BEYOND SUSTAINABILITY NARRATIVES: JUSTICE AND COMPLEX

SYSTEMS THINKING FOR JUST SUSTAINABLE VIABILITY

by

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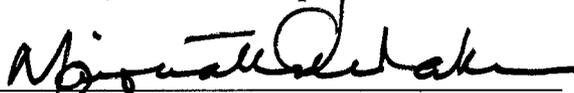
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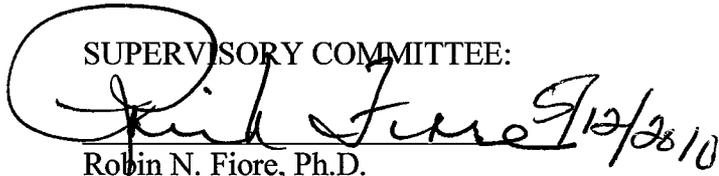
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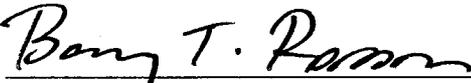Dissertation Advisor

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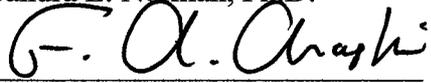
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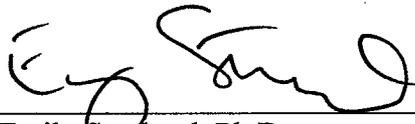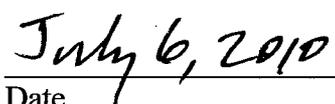
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ABSTRACT

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The dominant definitions of sustainability are too various and neglect essential

elements necessary for effective sustainability discourse. This project considers what

current understandings of sustainable development mean to those who subscribe to

them and how those understandings affect public policy for sustainable development. I

begin by presenting a timeline on the evolution of the term 'sustainability'. Then, I offer

narrative policy analysis as a methodological tool for investigating communities of

meaning with contending views on sustainability. This provides a foundation for the

analysis of case studies using Harrisonian Sustainability Narratives – efficiency, equity,

and ethics –as lenses through which three corresponding U.S. case studies are explored,

each representing different levels of analysis – corporate, state, and individual.

First, the Business Roundtable, a lobbying organization comprised of the CEOs

of top U.S. companies exemplifying the efficiency narrative, claims that the problem of

sustainable development can be addressed through free markets, which continually

increase eco-efficiency and encourage technological advancement. Next, the Environmental Protection Agency, a state organization mandated to protect water and air and to manage toxic and solid wastes and representing the equity narrative, sees the problem of sustainable development as ensuring the just distribution of natural limits so as to reduce the impact of those limits on individuals within communities. Lastly, the ethical anthropology of Anna Peterson, philosopher of religion, points to the power of ethical narratives in creating wide-scale changes to our ideas about humanness and human nature as they relate to our relationship with our environment for sustainability.

What I found in common with both the efficiency and equity narratives, representing both the political and corporate perspective and having significant influence on policy formation, is that they are promoting market-based solutions of eco-efficiency and technological advancement. What they blatantly lack is guidance on what we ought to do, ought to value. I conclude that a humanist ethic is missing from both these narratives. Neither narrative sees matters of justice as co-equal partners with sustainability for sustainable development. Policy resulting from these narratives may offer efficiency and process but fails to include a robust humanist ethics necessary for a true sustainability. The way we think about our relationship to the environment shapes our behavior towards it. Just Sustainable Viability combines a complex systems approach that views human societies as complex adaptive systems and aims at optimizing social adaptive capacity with notions of distributive and procedural justice. With the inception of this new vision for sustainability, a new narrative must follow that firmly places humanity within the context of complex social and environmental systems.

DEDICATION

For Brian, my husband and best friend.

BEYOND SUSTAINABILITY NARRATIVES: JUSTICE AND COMPLEX

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CHAPTER 1

ROLE OF NARRATIVES IN SHAPING SUSTAINABILITY DISCOURSE AND POLICY OUTCOMES

Introduction

Green architects, car manufacturers, human rights activists, governments, and oil companies all have hitched themselves to the trendy "sustainable development" wagon. Instead of uniting environment, economy, and equity, the sustainable development industry has generated a plethora of vague interpretations, inventories, and goals. Consensus-driven United Nations summits on the subject of sustainability have produced a series of capacious and disjointed policies and documents, further confusing the term and the associated issues. Initially, the hope was that sustainability discourse would provide a guide for achieving sustainable development in a time when consumption and environmental degradation threatened the future of civilization. However, almost half a century later, the promise of sustainability remains unrealized.

