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ENVIRONMENTAL ETHICS: SUSTAINABILITY, COMPETITION, & FORESTRY

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INTRODUCTION

This Working Paper is a follow-up to the conference "Environmental Ethics, Sustainability, Competition, & Forestry." The conference, held on October 23 and 24 of 1992 at the University of British Columbia, was sponsored by UBC's Centre for Applied Ethics and the Goethe-Intitut Vancouver.

The conference was organized around the idea that sustainable development and competition are in some sense competing visions of our global future. Nowhere is this

potential conflict more salient than in the forestry industry. Canada, and B.C. in particular, shares with Germany a concern for the fate of forests and for the industries based on forest resources. This conference sought to bring together academics from both Canadian and German universities to explore the ethical challenges associated with these competing visions.

Those attending the conference had the opportunity to hear talks from a wide variety of specialties, ranging from botany to cultural studies to philosophy. Of the talks given, four were developed into papers to be included in this publication. Special thanks go to Dr. Schutt for making his speaking notes available for this purpose.

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Sustainability of Forests: An Attempt at a Biological Interpretation

1992 Professor Dr. Peter Schutt

A couple of years ago, the term "sustainability" was introduced into environmental discussions, and it is still in fashion. Meanwhile, it has been discovered and utilized by several disciplines, which, however, do not always give it the same meaning. I think this is reason enough to invite you for a short analytical excursion.

As a matter of fact, sustainability is not a recent neologism. To my knowledge it was first used by foresters. In the 18th and early 19th century, after a long period of plundering the Central European forest resources, a new system of forest management was created, called "Schlagweiser Hochwald". It was based on harvesting old growth forests through clearcutting to the same extent that new wood was formed by growth processes.

In a rotation period of 100 years, a quantity of timber equivalent to 1/100 of the total volume is cut every year. By this procedure permanent economic use of the forest is guaranteed. Foresters called it "nachhaltige Nutzung" (sustainable use) or "Nachhaltigkeit" (sustainability). So, in its original forestry meaning and in its long, long practical application, the term sustainability has to be understood as an economic concept. A priori it has little to do with biological sustainability.

In order to bring these two terms into congruity--I mean so that permanent economic success would run parallel to the entirety of the biological system--it is necessary to fulfil a number of important suppositions.

KEYWORD NO. 1: CLEARCUTTING

Per definitionem sustainable forests are originally based on regularly repeated clearcuttings, followed by artificial reforestation with tree species of economic importance. No doubt, the system has many technical and organizational advantages. In the course of time, however, soil scientists and ecologists found out that the practice of clearcutting automatically leads to considerable drawbacks:

- Wounding of soil surface through logging operations. Risk of erosion.
- High irradiation and higher climatic extremes alter the microclimate, the flora and microflora, and deteriorate the growing conditions for a number of valuable tree species. Soil compression and a reduction of species richness occur.
- An accelerated decomposition of organic matter occurs, combined with a wash out of nutrients and the eutrophication of groundwater, rivers and lakes.
- Mycorrhiza-fungi as partners in an important symbiosis with tree roots disappear within less than a year.

Altogether, clearcuttings obviously have economic advantages, but they are burdened with ecological and biological risks, especially in mountainous regions.

Clearcuttings are not allowed at all in Switzerland and they are only permitted up to a size of 1 and 2 hectares respectively in Germany and Austria. The reason: they influence biological sustainability in a negative way. It is internationally known that large clearcuttings reduce soil productivity, disturb the balance within forest ecosystems, and via afforestation diminish biodiversity.

KEYWORD NO. 2: ECOSYSTEMS

Ecosystems are often defined as a kind of biocoenoses--in other words, as associations of plants, animals and microorganisms, which live together in a given area, always in close contact with each other, influenced by volatile, fluid or solid metabolic substances, which may stimulate or inhibit, can act as antagonists or synergists, and finally are ruled by the chemical and physical conditions of the soil and the environment.

The number of biotic inhabitants is far beyond our imagination. The same is true of the possible interactions. What we know, however, is that this complicated and reactive accumulation of mutual dependencies is very flexible and finally has the effect of a buffering system which protects the given forest as an ecosystem.

One prominent example may demonstrate how far-reaching the consequences of inter-specific interactions in forest ecosystems can be. I am talking about mycorrhization, a symbiosis between soil-inhabiting fungi and the feeder roots of forest trees, which is of

considerable benefit to both partners. The fungus earns carbohydrates which he is not able to produce himself. The nutrient- and water-absorbing root surface of the tree is enlarged up to several hundred fold by fungal hyphae. Consequently the water and nutrient supply of the tree increases. Moreover the susceptibility against attack by root pathogens is considerably reduced, and finally, there are indications that heavy metals are hindered from invading the tree. On the other hand, a weakened tree-partner occasionally may become subject to pathological attacks by his own fungal symbiont.

Forest ecosystems are characterized by a high degree of stability. They can lose single biotic components without running into imbalances. Diversity stands for stability. By the way: an almost world-wide disease syndrome is sometimes defined as a toxification of forest ecosystems--not by politicians, however.

KEY WORD NO. 3: BIODIVERSITY

Biodiversity in the sense of species richness is accepted to be a valuable indicator of stability in ecosystems. If this is so, then natural forests would be more sustainable than artificially established monocultures, and tropical rainforests should be more stable than the relatively uniform boreal conifer forests near the Arctic Circle. While the first relationship has been proven to be true many times, the second conclusion cannot be correct, because comparisons like these ought to be made on the same climatic and edaphic base.

Monocultures are defined as plantations comprised of even-aged plants belonging to the same species. For economic reasons they have often replaced natural mixed forests of higher species- diversity during the past two centuries. In these cases the negative consequences of clearcutting, of disturbed ecosystems and of reduced biodiversity, have most probably led to a decrease in biological sustainability, but not necessarily already to a reduction in economic sustainability.

In agriculture, crop plants are cultivated almost entirely in monocultures. Agricultural plants have long since been selected and crossbred by man, with the consequence that these species became more and more uniform genetically. This is not the case with tree populations which are still to a high degree heterozygous. And heterozygosity is, to a certain degree, identical with genetic flexibility. So trees from natural populations have, so to speak, a genetic potential large enough to adapt to a certain change of environment. This statement, of course, has a direct connection with biological sustainability, but it is restricted to natural populations. Even they are, to a certain extent, influenced by anthropogenic stress factors (like air pollution) which reduce the gene pool of forest stands, according to the results of recent investigations and genetic analyses in beech and spruce.

In general, genetic uniformity within a population means that its stability and productivity will be at risk when the environmental conditions change, or when new types of pathogens appear. In this case the reserve of genes necessary to produce new, better adapted progeny has become too small.

There are numerous impressive examples of sudden breakdowns of high production cultivars of corn, potato, wheat, poplar, and pines by a single mutant of a pest or a disease. This is why plant breeders around the world try to preserve germ plasm and biological diversity for future food production.

Replacing natural forests with modern plantations of fast- growing trees therefore creates a number of important genetic and ecological risks. This is especially the case in the tropics:

- An indigenous well-balanced multifactorial forest ecosystem with its high buffering capacity against biotic and abiotic stress-effects is disturbed. Many species become extinct. The new monoculture, separated from its natural environment, needs time to adapt. Life and structure of the soil is altered, the original vegetation and flora disappears, and the risk of erosion increases.

- The broad genetic base of the ecosystem, in which the presence of many species minimizes the risk of disturbance, has been replaced by the much smaller gene pool of one single species--possibly by a few clones of this species. This kind of plantation is a vulnerable system, endangered by losses due to pests, pathogens and abiotic stresses, and is often detrimental to landscape and biology. A re- introduction of the original forest vegetation will at least be complicated and expensive.

Under these conditions, biological sustainability tends toward zero. In spite of that, an economic profit may be available for a couple of years. This, however, has little to do with sustainability.

Let me try to give a short intermediate summary. With respect to forests, the term sustainability can have a traditional economic and a biological meaning. In the long run, both types have to be congruent if a forest ecosystem shall remain alive, and remain productive and flexible enough to withstand biotic and abiotic stresses.

Several ecological, biological, and genetic suppositions have to be fulfilled to reach this aim.

In general, natural populations not only express higher stability than do monocultures and clonal plantations: they also have a much higher adaptability to environmental changes, for instance to global warming, and they obviously rank first in biological sustainability.

At present, two cases of large-scale deforestation have induced hot discussions in many countries:
- the destruction of tropical rainforests.
- the overuse followed by transformation of natural forests into monocultures in North America.

With respect to sustainability, these events can be looked upon as follows:

TROPICAL RAINFORESTS:

Tropical rainforests are characterized by a tremendous richness of species--plants, as well as animals and microorganisms. Up to 500 tree species grow on a hectare. This means strong competition between species and individuals, but also an enormous degree of biodiversity. As a consequence, there are no diseases or pests threatening the system. The biological sustainability is evident. But the existence of this almost ideal ecosystem is very significantly correlated with one important presupposition: the nutrient cycle is not to be altered. What does this mean?

The majority of tropical rainforests grow on poor soils, with a very small reserve of nutrients bound to the soil. The greatest quantity of nutrients in this system is deposited in the organic matter of the living vegetation: trees, shrubs, epiphytes. If you cut and remove the trees, the nutrient circulation is interrupted, a large quantity of nutrients gets lost, and another amount is washed out. A re-establishment of this type of forest will not succeed.

DIAGNOSES: High biological but no economic sustainability for an undisturbed tropical rain forest. Neither biological nor economic sustainability after cutting.

Reforestation with foreign species or cultivation of agricultural crops will very seldom be successful because of the poverty of the soils, disturbance of the natural ecosystem, and difficulties of the new species to adapt. Under these conditions, a sustainable forestry (from an economic point of view) can only be possible when the given ecosystem can be kept alive and productive- -in other words, if it is kept biologically sustainable.

There are encouraging examples for a successful forest management of the tropical rainforest. But they consequently renounce clearcuttings of every size. Very, very careful selective cutting of single trees, very, very careful logging operations by oxen, and a more than patient and tender handling of natural regeneration is the adequate recipe. The result is a true combination of biological and economic sustainability: promising for farmers and for owners of small forests, but little attractive for big companies, I think.

NORTHWEST AMERICA:

Primary forests of the Pacific Northwest belong to the most productive conifer-ecosystems on earth. Ideal climatic conditions make trees grow almost up to heaven. For a European forester it is just a dream to go on a pilgrimage to these examples of a biologically intact system with a maximum output of timber. Nobody would hesitate to attribute to these stands a high degree of biological and economic sustainability.

In this area, selective cutting has never been the dominant method of silvicultural practice (most probably with the exception of the Indians). But in earlier times, the clearcuts were small enough to allow the establishment of NATURAL REGENERATION

by and by, so that the species composition of the original forest was not, in general, disturbed.

This practice, however, has changed considerably during the past ten to fifteen years, as you all know. Numerous clearcuts of an alarming size characterize the present forest scenery. Not only experts ask themselves how it could happen that such a discrepancy between forest science and forest administration and/or management could occur.

