was the assumption of the rationality or morality of infinite desire. And, as soon as this assumption is made, the rational

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less: "The opportunity of working more was less attractive than that of working less. He [the worker] did not ask : how much can I earn in a day if I do as much as possible? but: how much must I work I work in order to earn the wage,...which I earned before and which takes care of my traditional needs" (Weber, op.cit.: 60). On this point, see also Thompson (1968) discussion of time and work discipline in industrial capitalism.

> purpose of man becomes an endless attempt to overcome scarcity. The attempt is endless by definition, but only by engaging endlessly in it can infinitely desirous man realize his essential nature (ibid.).

Secondly, this ontology was required to supply a consumer base for the constantly expanding number and variety of goods and services that were being offered on the market, and which would sustain the equally expanding need for investment return and capital accumulation. This second aspect reached its fullest development in the twentieth century; indeed, that workers should become the consumers of the goods they produced was Henry Ford's contribution to the development of modern capitalism.

One final word about Macpherson, then back to the environment. Macpherson concludes his discussion by arguing that the two concepts of human nature are inconsistent with one another not for logical reasons, but for reasons associated with the actual distribution of power and authority in contemporary capitalist societies. Briefly stated, he argues that the right to infinite appropriation leads inevitably to an unequal distribution of ownership and control of the means of production (this includes capital, land, power, etc.). Thus, he argues, not everyone can realize the goal of self-fulfilment because the means to that end are concentrated in the hands of a few. I sketch this part of his argument rather hastily because it is not germane to what I have to say next, on the one hand, and

because I think that, functionally speaking, the infinite consumer and the self-fulfilling, self-expressing and self-recognizing individual subject have been unified (or at least provided with a functional substitute of unity) in contemporary consumer culture, on the other.

There are two arguments I wish to make. The first concerns the ontological and moral dimensions of Ian Angus' (op. cit.), argument about modernity's project. The second has to do with identity formation and subject positions. The two arguments are related and in many respects are merely different expressions of one another; their separation is for purposes of analysis only. Moreover, both have a direct bearing on environmental politics.

Angus argues that modernity's project, "to produce a wealth of commodities...to sustain a community of mutually recognizing free and equal subjects" (op. cit.: 96), consists, in postmodern (or consumer, Angus use the two expressions more or less interchangeably) culture, in its infinite delay. With Macpherson, however, we can refine that argument, by saying that infinite delay was built into modern capitalism from the start. It is the inevitable result of an infinitely desirous subject. To be fair, however, the full embodiment of that infinitely desirous subject is coincidental with the emergence of postmodern culture. But this would be to anticipate my second argument. What I have to say here is in many respects a

reformulation and extension of Macpherson's subject who is a bundle of appetites. To paraphrase Sartre, this subject is (or at least must become) what it is not. By this, I mean to say that the subject experiences itself[7] as an emptiness needing to be filled. It is permanently oriented toward the object of its desire; and although it manages to attain that object in the act of its consumption, the desire (appetite) itself always remains present; it is in fact caught in a Sisyphean predicament - the moment of attaining gratification is equally the moment at which the desire begins anew. Accordingly the subject is always oriented toward the future; its goal, like the future, however, is unattainable. It exists in the present but lives (and works) for the future. This existential state, like scarcity, is, of course, true for all subjects from feudal serfs to assembly line workers. To take a mundane example, one must continually eat to stay alive. The difference in capitalist societies is the orientation toward scarcity, its transformation to a relative condition and the reconstruction of the human endeavour as endlessly oriented toward overcoming it. Moreover, that scarcity is a material one; overcoming it entails the acquisition and consumption of material goods. The consequence for the natural

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[7] It may seem curious to use a neutral pronoun here, but the subject I am referring to is not yet a gendered one, although it may be coextensive with either gender as we shall see shortly.

environment is precisely that it is the reservoir of raw materials which are extracted and transformed to produce the goods required to sustain the existence of the community of infinite desirers. In short, and to paraphrase an argument made by Joyce Nelson (op. cit.)[8] a world whose human inhabitants are ontologically committed to endlessly overcoming scarcity - when constantly expanding need is incorporated into their souls and their self-apprehended reason for being - is bound to be in environmental trouble.