The sustainable development movement presents an opportunity for fundamental change that could realign human civilization with the natural environment upon which it depends for survival. This kind of change should bring to the fore the rights of those individuals who bear the brunt of the consequences of economic growth and yet receive none of the benefits, as well as ensure the health of planet Earth for

generations to come. Regrettably, though the concept has gained great power over the past two decades, it has the potential for becoming a drain on resources and a front for inaction (Harrison 2000). For example, the efficiency narrative of sustainability, fostered by the Brundtland Commission, defines sustainability as allowing future generations to be as well off as the current generation. This definition takes for granted that the lifestyle of the current generation is, in fact, sustainable and ought to be sustained. However, the motivation for the sustainability movement was that current development is not sustainable. Additionally, this definition takes for granted that this generation is well off and neglects to take into account social inequities. Is the definition suggesting that those individuals who are not well off ought not to hope for more than their current living conditions for future generations (Harrison 2000)? In other words, dominant definitions leave many unanswered questions and may lead to policies that do not deliver sustainable results. However, given its already established momentum at all levels of society, the concept as originally envisaged could be a catalyst for change within governments, corporations, nongovernmental organizations, communities, and households around the globe.

Sustainability is a concept created to address the very real challenges of living on a planet containing finite resources and facing exponentially increasing consumption, where the increasingly predominant ideology encourages unchecked economic and developmental growth. Given the problem, sustainable development was envisaged as a means by which the resources necessary to human life could be guaranteed to future generations. Though sustainability as an ideal has gained many proponents, what sort of lifestyles are sustainable and ought to be sustained are matters

of much contention within the interpretive communities that purport to support and encourage the sustainability ideal. The problem lies in the differing understandings held by interpretive communities regarding not only the definition of sustainability, but also the problem that sustainability was devised to address. These multiple definitions each respond to a different problem, therefore making the achievement of sustainability impossible. A community's shared values inform their understanding and their approach, but often result in organizations that fail to achieve what they purport to do. What is required is a new understanding of sustainability that only can come from an interpretive investigation that explores "not only 'what' specific policies mean but also 'how' they mean—through what processes policy meanings are communicated and who their intended audiences are, as well as what context-specific meanings these and other 'readers' make of policy artifacts" (Yanow 2000, 8). To that end, I ask the question: how does sustainability mean? In other words, by what means does sustainability have meaning? The central point made by discourse analysis is that language is constructive; it is constitutive, to a large extent, of social life (Wetherell 1987). In other words, discourse, once seen as merely reflecting minds, objects, worlds, and social relations, actually builds them. Although words symbolically represent the world, they also shape the reality they represent. This means that language shapes social realities by fostering certain types of action. According to discourse theory, the human act of meaning-making is what constitutes human reality (Wetherell 2001).

The Derivation of the Project

Upon commencing this project, I planned to complete a narrative policy analysis that would address the aforementioned questions regarding the communities of meaning

that share in sustainability discourse from varied and often opposing policy

perspectives. My goal was to identify the policy relevant communities of meaning

within the sustainable development debate and the narratives that shape their particular

ways of looking at the challenge posed by sustainable development and the solutions

they propose to address them. Soon thereafter, my research plan was redirected upon

encountering the work of Neil E. Harrison, political scientist, who set out to complete

the very same project in his text, *Constructing Sustainable Development* (*CSD*)

(Harrison 2000). While teaching a seminar course on the topic in the spring of 1994,

Harrison began to realize that the more he began to explore writings from relevant

economic, political, and ethical literature on sustainable development, the less certain he

was about the nature of sustainable development (Harrison 2000). Compelled by the

gravity of the problem that sustainable development discourse aims to address and by

his recognition of the lack of clear definition of a term so frequently used to justify

political, economic, and ethical policy, Harrison set out to complete a narrative policy

analysis that he hoped would assist him and the reader in understanding just what it

would take to ensure that development is sustainable (Harrison 2000). With some of

my intended project already seemingly complete, I re-directed my research questions

towards the work of critiquing Harrison's narrative analysis and applying his

framework to actual communities of meaning that fulfill his criterion.

This project leverages Harrison's analysis of sustainable development

narratives, which utilize narrative analysis, a form of interpretive policy analysis that

"focuses on the meanings of policies, on the values, feelings, or beliefs they express,

and on the processes by which those meanings are communicated to and 'read' by

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various audiences" (Yanow 2000, 14). This approach presupposes that "the promise and implications of a policy are not transparent and easily evident in its text" (7). Harrison's analysis begins by asking two questions. What does sustainability mean; and for whom does it have meaning? The intent of using a narrative policy analysis is to understand the apparent dynamics of embedded values in organizational definitions of sustainability and sustainability initiatives discourse.