From our point of view, most of these forests had and still have a high degree of sustainability, from both a biological and an economic point of view. But since the next generation will be recruited not by natural populations but by artificial plantations which are frequently composed of only one or two conifer species, and which in a distinctive manner are called "industrial tree farms," a reduction in biodiversity, an impoverishment of the ecosystem, and a diminution of the gene pool is to be expected.

The continuation of this modern form of forestry is inevitably followed by a loss of both forms of sustainability, and this in one of the most vital and intact forest regions we have. Well established differentiated methods of silviculture instead of industrialized clearcutting would not have led to these negative consequences, however the owners of the forest would not have earned so much money in such a short period of time.

The term sustainability, when used in connection with forests needs a detailed direction for using it. Economic profit may be possible without biological sustainability, but economic sustainability is not.

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Sustainable Development, Sustained Yield Forestry, and the Meaning of Life

1992 Jordan S. Tanz

Introduction

My presentation is in two parts. In the first part, I look at sustained yield forest management in an attempt to show its similarities to sustainable development. In the process I try to point out weaknesses in the concept and some of the problems associated with trying to manage for sustained yield. Finally, I try to draw some inferences for striving toward sustainable development.

In the second part I try to answer the question of whether or not competitiveness and sustainable development are "competing moral visions".

Sustained Yield Forestry and Sustainable Development

Sustainable development and sustained yield forest management have common elements. Though the forestry problem is more restricted, and therefore simpler, it nevertheless contains the two key elements of sustainable development:
--it is focused on the needs of people, and
--it recognizes the limitations of biophysical capacity.

Sustained yield forestry embodies a variety of meanings. It has evolved over time as foresters have tried to mold it to fit the needs of society. Its essence is that we should organize the forest and what we do in the way of forest management to ensure that we will be able to continue to obtain the things that we want from the forest in perpetuity. It implies continuous production of things; these things being wood (the primary product traditionally), and other non-commodity and amenity values such as water, wildlife habitat, recreational opportunities, and so on.

Sustained yield forest management requires that this continuous annual or periodic production will carry on forever. This commitment to "forever" is important in a couple of ways. First, it reflects our belief that the future will resemble the past, that we will need the same things years from now that we need today. Second, the commitment to continuity and perpetuity has very strong symbolic significance. Sustained yield forestry has been characterized in the following way:

> To fulfil our obligation to our descendants and to stabilize our communities, each generation should sustain its resources at a high level and hand them along undiminished. The sustained yield of timber is an aspect of man's most fundamental need; to sustain life itself." (Duerr & Duerr, 1975).

Sound familiar? That quote was written in 1975, by William Duerr, a noted forest economist.

Sustained yield forest management also implies that growth will be balanced with harvest. As the forest is brought under management, it will be brought to what foresters term a regulated state, in which the age structure of the forest is balanced. There will be rules, specified in a management plan, that prescribe how the forest will be brought to a steady state of development, organized for production geographically and into the future. "Equal annual yields forever" is one such rule, but by no means the only rule that could be used.

In practise, our emphasis historically has been on the production of wood. In recent decades, foresters have tried to mold and expand the concept of sustained yield management to include the variety of other things society needs or wants to get from forests. But on the whole, I couldn't claim that in Canada we have been very successful in satisfying society. Well, of course not; society comprises a broad diversity of interests and corresponding needs. But our lack of success has to do with other things, too.

Most important of these is change. The emphasis on continuity and perpetuity makes it very difficult to deal with changing values. These changes are very hard to predict, at least quantitatively, and are therefore difficult to cope with in planning resource utilization and management. A good example is in the continuously changing relative values of timber production and recreation or aesthetics.

Richard Behan challenged the conventional wisdom about sustained yield forest management in a paper entitled "Political popularity and conceptual nonsense: the strange case of sustained yield" (Behan, 1978). His argument, now familiar to foresters, goes something like this:

We have a forest. In order to obtain equal annual yields forever, we should cut each year an amount of timber equal to the volume which grows in this forest annually. So there are two essential elements: equal annual yields, and harvesting in perpetuity. But growth is not only a function of natural phenomena. Our cultural practises increase (or in some cases impede) the productivity of our forest. So our question, which was "How much should we cut?", now must instead be, "How much should we invest?". How much effort should be expended to grow timber on this forest?

The economist perks up at this point. "How much should you invest?", he asks. "Well that requires some analysis of markets." There is no point in investing in forestry if the market will not provide future returns at least equivalent to what you could get elsewhere. Further, the more we research the topic, the more we encounter the argument that the classical concept of sustained yield just doesn't cut it economically. Equal annual yields forever is fixed on physical production. It ignores the economic realities of changing markets, prices, costs and interest rates.

Our question was, "How much should we harvest, invest and grow?". Sustained yield failed to help us. A rational manager will cut relatively more when markets are strong, and less when they are weak. As Behan put it, "If harvest is a function of growth, and if growth is a function of investment, and if investment is a function of changing markets, a rational manager will not practise equal annual yields forever. The concept is self-destructive." (Behan, 1978)

The investment problem raises another serious problem, which is in the anticipation of future needs. We are uncertain of both the way in which our children will want to use the forest, and the manner in which technology will change the way it can be used.

Sustained yield forestry is an article of faith for a forester: an 11th commandment, undisputable, unassailable at a certain level. But in trying to implement sustained yield forest management, we have not been successful in dealing with some of today's serious forestry problems:
--How should we treat old-growth timber?
--How much should we invest in forest management?
--How do we plan for the continuous production of wildlife habitat, recreational opportunity, landscape beauty, and today's buzzword, "biodiversity?"

Today's calls for public participation in forest management planning signify public dissatisfaction with current planning processes.

My point is that we must be careful to avoid implementation of rigid rule-based approaches to sustainable development. Sustainable development is a means to an end, not an end in itself. It is the satisfaction of people's needs and wants that is the objective of sustainable development, and not sustainable development itself.

Now for the second part of my presentation, which focuses on the issue of competitiveness and sustainable development

Competitiveness and Sustainable Development

I envision an interpretation of sustainable development that is in keeping with Tom Hurka's Ethic of Responsibility [See p. 59 of Hurka's contribution to this publication. ed.], in which our duty is to avoid harming others through the practise of forestry in Canada. That is, we must ensure that Canadian forestry practises do not harm others though degradation of the global environment.

The commons dilemma, as in Hardin's Tragedy of the Commons, goes something like the following. National governments and private firms treat global resources such as the oceans and atmosphere as the common property of all mankind. Although these are global public goods, no international government exists to provide effective environmental protection. For example, the only way to avoid projected build-up of C02 in the atmosphere is to reduce the use of fossil fuels, requiring government intervention and enforcement. However, such measures would be futile unless other governments did the same: any one country can enjoy the benefits of environmental protection measures implemented by other countries as a free rider, while continuing to use relatively cheap fossil fuels itself. "International competition will induce all countries to attempt to be free riders in the absence of any coercion or enforced cooperation" (Seneca and Taussig, 1979).

This commons dilemma, driven by competitiveness, can be escaped in at least two ways. First, to the extent that the global market for forest products recognizes "green" (i.e. environmentally acceptable) behaviour, such behaviour will be rewarded in the marketplace. We should note that it does not matter whether or not this behaviour is truly beneficial or even environmentally benign--competitiveness depends only on the consumer's perception of the company's actions.

Now this is not necessarily so, other than in the short run. In the long run, practises that lead to reductions in harvest levels or increases in manufacturing costs will impair the company's ability to compete in the future. My point is to show that it is possible for the market to reward the company for engaging in activities that do not reward it directly through increased yields, product quality, or reduced costs, but simply through consumer preference and increased sales. The current trend toward legislatively required use of recycled newsprint is a good example. With respect to competition, it

does not matter whether or not recycling newspaper is environmentally less damaging than not recycling. What matters for the newsprint company that wants to keep or increase its share of the market is the simple fact that the consumer will buy only newsprint that meets the specified requirements for minimum content of recycled material.

The second way in which companies can escape the commons dilemma requires a longer explanation. Forest products companies do not sell forest resources. They sell materials with particular attributes such as tensile strength and brightness in the case of paper, or weight-bearing capacity in the case of boards and laminated beams. We might add environmental benevolence to the list of important attributes for forest products in the environmentally aware consumer market.

We must not underestimate the importance of technology and technological change in forest products manufacturing. Technology provides the means for manufacturers to produce the things consumers want from the huge variety of raw materials available. UBC's Tony Scott and Peter Pearse, in a recent paper, state, "... [raw material] scarcity is ephemeral. Any raw material need can be satisfied from the expanding range of sources and the invention of new combinations of new resources. The ultimate resource is innovation... It is technology that enables us to adapt to nature, matching our needs to whatever is available" (Scott and Pearse, 1991).

Therefore forest products companies can operate in ways that are consistent with the precepts of sustainable development and still remain competitive in the global market through innovative uses of resources and technology. By continuously searching for new and better ways to manage and utilize forest resources, we can reduce both the economic and environmental costs of manufacturing forest products.

Now I hear myself say that, and I think that this sure sounds like a lobbyist for the industry espousing the old "technological fix" solution to environmental problems. But let me try to illustrate the point with a little history. A significant number of the species now important to us in forestry were not very long ago considered to be "weeds," i.e. they had no economic value. This is true for jack pine in eastern Canada and lodgepole pine in western Canada, black spruce before the turn of this century, and aspen before 1981. Each of these species later became extremely important economically once the technology to utilize them was developed. Lodgepole pine for instance is now the single most economically important species in British Columbia, though it was considered to have no value only four or five decades ago.

Scott and Pearse show three important results. First, we have been able to economize on whatever inputs become scarce or expensive by changing the way we produce primary products. Second, the demand for natural resources changes as technology increases our ability to substitute one resource for another. Finally, we keep changing the products we make from natural resources.

In conclusion, there is reason to believe that competitiveness is consistent and compatible with sustainable development. Consumers and governments will force manufacturers and forest management agencies to adopt practices that at least appear to comply with the precepts of sustainable development. In order to stay competitive, manufacturers will continue to develop or adopt production methods that economize on scarce resources, to substitute available resources for scarce resources, and to develop new products that take advantage of plentiful resources and marketplace demand for 'green' products. Life will go on.

References

Behan, R.W. 1978. Political popularity and conceptual nonsense: the strange case of sustained yield forestry. Environmental Law, 8:309-342.

Duerr, William A. and Jean B. Duerr. "The Role of Faith in Forest Resource Management," in F. Ramsey and W.A. Duerr, eds., Social Sciences in Forestry: a Book of Readings. Philadelphia: W.B. Saunders Co., 1975.

Raup, Hugh M. 1966. "The view from John Sanderson's farm: a perspective for the use of the land." Forest History, Volume 10, Number 1, April 1966.

Scott, Anthony D. and Peter H. Pearse. 1989. "Natural resources in a high-tech economy: scarcity versus resourcefulness." Working Paper 117, FEPA Research Unit, University of British Columbia, Vancouver, B.C.

Seneca, Joseph J., and Michael K. Taussig. 1979. Environmental Economics. Second Edition. Prentice-Hall, Englewood Cliffs, N.J. 07632.