The second argument I wish to make is actually a variation of a more familiar one about the mediation of identity formation by commodity consumption (hence I shall not elaborate on it any more than is strictly necessary). It also converges with Macpherson's second set of ontological assumptions, those which were so enthusiastically and repeatedly proclaimed by the delegates attending the Harrington Liberal Conference. What I would like to suggest is that the scarcity which capitalism's subject is permanently engaged in overcoming is the subject itself. The material goods it is so busily and obsessively acquiring have become, in contemporary consumer culture, the concrete tokens of self-expression, self-fulfilment and self-recognition.

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[8] See quotation, p. 14 above.

Since the turn of the century, and particularly since the elevation of advertising to an important form of social communication (Leiss, Kline and Jhally, 1986), the range, nature and solution of people's material, psychic and social needs have been increasingly named, defined and mediated within the arena of commodity production. This, to such an extent that that arena began to supplant traditional social structures such as the family as a site where people looked for the solution to social ills and the satisfaction of their social and psychic needs (Ewen, 1976). In their examination of the evolution of advertising messages, Leiss et al (op.cit.) observed that advertisements and marketing strategies shifted the focus of their messages away from the product itself and placed the consumer at their core, acting to "transform the personal meaning of the everyday use of products" (245), and made of consumption a social process, "a legitimate sphere for individual self realization" (238). And George Lipsitz, in discussing the formative role played by commercial television during the 1950s, argues that it not only served as vehicle for the commercialization and sale of individual products, "but it also provided a relentless flow of information and persuasion that placed consumption at the core of everyday life...[and] also provided a forum for redefining American ethnic, class, and family identities into consumer identities (1990: 47).

Admittedly, my very summary rehearsal of these

arguments leaves out much of their depth. My point, however, has been to draw attention to the extent to which the arena of consumption has become equally the arena for realizing the "historic goal of liberalism." No doubt Macpherson and the nineteenth century moralists (including Karl Marx) who promoted the view that the fit end of human individuals is to use and develop their uniquely human attributes had something else in mind than commodity consumption as the means of achieving this end. Nevertheless, the inconsistency between Macpherson's two ontologies has been effectively (i.e., functionally) resolved in contemporary consumer societies. In many important ways, the self is produced and realized in and through acts of consumption; at a certain point the right to self fulfilment and self expression becomes indistinguishable from the right to consume and produce the goods available on the market.

A rather obvious conclusion suggests itself, one that is not all that different from the conclusion to my first argument. To the extent that the right to individual self fulfilment is confused, realized as and mediated by the right to consume material goods, there is little reason to think that the current rate, extent and nature of exploitation and appropriation of the natural environment will significantly change for the better. And to the extent that environmental activists fail to come to grips with,

analyze and politicize this aspect of environmental problems, their project is incomplete. But this is not the end of the matter; the problem I have raised cuts much deeper and is intimately connected with the politics and practices of cultural negotiation.

Typically, the kinds of exploration of the structures and dynamics of consumer culture briefly outlined above tend, with good reason, to focus on their negative dehumanizing aspects. Consumerism erodes cultural memory and becomes its own referent, argues Lipsitz (op. cit.), thereby sealing off all avenues to the real. Indeed, "[p]ostmodern industrial culture is...a simulation of identity," writes Ian Angus, "[t]here is no "alienation" from an original identity to which one can authentically "return""(op. cit.: 101). Stuart Ewen, for another, argues that:

> Within the logic of the ad, a viable self was one defined by commodities, a commodity self. In a world of quick judgments and momentary glances, such solutions made sense. One of the social bonds which has suffered the most in the context of urban industrialism is the family. Kinship was rooted in a pre-industrial past, underscored by the framework of a common culture. (...) While the patriarchal family continued as an ideal, it was an ideal increasing undermined by the structures of the society that surrounded it. The family in jeopardy has become a meaningful cliche of modern life. Divorce rates climb; aging parents are tossed into the dust-bin; independent youth, responsible only to itself, permeates the cultural climate (1989: 92-93).

In a similar vein, Vance Packard argued that the traditional fabric of American life was threatened by the emergence of the consumer society:

> The absorption with consumption also unquestionably is having some impact on family solidarity. Frequent purchase of such appliances as dishwashers and clothes driers and pre-packaged meals...tends to keep the family strapped for money. And it tends to disenfranchise the wife by depriving her of many traditional, time-consuming homemaking functions. Both effects...tend to send the wife out looking for a job (op. cit.: 206-207).

The result, he warned, anticipating Stuart Ewen, was the breakdown of the family unit, a higher divorce rate and disaffected youth who "see their folks together only on Sundays" (ibid.).