Harrison's pivotal work looks at the narratives that heretofore define the problem of sustainable development, what I call Harrisonian Sustainability Narratives, each of which select for particular solutions to the challenge of sustainable development. He identifies three dominant narratives: efficiency, equity, and ethics. Such a narrative analysis is essential in any attempt to address the ambiguities of the concept of sustainable development and/or to further progress the sustainable development movement beyond where those sustainable development narratives have taken it. Understanding how various policy relevant communities of meaning define the problem of sustainable development as well as themselves within the sustainable development debate forms the basis of what Harrison deems the dominant sustainability narratives of the day. What values and interests inform their particular ways of seeing the issue and inform their policy preferences? Where do these ways of seeing sustainable development differ, overlap, stand on common ground, or extend from the same philosophical underpinnings? Making salient the obvious and nuanced aspects of these narratives, Harrison critiques their individual value in facilitating efficacious policy for sustainable development. He then offers his own vision of sustainable development that borrows some key aspects of all three Harrisonian sustainable

development narratives, while revolutionizing thought on the issue with an interdisciplinary take on sustainable development. His vision redefines the problem of sustainable development as one of humanity being and living within a complex adaptive system where opportunities for adaptation and viability are of ultimate value and importance in the face of an ill-defined and unpredictable future. Though complex adaptive systems already are being looked at within the fields of biology, conflict resolution, computer science, and business management, to name a few, their integration into sustainable development discourse has progressed only slightly since the publication of *Constructing Sustainable Development* (CSD) in 2000. Though some time has passed since their identification, the narratives characterized by Harrison still are worthy of investigation and serve as an apt theoretical lens for investigating actual communities of meaning within the sustainable development debate.

The Project in Brief

First, my analysis of CSD asks what can be learned from applying Harrisonian Sustainable Development Narratives to communities of meaning that, in my estimation, fit the profile Harrison describes for each narrative. Following an analysis of the architecture of the three Harrisonian sustainable development narratives, I utilize them as a framework for looking at case studies for each narrative as well as for Harrison's conclusions. To that end, I apply his lens to case studies from communities of meaning on federal, corporate, and individual levels of analysis. In doing so, I illustrate the value of Harrison's narratives in being applicable to and valuable in looking at communities of meaning at these varying levels of analysis. The first case study focuses on Business Roundtable, a corporate lobbying organization that promotes the

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efficiency narrative. The second case study looks at the Environmental Protection

Agency, a federal organization that maps to the equity narrative. The final case study

looks at the ethical anthropology offered by Anna Peterson, an individual who presents

an ethical approach to addressing the challenge of sustainability. The applicability of

Harrison's narrative to the disparate communities of meaning on differing levels of

analysis supports the value of his work in capturing the essence of the narrative debate

as it has come to be divided along the lines of efficiency, equity, and ethics. What this

suggests is that Harrison's analysis is an important step in understanding the ways

narrative differences lead to differences in policy approaches. However, my work

within Harrison's theoretical framework makes salient a critical insight that Harrison

neglects to recognize. As I discuss more thoroughly in chapters five and eight, there is

strong evidence that what Harrison calls the equity narrative really is an adoption of the

efficiency narrative within the political sphere. Therefore, I come to conclude that there

really are only two sustainable development narratives, one that is based upon the

capitalist ideology and one that is not.

　　　　I then question whether Harrison's sustainable development policy principles

bring us closer to solving the challenge of sustainable development and what else, if

anything, ought to be considered. I conclude that what is missing from Harrison's

policy principles, which he bases upon complex systems thinking, is a robust ethical

component that introduces distributive and procedural justice into a purely systems

based approach.

　　　　My project commences with an overview of the concept of sustainability. After

surveying the available literature on the topic of sustainability from multiple fields of

scholarship, it is clear that no definitive definition exists and that a great amount of confusion surrounds the concept of sustainability, making progress impossible. In chapter two, through an historical analysis of the concept since its inception in the late 1960s, I look at the evolution of the concept of sustainable development across multiple disciplines and map the development of the concept and its definition. I focus not only on the evolution and understanding of the term, but also on how a particular vision of sustainability relates to the particular social, political, and historical context within which it is situated. In doing so, I build a timeline that tracks the development of the concept of sustainable development as a reaction to changing social and political circumstances. The purpose of this analysis is twofold. First, my analysis will root the evolution of the concept firmly within a particular historical context and, therefore, make salient the social and political circumstances to which a particular definition of sustainability is a response. Understanding the impetus for the sustainable development movement's initial momentum and later decline will serve as a foundation for conjecture on the future of the concept and its potential for successful implementation. Second, within the past 50 years, the varied definitions and conceptual understandings of sustainable development that have arisen across numerous disciplines will serve as building blocks from which a new approach can be crafted.