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The Postmodern Forest: Images Differing

1992 Dr. Steven Taubeneck

As J.S. Mill observed a long time ago, the word "nature" is among the most slippery terms in the philosopher's vocabulary.[1] If "nature" means "the way things are without human intervention," it should be clear that the definition itself relies on a sense of what the human is in the first place, even if only to escape it. What is not clear, however, is the exact constitution of the human, and how this being would or should actually relate to the inhuman world. How should the human be imagined, and how should such a vaguely presupposed being come to know the inhuman? Further, why should the human be bound by "nature" when it comes to ethical choices? After all, "nature" as the inhuman world has produced many nasty surprises, including diseases, hurricanes, earthquakes, and hunger. This hardly means that humans should do nothing about such

disasters. It does mean, however, that many good things are in a sense "against" nature, including many of the ethical ideas we have.

At least since the Enlightenment, many thinkers have doubted altogether our ability to understand the inhuman world. Kant, for example, thought that the search for the "thing in itself" should be dropped in favour of the analysis of the "condition for the possibility of cognition" in general.[2] Such analysis would bring us a clearer sense of our own proclivities, which would in turn provide a system of regulative ideas as moral guidelines in our lives. Epistemological clarity would lead to moral clarity, and as the writer Friedrich Schiller added in his Aesthetic Letters,[3] a heightened aesthetic awareness would also help to re-harmonize the self with society and the world. Kant, Schiller, and later Fichte, Schelling, and Hegel, led the effort to suggest a new relationship linking self to society and world from the perspective of German Idealism.[4] With tremendous confidence in the universality of reason and its advantages, Hegel ultimately foresaw the end of history and the end of philosophy in the advancement of reason to self-recognition.

Today, such writers as Thomas McCarthy, Hilary Putnam, and Jurgen Habermas have argued that the foundational beliefs of the Enlightenment should be maintained and the "incomplete project of modernity" brought to completion. For these people, there is much to be gained by returning to the Enlightenment program and realizing its goals. Such foundationalists think that vocabularies--taken as a whole--are either true or false by virtue of their representational accuracy, their correspondence to the way things are independent of our descriptions of them. As the next and surest step towards Enlightenment, such thinkers seek a relationship of correspondence between the human and the inhuman worlds. They hope that the 'right' notions of reason and morality will act as a shield against irrationalism.[5] For such writers, the instabilities and uncertainties of the postmodern world are deeply disturbing.

In contrast, there is another group of contemporary writers more critical of the Enlightenment's program and more favourably disposed toward the conditions of postmodernity. Although these writers are often critical of postmodernity, too, they argue that postmodern thought offers real opportunities to overcome the difficulties inherent in the project of the Enlightenment. From the German tradition such writers include Hans Blumenberg, Rudiger Bubner, Dieter Henrich, and Odo Marquard; from the French tradition they include Jean Baudrillard, Michel Foucault, Gilles Deleuze, Jacques Derrida, Luce Irigaray, Julia Kristeva, and Jean- Francois Lyotard; and from the American tradition they include Stanley Fish, Nancy Fraser, Frederic Jameson, and Richard Rorty.

Despite the many differences among these various writers, I think they share a cluster of loosely associated arguments. The main one is a self-ironic suspicion of grand narratives or metanarratives, those traditionally all-encompassing explanatory systems offered by philosophers on the basis of specific principles. A thoroughgoing "suspicion of metanarratives" amounts to the realization, ironically enough, that there is no single, foundational explanation under which all points of view can be subsumed, not even the

anti-metanarrative of suspicion itself.[6] From this position, science loses its foundational status and becomes just one more story or set of images about the way things work in the world. Science becomes, in effect, one among many narratives constructed to convince people about the propriety of certain views. A further consequence is the critique of the neutrality and sovereignty of "reason," and an insistence on "reason's" gendered, historical, and ethnocentric character. Instead of the universality of "science," "reason" and the goal of "Enlightenment," humans are seen as bound by and assertive of their own, often multiple and contradictory, perspectives.[7]

The result of such perspectivism in ethical and political terms is the widespread occurrence of "identity politics," which in many ways we see in action around us today. Identity politics appears, for example, to be stimulating the fragmentation of the global economy and the resurgence of myriad nationalisms. To be sure, the acceleration of such fragmentation through identity politics can have many negative effects, as in the break-up of Yugoslavia and the multiculturalism wars, but it can also have the effect of dismantling repressive empires. In any case, the ambivalence, instability, and uncertainty of "the postmodern condition" seems very much with us today, in epistemological and moral terms, and many of these writers argue that the dissolution of modernist dogmatism can in some ways offer distinct advantages.

The instabilities and uncertainties of postmodernity mean that many perspectives are involved with regards to the forest. Some of these differing perspectives came to light at the recent United Nations Conference on the Environment and Development in Rio de Janeiro. Of course the primary goal of the Rio conference was not merely to acknowledge that environmental protection is crucial. This realization has been widely accepted. What made the Rio summit different was the explicit connection made between environmental protection and economic development, centred on the concept of "sustainable growth." In fact, the broadening of the notion of protection to include economic issues makes it clear that ultimately, our understanding of the environment will have to encompass all fields of economy, culture, and society. The project of environmental protection on a global scale will cut across all social areas, and link nations from the North to the South.

Nevertheless, the very global nature of the problem should not obscure the fact that many different perspectives are involved. What is "environmental protection" for some may be "economic disaster" for others. The claim of "one world," so often made at the conference, too quickly overlooks the differences at stake. It is better to differentiate among the varying needs at stake, than to proclaim immediately that the needs of all nations are identical.

This amounts to taking seriously the project, mentioned yesterday by Professor Meyer-Abich, of "treating differently that which is different, according to the differences."[8]

What I want to show in this paper is that there are considerable differences in perspectives among the so-called First World nations of the North as well. From Germany to the United States to Canada, (although they may look approximately the

same qua industrial nations), we see important differences. My point is that the more one analyses the similarities among perspectives, the more the differences come into view, and increasingly so the further one proceeds. My suggestion is that the theorists of global forestry policy should recognize, respect, and utilize the considerable differences among nations in their policy-making decisions. The goal, I believe, should not be to establish a single, unified system of environmental control on a global level, but to develop a resilient, flexible process of examining as many different perspectives as possible with regard to each particular case.

Turning to the German perspective, I want to warn from the outset that it is impossible to generalize with complete accuracy on the basis of such national designations. Of course there are Germans who think differently from the ways I describe them. Nevertheless, it is useful to try and summarize a range of positions as a way of gathering views.

I think it can be said, for example, that few people have been as concerned with the forest as the Germans. At least since Arminius in the Teutoburger Wald, through the Middle Ages in sagas, epics, and songs, into the Romantic period with its witches, dwarfs, and goblins, and finally to the desperate battles of World War I and II, the forest has been a site of awe and struggle in the German tradition. It is not only older German cultural history that is concerned with the forest, however; there is also the more recent phenomenon of the dying forests, or "Waldsterben," and the disastrous East German pollution record, which focus attention on the threatened resources. It is not surprising, then, given their richly troubled past and uncertain future, that German politicians and specifically the Environment Minister, Klaus Toepfer, led the discussion at the Rio conference and have already invited the summit nations to the next meeting in Germany.

What recent German cultural figures have made of such urgency is of a sharply critical character. For philosophers, playwrights, novelists, film-makers, and painters, nature in general and the forest in particular have been so corrupted by the voracity of human beings that an apocalyptic state of destruction has been reached. This position is marked by a deeply pessimistic estimation of human weaknesses, coupled with a fatalistic sense of humanity's role on the planet. The dying forests and East German pollution would seem to support such despair.

Views in the U.S. and Canada are far more optimistic, even to the point of complacency. Granted, many have written of impending ecological disasters, but the majority still seem to believe: 1) that there remains a forest to protect; 2) that human attitudes can be changed to meet the challenge; and 3) that an appeal to human reason will stimulate the necessary changes. In the U.S., in particular, the "myth of the garden" still holds sway.

From the Canadian point of view, the wilderness is more hostile, more grand, and more terrifying than in the U.S. The crucial point is that the wilderness still exists--in fact, still dominates the landscape--in the Canadian view. At the same time, there has emerged a

belief that collective effort, coupled with a healthy suspicion of over-centralized authority, can ease the challenges to the environment. There persists the view that people can change their minds and change their relationship to the environment for the better. My point is that different estimations of the human inform different plans for dealing with the nonhuman. Perhaps the German example can provide a cautionary note and a new urgency to the North American confidence in the human ability to manage the forest.

From the perspective of Martin Heidegger, for instance, the German philosopher who wrote Being and Time in 1927, but who also briefly served under the Nazis in 1933, the problem is the program bent on the technical, instrumental mastery of the planet.[9] For Heidegger, this program is symptomatic of the cultural history of the West. Heidegger argues that Western culture begins with the Greek belief in philosophy as the apprehension of principles, or things greater and more powerful than everyday human existence, and culminates in the belief in technological mastery, in getting things under control. If you start with Plato, you'll wind up with Habermas. For Heidegger, Western culture began at the top with Plato, only to reach the bottom in the twentieth century, the age in which philosophy has exhausted its possibilities. Heidegger became disillusioned with Nazi practices and eventually saw them as similar to American and Russian in technological terms. In "The End of Philosophy and the Task of Thinking" from the early 1950s, he recommends that we admit this exhaustion and "free ourselves from the technical interpretation of thinking."[10] He suggests that we should relinquish the dream of technological mastery and, as he states in a later essay, "let beings be."[11] A clearing should be opened for a certain quietism, the peaceful and relaxed posture of nonintervention towards the outside world.

Now Heidegger's quietism looks very odd and out of place in relation to the works of other recent German figures. In particular, the work of the contemporary playwright Heiner Muller indicates that quietism is among the least likely responses in the West. Currently, Heiner Muller is among the most thought-provoking German dramatists. It is a fitting sign of the ironies of the contemporary situation that Muller, who only a few years ago was an embattled and little-known playwright in the G.D.R., serves now as President of the German Writers' League.

One of Muller's most successful dramas was _The Forest_ from 1988, a joint production with the dramatist Robert Wilson and the musician David Byrne, which retells the Akkadian Ninevite version of the epic of _Gilgamesh_.[12] His basic idea is to describe the spreading industrialization of the l9th century through the lens of the Gilgamesh story. In this story, an almost entirely animal-like character leaves the animal world and becomes human in order to join forces with the king Gilgamesh. The two friends attack the demon of the forest and defeat him while cutting down all his cedar trees. In retaliation, the gods take the life of the formerly animal-like figure. The very process of becoming human, the epic suggests, involves clearing the forest. Yet such an action often carries with it the price of death for humans.