Reading Packard's analysis of consumer culture today one is struck by his claim that women were being disenfranchised, particularly as it could be construed as reinforcing the view that a woman's place is in the kitchen. Indeed, an important element of feminist discourses which emerged three or four years after the book's 1960 publication was precisely to condemn "homemaking functions" as disenfranchizing. The tentative suggestion I wish to make is that the advent of consumer culture and the emergence of feminism are functionally related. That is, consumer culture contributed to the creation of the conditions of possibility of contemporary feminist discourses. More generally, in an interesting reversal of Richard Gruneau's (op. cit.) warning that the moment of

resistance must be viewed not only in the way it oppose hegemony but is also contained by it, that containment, or the means by which it is realized, must also be viewed as creating the conditions of opposition. Perhaps, it is true, as Lipsitz and numerous others argue, that the widespread infiltration of commodity logics operate to erode the authority of cultural memories, but is this necessarily a bad thing? In the case of women, the answer is clear. The erosion of the memory and its authority that virtually imprisoned them for several centuries is a necessary step in their liberation. My suggestion is that consumer culture has contributed to the establishment of, and in a sense has become, a site of feminist opposition in post-war western cultures. This is not to say that feminism as such is dependent on consumer culture; vigourous feminist movements existed before the advent of consumerism (eg., in the nineteenth century and in the 1920s). Nor should my argument be construed as somehow celebrating or otherwise defending the merits of consumer culture; Rather, my point is that consumer culture opened a new space within which Packard's functional "disenfranchisement" of women created material and economic conditions conducive to the renegotiation of the relations of authority traditionally accompanying the construction of women as homemakers.

Of course, feminism is just one example of the commodity self forming the basis of the possibility for

negotiating social, cultural and political identities. Indeed, the field of subcultural studies is rife with similar examples. Sartorial signification (Hebdige, 1978), almost invariably involves consumptive acts, even though they are moments of - the concrete means of - negotiating cultural identities and resisting hegemony. This is by no means to suggest that that oppositional moment will not be followed by its containment. I am suggesting, that the rapport between opposition and containment within what Jameson (1984) calls the cultural logic of late capitalism is not unidirectional, but must be understood as an ongoing dialectic; that is, an ongoing dynamic process which flows in either direction. In any event, to repeat and underline what I said above with respect to the emergence of post-war feminist discourses, my intention here is neither to condemn nor celebrate consumer culture. Rather, I wish to argue that consumptive acts have become, in post-war western cultures, a primary means for negotiating and expressing cultural and political identities.

My remarks here are tentative; a much more thorough analysis of the above assertions is needed, much more than I can offer here. I introduce them because it seems to me that they pose a serious, and as yet unexamined, problem for environmental politics predicated in part on restraining the indiscriminate exploitation and appropriation of nature. The task is to articulate environmental politics in a manner

that is congruent with, or at least allows for the possibility of, the negotiation of hitherto oppressed or otherwise colonized political and cultural identities. But to the extent that the expression and consolidation of those identities are negotiated in the arena of consumption - as that arena has been constructed in consumer cultures, and which is predicated on the massive exploitation and appropriation of material nature, the problem is, to repeat myself, not a minor one.

# AFTERWORD:

## REMEMBER HOW THINGS USED TO BE ?

At its most general level, this thesis has been about the need to map and politicize the cultural and ontological dimensions of environmental crisis. Of course, this general argument has been made before; indeed, it is implicit in the generic position I refer to as the rehabilitation of nature. In this respect, my purpose was to problematize that position with a view to extending and complementing it. In this, I have identified further sites for the articulation of evironmental politics. At another, less explicit, level of generality I have attempted to show how Communication and Cultural Studies can address and contribute to environmental debate. In essence, these disciplines should concentrate themselves to plotting and politicizing the discourses that traverse and constitute environmental crisis. I have not so much made this argument as I have performed it.