In chapter three, I present my methodology. I commence with an overview of the interpretive policy analysis approach since this approach asks what a policy means rather than what it costs. This distinction is critical for an analysis seeking to uncover the hidden implications of policy. I selected Dvora Yanow's *Conducting Interpretive Policy Analysis* because her work "informs how the 'architecture of meaning' is

revealed by the systematic investigation of policy categories and labels, metaphors and narratives, programs and institutional places" (Yanow 2000, v). Yanow reincorporates those values and meanings that are externalized by traditional policy analysts. Yanow directs analysts to interpretive policy analysis so they have a means by which to focus "on the meanings of policies, on the values, feelings, or beliefs they express, and on the processes by which those meanings are communicated to and 'read' by various audiences" (14). By design, this form of policy analysis makes salient important information regarding complex social and economic problems while at the same time assessing the means by which policies and programs are formulated and implemented (Yanow 2000). I, then, introduce the more specialized form of interpretive policy analysis as outlined by Emery Roe in *Narrative Policy Analysis: Theory and Practice* (Roe 1994), which Harrison references in his analysis. This sets the stage for my analysis of Harrison's narrative policy analysis, which requires the set of linguistic and theoretical tools provided by both Yanow and Roe. Finally, I conclude chapter three by preparing the reader for the next step in this project where I apply this methodological framework to the macro sustainability narrative analysis begun by Harrison to gain insight into the case studies I have selected as micro analyses to assess the value of narrative policy analysis in clarifying the meanings of sustainable development policy for those policy relevant actors within the debate.

The case studies presented in chapters four, five, and six apply each Harrisonian Sustainability Narrative to a corresponding case study that fulfills the defining criterion identified by Harrison for each narrative. To see what might be learned from them, the following questions are addressed: What can be learned by mapping the Harrisonian

Sustainable Development Narratives upon each case study? Do the Harrisonian

Sustainable Development Narratives accurately depict the corresponding communities

of meaning? Do the limitations of the Harrisonian Sustainable Development Narratives,

as offered in Harrison's critiques, present a challenge for sustainability policy

advocacy? Can truly sustainable policies and practices result from each approach?

What additional insights are brought to light by applying Harrison's model to each case

study?

In chapter four, I analyze the Harrisonian Efficiency Narrative and bring it to

bear upon Business Roundtable, a lobbying organization composed of chief executive

officers of the top revenue-generating U.S. companies working on maintaining their

leadership roles within the U.S. and global economies while simultaneously addressing

several corporate social responsibility issues, one of which is sustainable development.

Business Roundtable conforms to Harrison's profile of a community of meaning that

views sustainability as an issue of efficiency. As an association of major U.S. market

movers, Business Roundtable sees increasing resource efficiency and technological

innovation as the solution to the challenge of sustainable development. By mapping the

Harrisonian Efficiency Narrative upon Business Roundtable sustainability policy

advocacy, I am able to gain insight into actual communities of meaning who focus their

efforts on sustainable development using this narrative. I look both at the Harrisonian

Efficiency Narrative and Harrison's critique of that narrative and whether the

application of his framework brings us closer to sustainable development. A case study

of Business Roundtable is presented and analyzed through the lens of the Harrisonian

Efficiency Narrative. I conclude that looking at Business Roundtable through the

framework provided by Harrison illustrates the limitations of the efficiency narrative in advocating for sustainable development policies. Roundtable's lobbying of government to reduce or eliminate environmental regulations, to institute only voluntary sustainable development programs, and to encourage unchecked economic growth misdirects sustainable development policy.

The Harrisonian Equity Narrative is brought to bear upon The United States Environmental Protection Agency (EPA), the governmental organization charged with protecting humans from environmental hazards, in chapter five. The EPA conforms to Harrison's profile of a community of meaning that shares in the view that sustainability is an issue of equity. As a governmental organization tasked with finding political means to address environmental problems, EPA ultimately sees public policy as the solution. Bryan Norton, environmental philosopher-ethicist, worked at EPA on three committees tasked with various policy formulation roles for ecological risk management. I look at this case study through Harrison's lens and conclude that genuine progress on sustainability is hindered both by political pressures to remove value judgments from sustainability policy development and by an over dependency on scientific objectivity to justify policy directions. Further, I argue that Harrison misses a critical insight when he fails to recognize the way the efficiency narrative has become the dominant philosophy within communities of meaning that share in the equity narrative.

In chapter six, I analyze the Harrisonian Ethics Narrative and look at the ethical anthropology of philosopher Anna Peterson. Peterson asserts that the efficacious history of religious movements may offer promise for building an ethical movement for

sustainable development. A case study of Peterson's ethical anthropology is presented and analyzed through the lens of the Harrisonian Ethics Narrative. I conclude that while Harrison is somewhat correct in his assessment that the ethics narrative offers a change of consciousness as a means by which sustainable practices can be facilitated, I disagree with his assessment that the ethics narrative offers no potential for large-scale transformation. An analysis of Peterson's ethical anthropology demonstrates that the transformative power of the ethics narrative historically has, in fact, facilitated social change within the realm of religion. Peterson recommends, and I concur, that an investigation into what makes religious narratives effective will illuminate how the ethics narrative might be employed to encourage social change on a scale beyond the individual.