In _The Forest_, Muller shows the similarities linking the exodus from the animal world, forest devastation, and the shift to technology or industrialization of the 19th century. Part of his thinking for the play involves the idea of the complete substitution of reality by its image: "That's the trend, if you think it through: the substitution of man by the computer. There is a belief in American computer philosophy that it is not organic life that's important in the universe, but information."[13] Using Gilgamesh, the Industrial Revolution, and computer philosophy, Muller constructed _The Forest_ as a tapestry of interwoven quotations and references to several important Western traditions, and hence left its title in English. As industrialization and technology have transformed the world of animals and people into images and computer transfers, so the forest has been transformed into hyperreality, and the drama itself into a network of screens. Neither the drama nor the forest seem to exist, for Muller, as real, substantial entities, but have been vaporized into thin air. There is little hope, his play suggests, for effectively dealing with the forest, for the forest itself is no longer really there. And Muller's use of the Gilgamesh epic implies that such a process is inherent in the Western tradition. Muller thus takes the process of Western technological development back to long before the Greeks, while indicating that such a process will be hard to escape today.

Certainly such pessimism may have as its source the advanced state of the forests' decay in Central Europe. But Muller is not alone in his pessimistic view. The painter Anselm Kiefer shares Muller's pessimism, as do the film-maker Werner Herzog and the novelist Elfriede Jelinek.

Whereas Kiefer's paintings share the pessimism of Muller's writings, they also link the problem of the forest more closely to the German tradition. Kiefer was born in March, 1945, and has recently become one of the leading contemporary German painters. Like Muller, he freely interweaves real and mythical times, spatial depictions, philosophical positions, and various media to create grand, encompassing statements. Again like Muller, Kiefer quotes a number of instances from German as well as Western tradition, but it would be a mistake to consider either of them historical artists. Both have little interest in traditional historiography. Instead, both Muller and Kiefer are opening up new ways of seeing the past and its haunting of the present through the critical assemblage of many examples. In this way, their respective productions can be seen as critical analyses of problems surrounding us today.

From his earliest paintings in the 1970s, Kiefer has investigated the topic of the forest. Today, I will only have time to consider four examples. The first is the painting "Varus," from 1976.[14] The painting deals with an archetypal moment in German history--from a certain point of view, the moment of German independence. In 9 A.D., three legions of Roman soldiers were marching under the command of Quintilius Varus through the Teutoburg Forest, where they were ambushed and massacred by a Germanic tribe led by the chieftain named Arminius, or Hermann. Kiefer represents this event in the painting by painting the names of Varus, Hermann, and Hermann's wife, Thusnelda, on the background of the forest. A network of spidery lines connects this bloody starting point to other names taken from later German history, as if to suggest a ghostly wooded heritage. Indeed, several of those named did reflect on the story of the Teutoburg

Forest. Real and mythical history are blurred together into the trails of the dark and snowy German forest.

Soon after painting "Varus", Kiefer considered these themes again in "Ways of Worldly Wisdom--Arminius's Battle," his first large-scale woodcuts from 1978-80.[15] Much of the same cast is present, but now Kiefer shows their faces. The vines and branches tying the faces together emanate from a pile of burning logs at "Hermannschlacht," "Arminius's Battle." With these graphics, he further emphasized wood and trees as backdrop and as an important component of his imagery. The cycles of nature and branches of the forest overlay the patterns of thought and behaviour signified by the humans, so that human history and the history of the woods are closely intertwined. The linkage of the woods and the ceremonial fires with major figures of German cultural history is eerie and ambivalent, poised between a cultic ritual and a sombre, unsympathetic inventory.

Although many of these images and themes reappear often in Kiefer's art, the place of "Ways of Worldly Wisdom" is most prominent. Its repetition is like a chant or incantation, in which he calls forth the ghosts of German culture. Kiefer forces his viewers to look at the German past and to remember that the histories of these often admirable figures formed a path leading to the events of the twentieth century. In this way, he implies that the "wisdom" suggested by the title is in fact a kind of haunting, an uncanny reoccurrence of troubling images and paths. On the one hand, the fire burns as if to memorialize these figures, while on the other, it burns to destroy the forest and these ghostly memories. The woodcuts function as the ghostly ancestral reminders, as Kiefer's way of suggesting that Germans may need to burn away with their forests.

The last example is that of the painting "Yggdrasil," from 1985.[16] The tree "Yggdrasil" is from Nordic myths and is the cosmic tree whose roots are deep in the earth where hell and the kingdom of the giants are to be found. Two miraculous fountains are nearby: one, a spring of knowledge and wisdom, and the other a fountain of youth and vigour. Various animals live in the tree's branches, including an eagle which must daily battle the viper Nydhogg, who tries to destroy the tree by gnawing at its roots. During the world cataclysm described in the myths, the tree shakes in pain, but does not fall. Now in this painting, Kiefer shows a stream of lead flowing down upon the tree. The lead ties the myth of the sacred tree to the chemical poisoning of the environment. Kiefer's image suggests the debasement of the trees through extreme pollution. The crass juxtaposition of the tree growing upwards in the photograph and the lead pouring down relates the pouring movement from heaven, as if an emanation from God, to the destructive fall of the acid rains.

Kiefer's evocation of the forest and its ties with German culture history joins with Muller's play as a critique of technological development. From Gilgamesh to the Teutoburg Forest, the two suggest, the shared features of becoming human and Germanness involve the domination and exhaustion of the forest. Both raise troubling questions as to the possibility of humans doing anything but exploiting and devastating the nonhuman world.

Werner Herzog's film Fitzcarraldo from 1981 extends the critique of technical mastery by illuminating its destructive impact on the Peruvian Amazon jungle. The film tells a Sisyphus- like story, a story about the challenge of the impossible. It deals with an historical figure, an Irishman named Fitzgerald who changed his name to Fitzcarraldo when he reached the Amazon basin in the late 1800s. Fitzcarraldo wanted to amass a fortune from rubber, and to build a large opera house in the jungle town of Iquitos. In order to transport the rubber, he decided to move a ship from one tributary of the Amazon to another by crossing the large hill between them. Historically, Fitzcarraldo dismantled the ship and had it carried over the hill in pieces. Herzog fastens on this one detail, a single thread of the historical narrative, and re-enacts the event by pulling a giant, three-story boat over a large hill using an old-fashioned pulley system and the local Indians. The image of 1100 Indians straining to pull a gigantic boat over a large hill in the jungle becomes the central metaphor of the film. In a sense, Herzog's obsession with the act of pulling the boat over the hill puts him in essentially the same position as Fitzcarraldo. Just as the rubber barons, but this time with different technologies and for the sake of the art of film, Herzog becomes implicated in the articulation and instrumentalization of the jungle. Herzog expresses the idea of the artist as a visionary, the obsessed seeker of the impossible, and proclaims the role of art as the articulation of the sublime.

Yet the quest for the pure and sublime moment in art amounts to just one more exploitation of the other and the forest, as Herzog's film shows. The ending of the film was a Pyrrhic victory, both for the figure of Fitzcarraldo and for Herzog's crew. Herzog was determined to make the story of Fitzcarraldo's crossing the mountain the central metaphor of the film. In the process, he hired many Indians to pull the boat up the mountain. "People will die," he was often told, in the effort to drag the gigantic boat up the forty degree incline. What everyone feared would happen did: a large cable snapped, sending the boat back down to the bottom of the hill, and several people were killed or injured. Finally, he was able to film the boat climbing the hill. But in the story of Fitzcarraldo, the Indians cut loose the boat and send it crashing down the nearby rapids. Herzog, like his character Fitzcarraldo, was obsessed with his dreams and the realization of his personal vision.

The Pyrrhic victories of Werner Herzog and his character Fitzcarraldo recall many similar efforts in the Western tradition. From Faust to Kafka's Josef K., after all, we know of characters doomed to follow their obsessive fantasies. The implied parallel Herzog's film also draws is to the exploits of Christopher Columbus, whose obsessive dream was to encircle the globe and find the passageway to Asia. On Friday, October 12, 1492, Columbus first noted what was for him the strangely empty nature of the Indies. From that first encounter, Columbus resolved to brings European flora and fauna to the Americas. Hence began the aggressive "completion" of the open spaces of the New World. Thus Herzog takes a position close to Kiefer, Muller, and Heidegger. It is a position based on articulation and the power of creativity, and dedicated to shaping the world for human ends.

The last example from the German language context is the writing of the Austrian Elfriede Jelinek. Born in 1946, and raised in Vienna, Jelinek studied music, theatre, and art history before beginning her career as a professional writer. With her plays, Jelinek is regularly able to create scandals. On the occasion of the performance of one of her plays at the Burgtheater in 1984, the Austrian press turned the event into a campaign of personal attacks and insults. As is often the case in Austrian cultural history, a writer's importance can be measured by the intensity of the criticism against her.

Frequently, Jelinek takes as her theme the tendency to compare women to nature and the forest. In often graphic portrayals, Jelinek shows in her stories and plays the sexual abuse and humiliation suffered, and at times encouraged, by such attitudes.

One of the most pertinent stories she has written is entitled "Der Wald," or "The Forest," from 1985.[17] The story follows the "stream of consciousness" of a speaker going on a family outing to the forest for the day. The scene is in the Steiermark, a rural area of Austria. The narrative begins with the nameless speaker's voice describing the scene:

> Three per cent of the Steiermark is covered with forest. Wouldn't we rather go into the mountains, if we could? But, given our uselessness, we'll go to the country during the summer. Busses or other vehicles best for driving will keep us together, a poor cargo. We are organized as families, blind embryos. Sports, yes, that counts for you too, even if you are made of plastic. Now we are insulting the forest floor with our walking, hoppla! Why not, we aren't hurting anyone, we are ourselves the damage. Forest, more beautiful than I thought, wumm! The forest is what is beautiful, wonderful gas stations during a modern trip by car through the forest, forest, you too are beautiful, and you, too, marvellous gas stations, the road unwinds before us just look now![18]

In this text, Jelinek combines the cliches of a forest tour into a seamless tirade of nonsensical commentary. "Oh beautiful forest!" the voice repeatedly exclaims, as if the very response was nothing be a mechanical noise. As a travesty of cliched responses to the forest, Jelinek points to the highly conventionalized basis of our feelings for nature in the first place.

A second Jelinek text, entitled "Bild und Frau" or "Picture and Woman" from 1986, is one paragraph long and consists of short sentences about pictures, women, and nature. The relationship of women to pictures and nature occurs particularly with regard to the body:

> Your entrance woman. Nature is the picture. The woman's picture exists for a long time. Nature's interior is embodied by the woman. The body of the woman goes inside. The body and the woman go together into nature. No more woman. Nature is pressed into pictures. Not

> every woman is a picture. Nature is never simply everyday. The woman is able. Altogether, nature persists in woman. Away with the picture.[19]

These brief, convoluted statements have the effect of a series of disjointed snapshots placed together. The language itself captures the image of the pictures. The body, woman, nature, and pictures are brought into momentary positions. In this way, too, Jelinek points out the highly mechanistic and conventionalized sense of these terms. At the same time, she attempts to scramble the conventions by jumbling the terms into unexpected combinations. She is making the conventions strange, and highlighting their strange power in everyday life.