Obviously, this performance is neither complete nor definitive. I have limited myself to examining an already existing position and pointing out what I took be problematic about it. The essence of my argument is that environmental discourses articulated around the

rehabilitation of nature, while far from being uninteresting or unimportant, tend to oversimplify the complexities of environmental crisis by reducing it to a set of unfavourable cultural dispositions toward nature, which operate to sanction its indiscriminate exploitation. No doubt a non-human centred value system would be a necessary characteristic of an environmentally sane and safe world. But this kind of argumentative strategy moves too quickly to end conditions. It is what Quine (1972) calls a fell swoop strategy; that is, it stipulates what must be the case for a complex of related propositions to be valid. This works in formal logic because the mediations consist only of dummy propositions unproblematically and arbitrarily assigned a truth value related to one another by axioms and and linear, static relations. I have suggested that the exploitation and appropriation of nature are necessary conditions of survival - the most fundamental mediation of the human-nature relationship, the primordial orientation so to speak, is the satisfaction of needs, which are neither true nor false but coextensive with being and inseparable from both the politics of being and the politics of the environment. Indeed, my argument is that these politics are indissociable. At a minimum, the rehabilitation of nature will require the articulation of need as a site of contestation and negotiation. In turn, this entails the analysis and politicization of the several factors and

discourses mediating the construction of need. That is, any reconciliation with nature must come to terms with the cultural and ontological factors mediating the construction, expression and satisfaction of needs. In turn, this entails exploring the 'real', the logics and knowledges that construct the real, and relations of control and authority.

For all this, I do not wish to diminish the importance of recuperating nature. Rather, my argument has been to the effect that its importance should not be overstated. Unless it is accompanied by a much more extensive social critique, it is all too often recuperated as a means of legitimating further contamination of the environment. I have in mind Gilbert Grosvenor's claim that the world must use pesticides, a claim which, upon reflection, can be translated as saying the world must pollute the natural environment. This argument becomes a strategy for marginalizing environmental 'extremists' who would maintain nature's integrity at all costs. Worse still, these same extremists are cast as opponents of environmental reform, as wanting to waste precious time haggling over ideological considerations rather than coping with the crisis pressing in from all sides.

I would like to close with a final thought about the possibility of rehabilitating nature. It concerns a threat to the struggle to recuperate of nature both as an entity and as a discourse, a threat which makes of that struggle a

race against time and the loss of cultural memories of nature.

I recently tuned into a television documentary about U.S. inland waterways.[1] Three men were seated on the banks of the Ohio River bemoaning its diminishing fish populations, caused in large measure by the presence of toxic substances. They then began reminiscing about the days when the water was clean and the fish fairly jumped at their lines. Soon, they said, the fish would be gone and the river would be dead. What is interesting about this exchange is the role memory plays in giving significance and lending alarm to what is happening in the present and what might happen in the future. Indeed, without their and their audience's memories of better days the story would lose its poignance. What they are saying is that things do not have to be the way they are, that what is presently the case represents the lose of something important. The 'proof' of this is given both by their memory and similar memories most of the audience could be expected to have. But let us assume that all the fish die, and let us rerun the same conversation fifty years hence. Would it have the same meaning? Would it evoke the same response?

In Chapter three I suggested that soon, if not already, an entire generation will have never experienced the world

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[1] On the Waterways, aired August 20, 1991 on PBS.

without massive environmental problems. At present, most of us can remember nature (i.e., the outdoors) as something pure and clean. The idea that this may someday be gone or destroyed is one that alarms us. My suggestion is that one very important reason why we care for nature is, in the final analysis, because we, both as individuals and as a culture, can remember it - we have at various points throughout our lives experienced the natural environment that environmentalists are trying to rehabilitate. When that nature and our memories of it are gone, however, it is not at all clear, to me at least, how or whether arguments from nature will have any rhetorical value at all; there will be no commonsense notions of nature in this sense to articulate and politically mobilize, for we will have learned to live in a world where nature no longer exists, where a polluted biosphere, global warming, ozone depletion, ... are just part of the way things are.

Bill McKibben expressed the hope that his book, The End of Nature, would provoke a change of course as did, he claims, Rachel Carson's Silent Spring. The final, and no doubt tragic, irony of his own argument to the effect that we are living in a postnatural world, that "[we have made] every spot on the earth man-made and artificial. We have deprived nature of its independence, and that is fatal to its meaning. Nature's meaning is its independence, without it there is only us" (op. cit.: 58, emphasis in original),

is that he is also spelling out the reasons why his book may soon or already have no real possibility of provoking change at all. To the extent that we have grown accustomed to living in a postnatural world - one in which we have never experienced the nature he eulogizes, it is difficult to imagine how his book could function in a rhetorical sense at all. In contrast to Cox's (op. cit.) view that a culture for which forbodings of future ills do not function in a rhetorical sense because its members view the future as closed, the rehabilitation of nature may fail because the past has evaporated.

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