Chapter seven looks at Harrison's conclusion that sustainable development should be viewed as a means by which social adaptive capacity can be optimized. I then analyze his complex adaptive systems approach to sustainable development, Harrisonian Sustainable Development Principles. To further clarify complex adaptive systems and how they relate to the issue of sustainable development, I provide background on these systems and their relationship with the challenge of sustainability. Finally, I discuss Harrison's application of complex adaptive systems to sustainable development and offer some suggestions on how this reconceptualization and new approach can be extended to include a more robust ethical component as fully outlined in chapter eight.

In chapter eight, Just Sustainable Viability is offered as an intervention in the ongoing sustainable development debate. Here, I start with the Complex Adaptive

Systems approach suggested by Harrison and argue that ethical concerns must be addressed in order to employ an efficacious new understanding of sustainable development. The growing divide between the 'haves' and 'have-nots' is an unsustainable trend, which I assert must be addressed if Just Sustainable Viability is to be achieved. I argue for the inclusion of a more robust ethical component within the Harrisonian sustainable development principles, which he models after complex adaptive systems theory. The next logical step in utilizing complex systems thinking for sustainable development, I conclude, takes into consideration the tenets of distributive and procedural justice and amounts to Just Sustainable Viability.

Conclusion

In this chapter, I establish the problem of sustainability and lay out how sustainability is a concept created to address the very real challenges of living on a planet containing finite resources and faced with an exponentially increasing population of humans whose predominant ideology encourages unchecked economic and developmental growth. The multiple definitions shared with interpretive communities each respond to a different problem, therefore making the achievement of sustainability impossible. A community's shared values informs their understanding and their approach, which often results in organizations that fail to achieve what they purport to do. What is required is a new understanding of sustainability that only can come from an investigation of the ways sustainability means. In order to address this problem, I ask the question: how does sustainability mean? In the next chapter, I review the evolution of the term sustainable development in order to better understand how we

have come to see sustainability through the contending policy narratives, which

confound attempts at devising efficacious sustainability policy.

CHAPTER 2

EVOLUTION OF THE CONCEPT OF SUSTAINABLE DEVELOPMENT

Introduction

In this chapter, I present a timeline that illustrates the evolution of the term "sustainable development" starting from 1962 when, with the publication of Rachel Carson's *Silent Spring,* the general public began to recognize more fully the connection between environment and development. The evolution of the idea of sustainable development is reviewed, with the primary focus on the two most commonly cited sustainable development definitions that serve as the catalyst for the creation of the interpretive communities relevant to the policy issue: the 1987 World Commission on Environment and Development (Brundtland Commission) and the 1992 Rio Summit statement.

The Evolution of Sustainable Development

Over time, numerous attempts have been made to define the term "sustainability." This discourse can be traced back to its inception in the slow blending of the post-World War II international development community and the environmental movement (Cahill n.d.). What was once an optimistic view of the promise of a modern technological utopia that might serve as the answer to all environmental challenges has been tempered in many ways by a more realistic view that asks us to search beyond the technological fix to see the derivation of the environmental ills of our time.

1962 is considered the year when the connection between environment and development was cemented in the Western world. Rachel Carlson's *Silent Spring* ushered in the age of sustainability discourse when she shattered our culture's illusions that our planet had an infinite capacity to support life and absorb pollutants. Through ecological, toxicological, and epidemiological evidence, her text showed how growing toxic levels of agricultural pesticides were polluting the environment (Carson 1962).

A ten year study conducted by the International Biological Programme studied the biological and ecological mechanisms from which environmental damage results. The study's data, released in 1963, served as the foundation for future science-based environmentalism (Cahill n.d.).

The Environmental Defense Fund was formed in 1967 as a means of legal intervention in cases of environmental damage. This marks another important milestone in thinking about the environment and the responsibility of those who exploit natural resources to take care of the degradative effects of environmental exploitation (Cahill n.d.).

NEPA, or the National Environmental Policy Act, was passed in 1969, making it the first U.S. national agency for environmental protection. This was followed in 1970 by the creation of the EPA and a mandate to push for U.S. environmental policy.

The Founex Report, the work of a panel of experts who met in Fournex, Switzerland in June 1971, suggested that environmental protection could not be possible alongside economic growth, while at the same time pointing to underdevelopment and poverty as an additional cause of environmental problems. The report calls for the integration of developmental and environmental strategies (Cahill n.d.).