Taken together, Heidegger, Muller, Kiefer, Herzog, and Jelinek provide a range of critical approaches to the question of humanity's relations to the nonhuman. These cultural figures are highly sceptical of human beings, and suggest that a new, more sceptical sense of humanity is appropriate to recognizing human- nonhuman interactions. Even the "goodwill" shown by some humans may, after all, amount to nothing more than the goodwill to power and domination. The scepticism these figures show towards the human offers a warning to the overly glib belief in human motivations, reason, and improvability.

By way of contrast, such pessimistic scepticism is rarely evident in American discussions of the forest. In general, American ecology writers tend to rhapsodize over the beauties of the country and their hopes for human affection.

Today, I want to consider briefly the related positions of the ecologist Chris Maser and the poet Gary Snyder.

Chris Maser's most prominent book was published in 1988 and is entitled _The Redesigned Forest_.[20] He uses the notion of a "redesigned" forest in order to differentiate his approach from the "forest management" school of the U.S. Forest Service. Maser worked for twenty years as a research scientist for the Forest Service, and includes many useful details in his book. The biggest problem with his book, however, is the patronizing, evangelical polemic dominating almost every page. The evangelical tone threatens to discount his most valuable insights. A characteristic passage appears at the end of the introduction:

> Three things I would like you to understand before you read this book. First, I recognize, as we strive to maintain sustainable forests, that we are faced with the constant struggle of accepting change and its accompanying uncertainties and this often gives rise to fear of the future. We must therefore be gentle with one another and do whatever we do with love because there are no "enemies" out there, only frightened people. Second, ideas change the world; people change ideas. And people must change before ideas will change. Third, all we have in the world as human beings is each other; if we lose

> sight of each other, we have nothing.[21]

Certainly the emotional proselytizing of this passage is quite different from the German perspectives I have shown earlier.

This is not to discount Maser's work altogether. The main point of his book, and he often refers to the history of German forestry for support, is that a forest consists as much of what is below the ground as it does of what is above. To "redesign" the forest, then, involves an increased awareness of root structures, water run-off patterns, planting strategies, and soil toxicity. His argument is that "we must have a sustainable forest before we can have a sustainable yield."[22] We cannot allow our forests to be treated as "short-term tree plantations." The evidence he gives in support of these arguments is impressive, and I can recommend them to you. The problem is the nearly fundamentalist quality of his agrarian utopianism.

A related view that is nevertheless more complex derives from the work of Gary Snyder, a poet who has been writing since the 1950s and who has recently established the "program in nature and culture" on the Davis campus of the University of California. Snyder's most famous book is the collection entitled _Turtle Island_, from 1974. He combines in this work and elsewhere references to California's environmental history, popular culture, personal experiences, and Zen Buddhism. One example of this combination is the poem "Why Log Truck Drivers Rise Earlier than Students of Zen":

> In the high seat, before-dawn dark,/ Polished hubs
> gleam/And the shiny diesel stack/Warms and flutters/Up
> the Tyler Road grade/To the logging on Poorman
> creek./thirty miles of dust./There is no other life.[23]

Snyder's poetry has won him many prizes, but he has also experimented with social and political consequences of his views. One result is the community he started with several others in the foothills of the Sierra Nevada mountains in eastern California. Another is the Davis interdisciplinary program, which operates at both the undergraduate and the graduate levels. Much of his work is motivated by what he calls "an ecological conscience," which bears considerable resemblance to the positions of Heidegger, Muller, and the others:

> I don't like Western culture because I think it has much
> in it that is inherently wrong and that is at the root of
> the environmental crisis that is not recent...a culture
> that alienates itself from the very ground of its own
> being...is doomed to a very destructive behaviour,
> ultimately very self-destructive behaviour.[24]

To combat such behaviour, however, Snyder follows the voice of nature:

> the voice that speaks to me as a poet, what Westerners

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have called the Muse, is the voice of nature herself,
whom the ancient poets called the great goddess, the
Magna Mater.  I regard that voice as a very real
entity.[25]
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Here, Snyder's perspective claims privileged access to "the voice of nature herself." Like Maser, Snyder projects a whole, pure, female totality, a great mother figure, who will nourish his dreams for the planet. Despite the shared critique of Western culture, it is clear that Maser and Snyder share a position quite different from the more sceptical view from Germany.

The American "myth of the garden" takes on a different cast from the Canadian perspective. Of course, it is risky to generalize such diverse cultural traditions, but certain patterns can nevertheless be discerned. A useful starting point is the work of Canada's most well-known literary critic, Northrop Frye. From his _Fearful Symmetry_ of 1947 to his _Anatomy of Criticism_ in 1957 and _The Great Code_ of 1982, he outlined a theory of criticism based on the assumption that literature is interconnected by the recycling of certain archetypes and symbolism. For Frye, the great writers concerned themselves primarily with these archetypes, and the others were out in the bush. This is where he thought he saw the majority of Canada's writers. Without the leisure to read, and surrounded by an essentially hostile environment, Canadian writers were only able to produce trivia or gothic romances. In his view, Canadian writers have exhibited a kind of "garrison mentality" which has proven fatally limiting.

Frye's bleak views have been largely replicated by his student, Margaret Atwood. In her book _Survival_, from 1972, Atwood describes the basic theme of Canadian literature as victimization: Canadians see themselves as victims of climate, victims of the wilderness, and victims of American power. The world of Canadian writers, she argues, is "a world of frozen corpses, dead gophers, dead children, and the ever-present feeling of menace, not from an enemy over against you but from everything surrounding you."[26] Atwood basically remains consistent with this view in her prose fiction, most spectacularly in the novel _The Handmaid's Tale_. There, her female protagonist is radically victimized by her surroundings, but just barely seems able to survive. It is characteristic in the book that the few references to trees symbolize a free, utopian space, removed from the horrifying pollution of the futuristic United States.

There is considerable plausibility in this analysis, and many writings can be used to support it. It is also true, however, that the analyses of Frye and Atwood have something particularly Toronto-esque about them, and seem rather narrow when compared with other examples from the Canadian scene. Even Susanna Moodie's _Roughing It in the Bush_, from 1852, which is often cited as evidence for the garrison mentality, seems to contain more hopeful determination than the garrison theory would seem to allow.

But today, I want briefly to consider the paintings of Emily Carr, the artist born on December 3, 1871, in Victoria, and who lived most of her life in the same area until she died in 1945. To be sure, Emily Carr travelled a great deal during her lifetime, but her

imaginative interests were fully centred on British Columbia. Much more can be said about her life and influences, and these are well-described in Doris Shadbolt's book entitled _Emily Carr_.[27] At this point I will only consider three of Carr's paintings. The exercise will be particular useful, I think, if we keep Anselm Kiefer's pictures of the forest in mind as well.

The first paintings are from 1931 and involve images from the Northwest Coast Indian art embedded in forest settings. In a manner reminiscent of Kiefer's use of names and faces from the German cultural tradition, Carr sets the totems in the forest. The primary difference is Carr's insistence on the native symbols. In her work, moreover, the juxtaposition of objects with the forest permits an act of transformation from one to the other. In "Totem and Forest," for example, she weaves the peering mouth from the bottom of the pole to the undulating forms of the trees.[28] A rhythmic interplay of lines and colours dramatizes the interactions. In the smaller canvas, "Strangled by Growth," the wild spirit of D'sonoqua, who belongs to the dark forces of the Indian myths, glares through the untamed forest tangle.[29] The tension between the swirling branches and the demonic glare provokes a mysterious sense of secret energy in the forest. The sightless, staring eyes in her paintings, derived to some extent from Indian art, suggest a kind of still but tense contained inner watching which matches the image of life in the forest.

During Emily Carr's last years, from 1931 to 1945, she expanded her sense of the forest to include a whole range of experiences, from the dark side to exuberance, freedom, openness, and joy. In these late paintings, everything is in movement, animated by the dance of light, shadow, colour, and forms. The energy of these paintings reveals a great vitality in the forest, and we often find a throbbing vibration moving the images. One example is "Wood Interior," from 1932-35, which shows the energy moving through the forest. Carr described her sketching experiences in the woods in similar ways:

> Sketching in the big woods is wonderful. You go, find a space wide enough to sit in and clear enough so that the undergrowth is not drowning you. Out comes the cigarette. The mosquitoes back away from the smoke. Everything is green. Everything is waiting and still. Slowly things begin to move, to slip into their place. Nothing is crowded, there is living space for all. Air moves between each leaf. Sunlight plays and dances. Nothing is still now. Life is sweeping through the spaces. Everything is alive. The air is alive. The silence is full of sound. The green is full of colour.[30]

Carr's painting of the "Wood Interior" captures quite clearly that very experience of intensifying movement. What is also decisive is the complete absence of human figures. Carr becomes a kind of "natural expressionist," who paints the experiences of space, movement, and light into her forest images.

One of her last paintings, "Dancing Sunlight" from 1939-40, shows the importance she gave to light, movement, and space in her final works.[31] In this painting, the gestures

of the brush movement almost seem to take over from the conceptual mind. The canvas seems to emerge from the act of painting itself. Here the nervous energy of her brush-strokes fills the space of the forest with light and movement; feathered and swirling strokes of the pigment portray the irresistible vibrancy of the forest. Carr in these last paintings develops affinities with other "natural expressionists" from art history, from Kiefer to Grunewald and El Greco. The entangling vines and branches of Kiefer's art are very similar to the swirling, light-filled branches and foliage of Carr's. The primary difference, of course, is Kiefer's emphasis on German cultural history, which give his work a far more haunted and deathly quality.

To summarize: the images of the forest from the German, American, and Canadian traditions can be grouped into instances showing certain family resemblances. German representations portray the mind-numbing conventions and the terrible disasters of human history, both real and mythic. These images represent the forest as a site under extreme pressure, no longer real in itself. American representations, by contrast, highlight the utopian possibility of the forest and its liberating potential. And finally, Canadian images extend from the sombre, threatened sense of Northrop Frye's and Margaret Atwood's victimized, garrisoned perspectives to the vitality and swirl of the forest in Emily Carr's paintings.

There are two points to make about these cultural representations. First, it should be clear from my sampling that very different perspectives have emerged. My suggestion for forestry policy makers is that they take advantage of the uncertainties provided by postmodern thought, and use the images offered by artists from various tradition to develop new, more imaginative and alternative scenarios for dealing with the forest's problems.

My second point is that policy makers, including politicians and business people, ignore the range of cultural images at their own peril. Of course many policy makers are likely to shrug off the insights of artists and others into the problems of the forest. But the recent experiences of B.C. politicians and Fletcher Challenge demonstrate that cultural images are more important than most people have thought. On October 5, the _Vancouver Sun_ reported that B.C. Forests Minister Art Charbonneau had "left for Europe on a mission to improve B.C.'s tarnished image as the clear-cutting 'Brazil of the North.'"[32] For B.C.'s forestry practices have come under great criticism in recent in European and American media, from news reporters to film-makers to dramatists. A few days later, however, the _Sun_ reported that Fletcher Challenge Canada had just lost a lucrative contract with a British publishing company on the basis of a film about clearcut logging practices in the last remaining temperate rainforests on Vancouver Island. It didn't matter whether Fletcher Challenge had actually done what the film implied--in other words, whether the film told the truth or not. The point is that the film, entitled "Battle for the Trees," suggested that the company had engaged in the cynical destruction of the last ancient, old-growth forests on the island. The loss of the contract cost Fletcher Challenge over 4 million dollars. Clearly, the images we use tell stories about our beliefs, values, and the ways we behave, and it is becoming increasingly

important for businesses and politicians to shape their practices into images the public will support.

Notes:

[1] Consider Mill's comments in the introduction to his essay "On Liberty": "The rules which obtain among themselves appear to them self-evident and self-justifying. This all but universal illusion is one of the examples of the magical influence of custom, which is not only, as the proverb says, a second nature, but is continually mistaken for the first." _On Liberty_, ed. Currin V. Shields (Indianapolis: Bobbs-Merrill, 1985) p. 8.

[2] This is Kant's famous "transcendental aesthetic," expressed in German as the "Bedingung der Moglichkeit der Erkenntnis." The phrase occurs for example in the preface to the first edition: "the present Critique...has to discover the sources of this cognition and expose the conditions of its possibility."

[3] Schiller wrote the series of letters "On the Aesthetic Education of Man" in 1793.

[4] For a useful collection of these writings, see the volume edited by Ernst Behler for the German Library: _Philosophy of German Idealism,_ (New York: Continuum, 1987).

[5] See, for example, Juurgen Habermas, _The Philosophical Discourse of Modernity,_ trans. Frederick Lawrence (Cambridge, MA: The MIT Press, 1987).

[6] The notion of the "suspicion of metanarratives" is a theme from Jean-Francois Lyotard, _The Postmodern Condition: A Report on Knowledge,_ trans. Geoff Bennington and Brian Massumi, (Minneapolis: University of Minnesota Press, 1984).

[7] This is the argument of, for example, Richard Rorty, in _Contingency, Irony, and Solidarity,_ (New York: Cambridge University Press, 1989).

[8] This quote was taken from Professor Meyer-Abich's comments during discussion at the Conference on Environmental Ethics at U.B.C., in 1992.

[9] Martin Heidegger. _Being and Time,_ trans. John Macquarrie and Edward Robinson (New York: Harper & Row, 1962).

[10] Martin Heidegger, "The End of Philosophy and the Task of Thinking," from _On Time and Being,_ trans. Joan Stambaugh (New York: Harper & Row, 1972), 55-73, 58.

[11] This is a theme from Heidegger's essay _Gelassenheit_ ("Letting Be"), (Pfullingen: Neske, 1959). For more on Heidegger's relationship to ecology, see the article by Charles Taylor: "Heidegger, Language, and Ecology," in _Heidegger: A Critical Reader,_ eds. Hubert Dreyfus and Harrison Hall, (Oxford: Blackwell, 1992), 247-269.

[12] Robert Wilson, David Byrne, Heiner Muller, _The Forest,_ (Berlin: Theater der Freien Volksbuhne, 1988).

[13] The Forest, 41.

[14] The references to Kiefer's works are from the catalogue by Mark Rosenthal, _Anselm Kiefer_, (Philadelphia: Philadelphia Museum of Art, 1987). "Varus" is shown on page 50 and discussed on page 51.

[15] Anself Kiefer, 51-55.

[16] Kiefer, 138-140.

[17] Elfriede Jelinek, "Der Wald," from the anthology _Blauer Streusand,_ ed. Barbara Alms, (Frankfurt/M: Suhrkamp, 1987), 35-40.

[18] "Der Wald," 35. The translation is mine.

[19] Jelineck, "Bild und Frau," _Blauer Streusand,_ 121. The translation is mine.

[20] Chris Maser, _The Redesigned Forest,_ (San Pedro: R.& E. Miles, 1988).

[21] _The Redesigned Forest,_ xix-xx.

[22] _The Redesigned Forest,_ 146.

[23] Gary Snyder, _Turtle Island,_ (New York: New Directions, 1974), 63.

[24] _Turtle Island,_ 106.

[25] _Turtle Island,_ 107.

[26] Margaret Atwood, _Survival. A Thematic Guide to Canadian Literature._ (Toronto: Anansi, 1972), 75.

[27] Doris Shadbolt, _Emily Carr._ (Vancouver/Toronto: Douglas & McIntyre, 1990).

[28] Shadbolt, 138.

[29] Emily Carr, 138.

[30] Emily Carr, 180-181.

[31] Emily Carr, 198.

[32] _Vancouver Sun,_ 5 October, 1992, B1.

References

Atwood, Margaret. _Survival. A Thematic Guide to Canadian Literature._ (Toronto: Anansi, 1972).

Behler, Ernst. _Philosophy of German Idealism._ (New York: Continuum, 1987).

Habermas, Juurgen. _The Philosophical Discourse of Modernity,_ trans. Frederick Lawrence (Cambridge, MA: The MIT Press, 1987).

Heidegger, Martin. _Being and Time,_ trans. John Macquarrie and Edward Robinson (New York: Harper & Row, 1962).

-----. "The End of Philosophy and the Task of Thinking," from _On Time and Being,_ trans. Joan Stambaugh (New York: Harper & Row, 1972), 55-73, 58.

-----. _Gelassenheit_ ("Letting Be"), (Pfullingen: Neske, 1959).

Jelinek, Elfriede. "Bild und Frau," in _Blauer Streusand,_ ed. Barbara Alms, (Frankfurt/M: Suhrkamp, 1987) Translated by the author.

-----. "Der Wald," also in _Blauer Streusand._

Kant, Immanuel. _A Critique of Pure Reason._

Lyotard, Jean-Fran‡ois. _The Postmodern Condition: A Report on Knowledge,_ trans. Geoff Bennington and Brian Massumi, (Minneapolis: University of Minnesota Press, 1984).

Maser, Chris. _The Redesigned Forest,_ (San Pedro: R.& E. Miles, 1988).

Meyer-Abich, Klaus Michael. "Do nonhuman beings share in human personality." presented at Environmental Ethics, Sustainability, Competition, & Forestry." October 23, 1992.

Mill, J.S. _On Liberty,_ ed. Currin V. Shields (Indianapolis: Bobbs-Merrill, 1985)

Rorty, Richard. _Contingency, Irony, and Solidarity,_ (New York: Cambridge University Press, 1989).

Rosenthal, Mark. _Anselm Kiefer,_ (Philadelphia: Philadelphia Museum of Art, 1987).

Schiller, Friedrich. "On the Aesthetic Education of Man", 1793.

Shadbolt, Doris. _Emily Carr._ (Vancouver/Toronto: Douglas & McIntyre, 1990).

Snyder, Gary. _Turtle Island,_ (New York: New Directions, 1974).

Taylor, Charles: "Heidegger, Language, and Ecology," in _Heidegger: A Critical Reader,_ eds. Hubert Dreyfus and Harrison Hall, (Oxford: Blackwell, 1992), 247-269.

Wilson, Robert, David Byrne, and Heiner Muller. _The Forest,_ (Berlin: Theater der Freien Volksbuhne, 1988).

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SUSTAINABLE DEVELOPMENT: WHAT DO WE OWE TO FUTURE GENERATIONS?

1992 Dr. Thomas Hurka

The Concept of "sustainable development," especially as proposed in the Brundtland Commission report Our Common Future, is an attempt to balance two moral demands. The first demand is for "development," including economic development or economic growth. It arises mainly from the interests of people in developing countries, whose present poverty gives them a low quality of life and calls urgently for steps to improve that quality of life. The second demand is for "sustainability," for ensuring that we do not mortgage the future for the sake of gains in the present. It arises from the interests of people in future generations, who will need, if they are to have a reasonable quality of life, non-renewable resources, access to unspoiled wilderness, and a healthy biosphere.

As the Brundtland Commission recognizes, these two moral demands can conflict. In fact, economic growth or development is a prime source of threats to the natural environment. But the Commission believes the demands can be balanced, that policies can be found that satisfy both to a reasonable degree, or that, in the oft-quoted words, "meet the needs of the present without compromising the ability of future generations to meet their own needs."[1] Critics of the Commission are less sanguine on this point. Environmentalist critics claim that to include any reference to "development" in a moral ideal is to compromise fatally one's commitment to environmental protection; "sustainable development," they say, is not a balancing act, but an oxymoron. Pro-business critics, on the other hand, contend that the restraints on economic activity proposed in the name of "sustainability" will have unacceptably high costs in forgone growth and prosperity.

Much discussion of the Brundtland Commission has focused on this issue of the coherence of its central ideal. But the discussion has tended to take for granted the Commission's formulation of the ideal and of its component moral demands. These formulations, however, are vague: there are different things that could be meant by a concern for the "needs of the present" or the "needs" of future generations. I propose to

explore this philosophical issue further, and, especially, to ask what exactly we may owe to future generations under the heading of "sustainability."

First, however, we should note that, although they can conflict, the two moral demands behind the concept of sustainable development have a parallel basis. The Brundtland Commission starts from the assumption that the needs of others place moral demands on us: if someone is ill or in pain, or, more generally, has a low quality of life, and we are able to improve their quality of life, we have a moral duty to do so. The Commission assumes what we can call an "ethic of outcomes." It assumes that we have a duty to produce good outcomes for people, or to prevent bad outcomes, no matter what the cause of the bad outcome would be. And it also holds that this duty is not extinguished by distance in space or time. That a person in need lives on another continent does not remove our duty to relieve their need; suffering a thousand miles away is as real as suffering here and should figure as much in our moral deliberations. Analogously, that a person will live in another generation or another century does not remove our duty to care about their need. The English philosopher Henry Sidgwick held it as a moral axiom that "the mere difference of priority or posteriority in time is not a reasonable ground for having more regard to the consciousness of one moment than to that of another."[2] He was referring initially to the choices we make about our own lives, and saying that a rational person will not prefer a smaller present pleasure to a greater pleasure in the future. But the same principle applies to a duty concerning other people. Suffering a hundred years hence will be as real then as present suffering is now, and calls in the same way for steps to prevent it. Like the duty to people in developing countries, the duty concerning future generations arises when an ethic of outcomes is combined with a principle of impartiality: impartiality with respect to spatial location in the one case, and to temporal location in the other.

This, then, is the abstract basis of the Commission's concern for sustainability. And the commitment to temporal impartiality is reflected in the Commission's balancing of the "needs of the present" with the "needs" of future generations, or in the implicit assumption that the two sets of needs have equal moral weight. There are, however, different interpretations of an equal concern for generations, or different forms that a temporally impartial concern for needs or interests can take. I want to consider three, both as elaborations of the Brundtland Commission and as moral views worth evaluating in their own right.

The first view takes temporal impartiality to require giving equal weight to equal gains in well-being, or in people's quality of life, at all times in history. We have a rough sense of what a good quality of life for humans consists in, and can make at least rough judgements about when people's quality of life has been increased or decreased and by how much. The first view says we should weight these increases impartially with respect to times, and in particular should not prefer a smaller increase in present well-being to larger increases in the future. We should try instead to maximize the sum of increases in well-being across times, or the total surplus of good over evil in all human lives, counting future lives equally against those in the present.