The following year, the link between environment and economy was introduced in Stockholm, which held the first conference on sustainability, the United Nations Conference on the Human Environment (UNCHE), attended by 113 nations and 500 non-governmental organizations (Cahill n.d.). The conference marked the first time that attention focused on the necessity of natural habitat conservation for the production of a sustained improvement in living conditions for all and on the importance of international cooperation for its achievement. Emphasis was placed on solving environmental problems without ignoring economic, social, and development factors. As a result of the conference, 26 principles and 109 recommendations were agreed upon, *The Declaration of the UNCHE, The Action Plan for the Human Environment* was drafted, and the UN Environmental Programme (UNEP) was established. Critics of the conference argued that it was not a truly global endeavor because communist countries boycotted the conference. Further, though participants agreed on principles, little was decided on 'how' to achieve them. Additionally, because the conference was about 'human' environmental rights and not the 'intrinsic' rights of the environment, some environmentalists remained skeptical about its approach. Finally, since only two heads of state (Sweden and India) attended, the political efficacy of the event was questioned (Cahill n.d.).

In 1979, economist James Coomer addressed sustainability in his essay, "The Nature of the Quest for a Sustainable Society." According to Coomer, "the sustainable society is one that lives within the self-perpetuating limits of its environment. That society... is not a 'no growth society'.... It is rather, a society that recognizes the limits of growth...[and] looks for alternative ways of growing" (Coomer 1979, 14). This

narrative tells the story of how a sustainable society results from living within environmental limits.

That same year, economist Charles Howe proposed a definition in his text, *Natural Resource Economics,* stating that responsible natural resource policy "should be aimed at maintaining over time a constant effective natural resource base." This concept implies "not an unchanging resource base but a set of resource reserves, technologies, and policy controls that maintain or expand the production possibilities of future generations" (Howe 1979, 26). This economic based narrative gained traction as the sustainable development story changed from one focused on conservation efforts to one aimed at ensuring the resources necessary for maintaining growth.

In 1980, the World Conservation Strategy also was concerned with the link between the economy and the environment. The environmental programme (UNEP), together with the World Wildlife Fund (WWF) and International Union of the Conservation of the Nation (IUCN), worked to develop ideas for nature conservation. Proponents of the World Conservation Strategy define development as "the modification of the biosphere and the application of human, financial, living and non-living resources to satisfy humans needs and improve the quality of human life" (IUCN 1980, 2). However, they suggest that the environment should not be modified in the service of economic growth and development required to fulfill human needs (Cahill n.d.). The main focus of the World Conservation Strategy is conservation, which is different from the UNCHE conference held in 1972. Given this focus on conservation, not as much emphasis is placed on social, political, economic, and cultural issues. Furthermore, the World Conservation Strategy developed ideas regarding the actual

implementation of sustainable development, unlike the UNCHE (Cahill, n.d.). The

Strategy's main goal was to explain how conservation of the environment and

development can work together. "This is the kind of development that provides real

improvements in the quality of human life and at the same time conserves the vitality

and diversity of the Earth. The goal is development that will be sustainable. Today it

may seem visionary but it is attainable. To more and more people it also appears our

only rational option" (Cahill, n.d.). For the World Conservation Strategy, the

sustainable development narrative envisions those developments that from the

confluence of interdependent economic and ecological interests.

Several years later, in 1987, the Brundtland Commission issued *Our Common

Future*, a blueprint that provides a detailed analysis of sustainable development. The

so-called Brundtland Report set out to offer solutions to the complicated problem of the

effect of world development on the environment. In doing so, it awakened the world to

the necessity of furthering progress toward a sustainable economic development that

neglects to destroy natural resources and harm the environment (The World

Commission on Environment and Development 1987). The primary concern of the

report is global equity, or the distribution of resources within the developing world to

enable economic growth. For the Brundtland Commission, the three main components

of sustainable development are environmental protection, economic growth, and social

equity. Further, the report suggests that growth, equity, and environmental conservation

are possible, even as each country achieves its full economic potential and enhances its

resource base. Technological and social changes are cited as the necessary means for

countries to achieve sustainable growth and equity (The World Commission on Environment and Development 1987).

Our Common Future explains that, by the early 1980s, the inextricable link between economic development and environmental issues was becoming abundantly clear to multilateral institutions and national governments. This is because, as the report notes, "many forms of development erode the environmental resources upon which they must be based, and environmental degradation can undermine economic development" (The World Commission on Environment and Development 1987, 5). Also note that the opposite is true; economic development often causes environmental degradation. "Poverty is a major cause and effect of global environmental problems. It is therefore futile to attempt to deal with environmental problems without a broader perspective that encompasses the factors underlying world poverty and international inequality" (3).

In 1983, in response to these concerns, the UN General Assembly established the World Commission on Environment and Development, an independent body outside of governmental and UN control. The Commission's mandate was threefold: "… to re-examine the critical environment and development issues and to formulate realistic proposals for dealing with them; to produce new forms of international co-operation on these issues that will influence policies and events in the direction of needed changes; and to raise the levels of understanding and commitment to action of individuals, voluntary organizations, businesses, institutes, and governments" (The World Commission on Environment and Development 1987, 3).

After deliberating testimony compiled from public hearings held on five continents, the commissioners narrowed their scope to one central theme: "… many present development trends leave increasing numbers of people poor and vulnerable, while at the same time degrading the environment. How can such development serve next century's world of twice as many people relying on the same environment" (The World Commission on Environment and Development 1987, 4)?

This revelation dilated their view of development beyond the limited context of economic growth in developing nations. Instead, they came to recognize that what is required is a new course for development that sustains human progress all over the planet well into the future. Therefore, they concluded that "sustainable development" ought to become a priority for "developing" countries and industrial nations alike. (The World Commission on Environment and Development 1987) Because of this determination, the concept of sustainable development became part of mainstream global debate; the concept that once was discussed solely within the scientific community was now a topic of international dialogue and debate. (Sitarz 1993)

In *Our Common Future*, the Commission argues that crises growing in development, environment, and energy really are all parts of a whole. They are one. In the years preceding the report, technological advances in developed nations and the rapid industrialization of developing nations connected global economy and global ecology in unanticipated and unprecedented ways. No longer was the one concern of industry that of protecting the environment from the impacts of economic growth. The negative impact of ecological stress upon potential economic growth quickly became a powerful concern. In the words of the Commission, "ecology and economy are

becoming ever more interwoven—locally, regionally, nationally, and globally—into a seamless net of causes and effects." (The World Commission on Environment and Development 1987, 5) This "seamless net" is one within which we all appear to be caught. The Commission warns that, "Many present efforts to guard and maintain human progress, to meet human needs and to realize human ambitions are simply unsustainable—in both the rich and poor nations. They draw too heavily, too quickly, on already overdrawn environmental resource accounts to be affordable far into the future without bankrupting those accounts. They may show profits on the balance sheets of our generation, but our children will inherit the losses" (8).

The Commission asserted, however, that this type of development was not the only option before members of that generation. "Humanity," the Commission argues, "has the ability to make development sustainable – to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs" (The World Commission on Environment and Development 1987, 4). Sustainable development as conceived by the Commission can be achieved in part through the development of a new era of economic growth fostered by the improvement and management of technology and social organization. However, "the concept of sustainable development," the Commission explains, "does imply limits – not absolute limits but limitations imposed by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities" (43). In other words, sustainable development cannot exist under a paradigm of unrestrained growth. Instead, new opportunities for economic growth must be found through practices that do not deplete the natural resources upon which they

depend and do not upset natural ecological processes to the point where they can no longer support them. Pivotal to the efficacy of such a 'new era of economic growth' is dissolution of widespread poverty. "The Commission believes that widespread poverty is no longer inevitable. Poverty is not only an evil in itself, but sustainable development requires meeting the basic needs of all and extending to all the opportunity to fulfill their aspirations for a better life. A world in which poverty is endemic will always be prone to ecological and other catastrophes" (8). Put another way, development cannot be sustainable without first ending poverty, which is responsible, in part, for environmental degradation.

However, the Commission makes it clear that merely fostering a 'new era of economic growth' within nations predominantly populated by the poor is not enough. Instead, meeting essential needs requires, "an assurance that those poor get their fair share of the resources required to sustain that growth." Simply stated, development that benefits only a few at the expense of the impoverished is not sustainable. The establishment of "… such equity," the Commission envisions, "would be aided by political systems that secure effective citizen participation in decision making and by greater democracy in international decision making" (The World Commission on Environment and Development 1987, 8).

The Commission argues that sustainable global development cannot be achieved until citizens of affluent nations "adopt life-styles within the planet's ecological means" (The World Commission on Environment and Development 1987, 9). This means, for example, conserving resources and turning to renewable forms of energy. The importance of harmonizing population size and growth with the dynamic productive

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potential of the ecosystem also is stressed. This is particularly critical for countries with rapidly growing populations since rapid growth increases pressures placed on resources and, consequently, slows any rise in standards of living.

Regardless of its numerous attempts at solidifying a practical conceptual framework for envisioning sustainable development, the Commission concedes that, "Sustainable development is not a fixed state of harmony, but rather a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are made consistent with future as well as present needs." In the 'final analysis' regarding sustainable development, the difficulty inherent in the tough choices required is left to what the Commission refers to as "political will" (The World Commission on Environment and Development 1987, 9).