This view applies the structure of utilitarianism to the duty concerning future generations and can therefore be called utilitarianism about future generations. It holds, with Jeremy Bentham, that "each is to count for one and no on for more than one," in the sense that a unit gain in quality of life for one person counts no more nor less than a unit gain for another. Our moral goal should always be to produce the greatest total of such gains, no matter by whom they are enjoyed.

Utilitarianism has been extensively discussed by philosophers, and many objections have been raised against it. Two objections are especially relevant here. First, utilitarianism is an extremely, even excessively demanding moral view. If we have a duty always to bring about the best outcome, then any time we can increase the well-being or others or ourselves--that is, just about any time--we have a moral duty to do so. There is no moral time off, no moral relaxation, no such thing as a moral holiday. We are always duty bound to be sacrificing something for the sake of benefits elsewhere. Second, utilitarianism can favour unequal distributions of well-being, and in particular can impose severe deprivations on the few for the sake of gains for the many. Given its interpretation of impartiality, utilitarianism will count the deprivations of the few as a moral cost, but if they produce benefits for enough other people this cost will be outweighed and even a severe inequality can be on balance approved.

These two objections come together when utilitarianism is applied to future generations. If the quality of life improves through time, because of economic growth and technological innovation, then the worst-off generations in history are the earliest generations. But they have a very demanding duty to make sacrifices for future generations, for example, by investing rather than consuming resources. Each such sacrifice will lower their well-being, which gets counted as a loss in the utilitarian calculation. But it will raise the base-level of well-being from which the next generation starts, which will raise the base-level for the next generation, and so on. And the sum of these benefits into the distant future will surely outweigh the initial costs of producing them. The earliest generations, despite their comparatively low quality of life, have a stringent duty to sacrifice their quality of life for the sake of people who no matter what will be far better off then they.

Some philosophers, feeling the force of these objections, have proposed replacing utilitarianism about future generations with a different, _egalitarian_ view. This view cares not just about the sum of benefits across generations but also about their equitable distribution, or about intergenerational equality. We do not sacrifice the worst-off generation for better-off generations, but aim in some way at equality of condition among them.

This egalitarian view can take several forms, but an attractive version has been proposed by Brian Barry. He says that each generation has a duty to pass on to its successors a total range of resources and opportunities that is at least as good as its own.[3] In a sense, "noblesse oblige." Those generations that enjoy favourable conditions of life must pass on similar circumstances of life to their successors; generations who are less fortunate have no such stringent obligation.

Several points are of note about Barry's view. First, it characterizes our duty concerning future generations not in terms of their well-being or quality of life but in terms of their range of opportunities. This reflects a general view, shared by Barry and many philosophers, that the subject-matter of justice is always opportunities. If we leave successor generations the opportunity for a high quality of life but they misuse it--if they squander the resources we have left them--that is their fault, not ours, and does not mean that we have failed in our duty. Leaving sufficient opportunities was the whole of our duty; using the opportunities well is theirs. Second, the view's reference to a "total range" of opportunities allows variations in how the duty is fulfilled at different times in history. Early generations may pass on a large stock of non-renewable resources and limited technology; later generations, having depleted some resources, may compensate by passing on more advanced technology and a larger stock of capital. The talk of a range of opportunities allows trade-offs between different sources of opportunities: resources, technology, capital investment, environmental quality. What is required of each generation is just that it pass on a total package of opportunities that is comparable to its own, whatever the exact composition of this package may be.

As so understood, the egalitarian view has several attractive features. It does not require large sacrifices by the earliest generations; on the contrary, it never requires a generation to sacrifice for the sake of people who will be better off than they. And the view seems close to some of the intentions of the Brundtland Commission. Utilitarianism about future generations fits at best the abstract idea of impartiality with respect to times, but the egalitarian view fits the specific language of "sustainable development." Thus, the term "sustainable" suggests a process that continues at a constant level through time. This is precisely what happens if each generation passes on an equal range of opportunities to its successors: a level of opportunities is achieved and then sustained through time. And the view's focus on opportunities fits the Commission's talk of "development": what is sustained is not quality of life as such, but the economic and other activity that permits quality of life. What sustainable development ensures, in the Commission's words, is the "ability of future generations to meet their own needs"; again, what is passed on is only opportunities. Finally, the egalitarian view has a broader moral appeal, deriving from fundamental ideas quite different from the Commission's own. One can accept it for something like the commission's reasons, or on a quite different basis. Let me explain.

I have said that the Brundtland Commission assumes an ethic of outcomes, which says we must respond to people's needs however those needs were created, or promote good and prevent evil whenever we can do so effectively. But there is a more restricted general view that Peter Danielson has called an "ethic of responsibility."[4] According to this more restricted view, we are not bound to solve all the problems of the world; our duty is only to avoid creating problems. We must not be responsible for evil to others: we must not harm others, and if we have harmed them we must repair the damage. But if harm befalls them from some other source, it is not incumbent on us to intervene. It might be nice and even admirable of us to do so, but we violate no duty if we prefer to concentrate on our own lives, interests, or families.

This ethic of responsibility diverges sharply from the ethic of outcomes when it is applied to our duty concerning people in developing countries. It says we must not harm these people, and if we have harmed them in the past, say, by colonial exploitation, we must make up for this. But if their poverty has some other cause--exploitation by a country other than our own, or a lack of natural resources, or their ancestors' failure to invest or develop technology--we have no duty to relieve it. Their needs may be real, but they make no ethical claim on us.

But the two views do not diverge so sharply when applied to our duty concerning future generations. The ethic of responsibility says we must not harm future generations, or make them worse off than they would have been had we not affected their lives. But we do this, it seems, if we make them no worse off than had we not intervened between the previous generation and them. And we do this if we pass on a range of opportunities that is equal to the one we received. The ethic of responsibility, in other words, coincides, at least in current conditions, with Barry's version of an egalitarian ethic of outcomes concerning future generations.

The reference to "current conditions" is essential here, for there are imaginable circumstances in which the two views diverge. Imagine that some natural process is under way that will make future conditions of life less favourable than they are today. Imagine, for example, that global warming is occurring not because of human activities but because of some natural process such as changes in the earth's position relative to the sun. An egalitarian version of the ethic of outcomes says we must take steps to minimize the effects of this process. The range of opportunities we pass on must contain extra elements to make up for the opportunities that will be lost because of global warming. The ethic of responsibility rejects this claim. If the global warming is not our fault--if it has natural causes--we have no duty to counteract it.

These imaginable circumstances, however, are not our own. There is not now any, nor we do not know of any, natural process making future conditions worse. Given this, Barry's egalitarian ethic of outcomes coincides with an ethic of responsibility. This strengthens the appeal of the egalitarian view and may help explain the widespread popularity of an ideal of "sustainability." This ideal can appeal not only to those who accept Barry's particular version of an ethic of outcomes, but also to those who accept the very different ethic of responsibility.

I do not say this to endorse the ethic of responsibility or to suggest that it is employed by the Brundtland Commission. On the contrary, given the Commission's claims about our duty to relieve poverty in developing countries, its general approach is clearly that of an ethic of outcomes. Because of this, I will continue to interpret Barry's view as a version of the ethic of outcomes. Assuming this interpretation, is the egalitarian view the best view of our duty concerning future generations? There seem to be two serious objections against it.

The first objection is the flip side of one of the view's merits. The egalitarian view does not place excessive demands on early generations to make sacrifices for the sake of

later generations, but that is because it places no such demands--early generations need do nothing at all for later generations. Surely this is going too far; surely early generations have some duty to enable their successors to live better than themselves. An ideal of "sustainability," or of a constant level of well-being through time, may be attractive when we imagine it starting from a high level of well-being, but it is not attractive starting from a low level of well-being. There is nothing inspiring about a consistently maintained level of misery. Yet Barry's view allows consistent misery. It finds nothing objectionable in a sequence where the first generation has a very limited range of opportunities and a low quality of life, passes this limited range of opportunities on to its successor, which does the same, and so on. But surely this sequence _is_ objectionable. There may not be as stringent a duty to improve conditions for future generations as utilitarianism claims, but surely there is some such duty.

The second objection is a more abstract one about the way all egalitarian views focus on comparative judgements. Imagine that I am well off and you are badly off. Egalitarianism says the reason I should help you is that you are worse off than I. But surely this is not the right reason. The right reason is simply that you are badly off, apart from any comparison with me; it is your condition considered in itself that generates my duty. The egalitarian interest in comparative judgements does not make a practical difference in this case, since it still leads to the right conclusion: that I should help you. But in other cases it does make a difference. Imagine that I am extremely well off and you, though very well off, are still somewhat less well off than I. Egalitarianism says I have the same reason to help you as in the first case: that you are less well off than I. But it is not clear that there is any necessity about helping in this case. If your condition considered in itself is very good, why do I have any duty at all to improve it? Why is your condition, as is, not perfectly satisfactory?

Reflecting on these objections leads to a third view about our duty concerning future generations. This third view says that our duty is not to make the condition of future generations as good as possible, as utilitarianism claims, or even as good as our own, as egalitarianism claims. Our duty is only to make the condition of future generations reasonably good. If we follow utilitarianism and formulate the duty in terms of quality of life, we will say that we have a duty to give future generations a reasonable quality of life. But Barry had persuasive arguments showing that the proper subject-matter of justice is opportunities. If we accept these arguments, we will formulate the third view as saying that each generation has a duty to pass on to its successor a range of opportunities that allows for a reasonable quality of life, or, to put it more briefly, a reasonable range of opportunities. If a generation can pass on a better range of opportunities, one that allows for a more than reasonable quality of life, that may be a nice or even admirable thing to do. But it is not a duty.

This third view rests on an idea for which economists have coined the term "satisficing," meaning "making satisfactory." It says that, in general, rational agents do not strive obsessively for the best possible outcome but are content when they find one that is reasonably good. So I will call this third view the "satisficing" view. It has, I believe, several attractive features.

First, the view's claims about early generations are intermediate between those of the egalitarian and utilitarian views. Early generations do have a duty concerning later generations; they should help enable their descendants to live lives that are reasonably good. But if their own lives are not reasonably good, they may weigh a concern for their own interests against their duty to their descendants. And this duty is never to make their descendants' lives more than reasonably good; in particular, they are never required to make further sacrifices for a future generation whose range of opportunities will already be more than reasonably good. Second, the view moderates its demands on later generations. Imagine that our present range of opportunities allows us a quality of life that is far more than reasonably good. We do not violate a satisficing duty if we pass on a smaller range of opportunities to our successors, so long as this range is reasonably large. There can be a decline in the conditions of life, so long as they remain above a threshold.

Finally, the satisficing view fits an important part of the Brundtland Commission's language: its talk of "needs," as in "the needs of the present" and enabling "future generations to meet their own needs." We normally contrast people's needs with their wants, or with luxuries, or with things that benefit them but in a less significant or morally compelling way. Needs are not all that matter for a good life, but they come first and have a certain priority. It is natural to define this priority in satisficing terms: people's needs are what must be satisfied if they are to have a reasonably good life, while wants and luxuries allow them an even better life. And needs have priority because our duty to others is only to make their conditions of life reasonably good. To talk of "needs," then, as the Brundtland Commission does, is to talk in what looks like a satisficing way.

If this is right, however, there is a tension between the Commission's talk of "sustainability" and its references to "needs." "Sustainability" suggests a constantly maintained level of well-being through time, and a duty that is violated if there is ever a decline in the conditions of life. But the talk of "needs" allows such a decline: if a wealthy generation's duty to its successors concerns only their needs, it does nothing wrong if it leaves them a little less than its own tremendous range of opportunities. In fact, the talk of "needs" allows a continuous decline in the conditions of life, so long as they remain above some threshold level. I do not suggest that this tension is of great practical or political significance. The problem in the world today is not that people are tempted to sacrifice more than they need to for future generations; it is that they seem oblivious to duties concerning the future. Nonetheless, there is a philosophical question about what the best account of our duty concerning future generations is, and on that question talk of "sustainability" and talk of "needs" conflict. My own view is that the talk of "needs" is primary here: it is future people's condition considered in itself that matters, not its comparison to our own. It is not our "noblesse" that "oblige," but our descendants' possible "pauvrete." So I propose the satisficing view as the best account of both our duty concerning future generations and, despite the need to rename it, sustainable development. It needs just two refinements to be complete.

In their initial formulations, the egalitarian and satisficing views treat generations as wholes; the present generation as a whole has a duty to pass certain conditions of life

on to successor generations as wholes. But generations consist of individuals, and it is these individuals whose conditions of life matter morally. Thus, the demands of satisficing are not satisfied if just some or even a reasonable number of the individuals in a future generation live well; they must all be able to live well. We cannot, acting today, guarantee a proper division of a future generation's conditions of life, but our goal is that all its members can enjoy reasonable well-being.

The second point concerns an issue any complete view of our duties concerning the future must address: population growth and population size. This issue is especially pressing for the utilitarian view. Since this view is concerned with producing the best outcomes possible, it must decide whether producing a larger population is other things equal better than producing a smaller one, and, if it is, how the value of increased numbers weighs against the disvalue of its probable result: a lower quality of life. The egalitarian and satisficing views do not need to address these questions themselves. They seem neutral on the question of whether a larger population is other things equal better, or even whether there is a duty to preserve the human race from extinction. They claim only that, if there will be future people, we owe them certain conditions of life. The views therefore need to be supplemented by claims about the duty (if any) to produce numbers of human lives; perhaps a satisficing view will say there is a duty to ensure that there is a reasonable number of humans in the future, but no duty to create more than a reasonable number. But whatever these supplementary claims say, issues about population size affect the core of the satisficing duty. Since this duty is, as we have just said, to ensure that each member of a future generation enjoys reasonable conditions of life, its demands will be more pressing the more such members there will be. If the numbers in a future generation will be larger, we must pass on a larger total set of non-renewable resources, capital, and unspoiled wilderness if each individual is to have a reasonable supply. And if we cannot pass on this larger set, and producing the larger population is not a duty, then producing a smaller population is a duty. If we are to avoid violating our duty concerning future generations--to ensure that each can live reasonably well--we must restrain population growth.

To this point I have focused on the "sustainable" half of "sustainable development," and the interpretation of our impartial duty concerning future generations. But the Brundtland Commission also accepts an impartial duty concerning people in developing countries, and the same interpretive options arise for it. Thus, a utilitarian view about developing countries says that we should aim at the greatest sum total of benefits for people in all countries, counting a unit gain in one country no more nor less than in another; an egalitarian view says that developed countries should help developing countries reach a level of opportunities equal to their own; and a satisficing view says that developed countries should help developing countries reach a level of opportunities that is reasonably good. I believe that arguments parallel to those favouring satisficing in the intergenerational case favour it also here in the international case, so the best overall view applies a satisficing principle both across times and across spatial locations: we are all to aim at reasonably good conditions of life both for our own descendants and for people elsewhere. The debate about the coherence of "sustainable development" is then one about whether these two aims are compatible. Critics of the Commission say

they are not: we cannot ensure reasonable opportunities both for our descendants and for people elsewhere now. The Commission believes we can. But the debate is an empirical one, about the possibility of satisfying two parallel satisficing demands, each arising from a satisficing interpretation of an impartial ethic of outcomes.

This, then, is my account of sustainable development. But the theme of this conference is not just sustainable development; it is sustainable development and competitiveness and the relationship between the two. If there is a moral vision implicit in talk of "competitiveness," as the preparatory materials for this conference suggest, is this vision compatible with the ideal of sustainable development?

At the level of theory, I believe the answer must be no. The term "competitiveness" is not normally used by those who have an impartial concern for people in all countries. On the contrary, it usually appeals to those who are competitive, who want their own country to do better than others or who at least care more about their country's doing well than about others' doing well. The promoters of Canadian competitiveness would not think it a good thing if economic developments led to a transfer of wealth from well-off Canadians to poorer people in developing countries; on the contrary, they would deplore this loss of competitiveness. But the ideal of sustainable development as formulated by the Brundtland Commission would applaud this development as helping to meet the needs of those whose needs are most pressing.

A moral vision of competitiveness can embrace part of the ideal of sustainable development, that is, its impartial concern for the future. Thus, we can care about competitiveness in a long- term rather than in just a short-term way, so that we care about competitiveness for Canadians not just now but into the distant future. In managing the British Columbia forests, for example, we can ensure that we do not ravage the forests today for the sake of quick profits, but instead practise sustainable forestry, leaving a resource that our descendants can use and gain employment from in the same way that we do today. This limited concern for sustainability--sustainability just here, for Canadians only--is indeed compatible with a kind of competitiveness, namely long-term competitiveness. In fact, the two concerns seem identical: caring about preserving a range of opportunities for future Canadians seems indistinguishable from caring about Canada's long term competitiveness. But what coincides with long-term competitiveness here is not sustainable development in the full sense of the Brundtland Commission, which requires impartial concern for all people everywhere. In the Commission's words, sustainable development "requires meeting the basic needs of all and extending to all the opportunity for a better life."[5] And it involves economic growth, because "such growth [is] absolutely essential to relieve the great poverty that is deepening in much of the developing world."[6] In comparison with these remarks, the vision of long-term Canadian competitiveness, or any vision of merely local sustainability, seems incomplete and even internally in tension. Sustainable development in the full sense involves two parallel demands of impartiality, across times and across spatial locations. But how can one accept one of these demands but not the other? How can one endorse a concern for future Canadians, accepting that temporal distance does not extinguish moral duties, but reject a concern for non-Canadians, who

are merely spatially distant? Whereas the ideal of sustainable development has an inner coherence, that of local long-term competitiveness seems at odds with itself.

There is a further theoretical difference between competitiveness and sustainable development. I have suggested that we interpret sustainable development as involving a satisficing view, reflected in the Brundtland Commission's talk of "needs." On this view, we have a duty to ensure that others enjoy reasonable conditions of life, but any interests they have beyond this--for example, interests in having mere wants satisfied or in acquiring luxuries--make no claims on us. And what is true of them is equally true of us--any interests we have in mere wants or luxuries have no moral weight. Imagine that we are extremely well off, and that the reduction in our well-being required to satisfy others' pressing needs will still leave us more than reasonably well off. On the satisficing view, the fact that we will suffer this reduction has no moral weight against the demand to satisfy others' needs. It is not that it counts for something but is outweighed by gains to the needy, as on the utilitarian view; it counts for nothing at all.

A satisficing version of sustainable development is therefore an ethic of limits--not just ecological but ethical limits. It holds that no one has any claim to more than a reasonable supply of resources, at least so long as the more pressing demands of others are not satisfied. This ethic of limits is essential, I believe, to the Brundtland Commission's belief that the two component demands in its ideal are compatible. We can satisfy the needs both of people in developing countries and of future generations once we realize that people in developed countries--or at least the wealthiest among them--have no legitimate claim to that share of their resources that is not needed for a reasonable life.

But I see no suggestion of this ethic of limits in the moral vision of "competitiveness." On the contrary, this vision seems to imply a continual striving for material acquisition, a "competition" for wealth and luxury that never ends. This is in stark contrast to an ethic of "needs" that sees no legitimate claim to what is unnecessary for satisfying needs.

I have pointed to two theoretical differences between the moral visions of sustainable development and competitiveness, differences in the fundamental principles that inspire them. But someone may object that the central issue before this conference is not theoretical, it is practical. Sometimes radically different principles can require the very same action; they can give different reasons for doing exactly the same thing. May this not be the case for sustainable development and competitiveness today? May these two different ideals not require the same behaviour in our circumstances now?

I have conceded that a certain concern for sustainability--for local sustainability--is compatible with competitiveness. Managing the British Columbia forests, for example, in a sustainable way will promote, not sacrifice, the long-term competitiveness of British Columbia and Canada. But I have also insisted that local sustainability is not the only concern in the full ideal of sustainable development: that ideal includes an equal concern for people, now and in the future, in developing countries. So the practical question is whether ensuring reasonable conditions of life for these people as well as for

our descendants is the best way of promoting our standard of living--not just to a reasonable level but as high as it can go--in Canada.

This is a large question, and I cannot give you all my reasons for answering no. It is, in effect, the ancient philosophical question about the relationship between morality and self-interest: is promoting the good of others the best way of promoting one's own good? It would certainly be nice--it would be wonderful--if this were so, but I cannot see that it is, either in the case of individuals or in that of nations. As I see it, satisfying the needs of people in developing countries, both now and in the future, will require sacrifices by those in developed countries. These sacrifices may not leave them unable to satisfy their needs-- it would be wrong if they did--but they will, in my view, properly require some sacrifice of luxuries, wants, and mere competitiveness.

Notes:

[1] World Commission on Environment and Development, _Our Common Future_ (Oxford: Oxford University Press, 1987), p. 8.

[2] Henry Sidgwick, _The Methods of Ethics,_ (London: Macmillan, 1907), p. 381.

[3] Brian Barry, "Intergenerational Justice in Energy Policy," in D. Maclean and P.G. Brown, eds., _Energy and the Future_ (Totawa, NJ: Rowman and Littlefield, 1983).

[4] Peter Danielson, "Personal Responsibility," in H. Coward and T. Hurka, eds., _Ethics and Climate Change: The Greenhouse Effect._ (Waterloo: Wilfred Laurier University Press, 1993) 87-89.

[5] World Commission on Environment and Development, _Our Common Future_, p. 8.

[6] Ibid., p. 1.

References

Barry, Brian. "Intergenerational Justice in Energy Policy," in D. Maclean and P. G. Brown, eds., _Energy and the Future._ (Totowa, NJ: Rowman and Littlefield, 1983).

Danielson, Peter. "Personal Responsibility", in H Coward and T. Hurka, eds., _Ethics and Climate Change: The Greenhouse Effect._ (Waterloo: Wilfred Laurier UP, 1993).

Sidgwick, Henry. _The Methods of Ethics,_ 7th ed. (London: Macmillan, 1907).

World Commission on Environment and Development, _Our Common Future._ (Oxford: Oxford University Press, 1987).

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