It is the Brundtland Commission's definition of sustainable development that later became one of the two dominant definitions referenced by policy relevant communities of meaning. In the first definition, the focus is placed on global equity and poverty eradicated through political means. For the Commission, sustainable development is defined as development that fulfills the needs of the present generation without compromising the capability of future ones to meet their needs. Sustainable development as such includes two key concepts. The first relates to "needs." More specifically, the Commission focuses on making the essential needs of the world's poor a priority. The second involves the state of technology and social organization and the limitations it imposes on the environment's ability to meet the needs of present and future generations.

In 1988, economist Richard Norgaard argued that, "sustainability… implies that the overall level of diversity and overall productivity of components and relations in systems are maintained or enhanced" (Florida 2006, 2). For Norgaard, the narrative seated the crux of the challenge of sustainability to the health of systems as measured by their diversity and productivity, a more ecologically focused story. In contrast, that same year, economist David Pearce argued that, "sustainability requires at least a constant stock of natural capital, construed as the set of all environmental assets" (3). Here, natural capital implies an economically-centered approach that defines the natural world as capital, measured by an assigned economic value, upon which development depends. In this view of sustainability, nature is seen through a market-based lens; it is an asset to be valued, stockpiled, and traded on in the open market.

Whether telling the story of sustainable development as one that ends with nature as an economic or as an intrinsic value, the link between economy and ecology continued to gel. In September of the following year, William D. Ruckelshaus contended in *Scientific American* that, "… sustainability is the [emerging] doctrine that economic growth and development must take place, and be maintained over time, within the limits set by ecology in the broadest sense—by the interrelations of human beings and their works, and the biosphere… It follows that environmental protection and economic development are complementary rather than antagonistic processes" (Ruckelshaus 1989, 167). For Ruckelshaus, seeing economic development and environmental protection as complementing each other meant that their relationship is not antagonistic, an idea many later came to criticize. This criticism stems, in part, from the fact that market-based approaches tend to externalize environmental costs, thus

rendering economic development free from those considerations. This oversight commonly is seen as detrimental to environmental protection.

NASA's 1990 declaration of a definition of the sustainable development illuminates the inherently antagonistic relationship between the interests of developmental growth and the interests of environmental conservation. For NASA, "ecologically sustainable development is a condition in which society's use of renewable resources takes place without destruction of the resources or of the environmental context which they require" (Solomon 1990, 46). In this definition, NASA, at least up to this point in time, does not mention the non-renewable resources necessary for society's development. These resources, by their very nature, are destroyed when used, thus iterating the seemingly inescapable contradiction between developing resources without destroying them.

In 1991, botanist Otto Soemarwoto declared that, "sustainability is the ability of a system to sustain the livelihood of the people who depend on that system for an indefinite period" (Florida 2006, 3). Of course, the term 'livelihood' can be interpreted in a number of ways. In a culture dominated by an ideology of continuous growth and material accumulation, the question of whether one's livelihood can be sustained by a system rarely is asked. Instead, emphasis often is placed on the ability of the system to advance the living standard of the current generation beyond that of the previous one. In many industrialized nations, higher standards on living mean material wealth beyond what is necessary for comfortable survival. Furthermore, these higher standards are propelled by new technologies and markets upon which continued future economic growth depends. The answer, then, to whether a livelihood can be sustained appears to

be found in a blind faith in technology. Technology will right the environmental degradation of past generations and facilitate a level of efficiency that will support indefinite growth.

In response to the sentiment that raises technology to the level of savior and ends the conversation about how we ought to be concerned about the livelihoods of generations to come, author Ernest Callenbach asserted in 1992 that, "sustainability is the fundamental root metaphor that can oppose the notion of continued exponential material growth" (Florida 2006, 4). Sustainability for Callenbach, then, is something that must be seen as contrary to the ideology of indefinite economic expansion. Though this perspective was shared by many others, 1992 ushered in another very influential take on sustainability, one which brought back into the fore the idea that sustainability and economic growth are not contradictory goals.

On June 13, 1992, nearly ten years after the establishment of the World Commission on Environment and Development and on the 20th anniversary of the first United Nations Conference on the Environment, world leaders gathered in Rio de Janeiro, Brazil to devise a plan to prevent global environmental destruction. The conference yielded *Agenda 21: The Earth Summit Strategy to Save Our Planet.* All in attendance stood in agreement with the premise that what happens in one part of the globe has a definitive impact on the rest of the world. The Rio Summit made salient that, "… business and commercial activity must be undertaken with respect for the fragility of our land, our air, and our water; a healthy environment and a healthy economy can be exclusive pursuits. 'Sustainable development' practices are crucial if the Earth is to continue supporting life as we know it" (Sitarz 1993, ix). Like *Our*

Common Future, *Agenda 21* promotes sustainable development and highlights the importance of recognizing the link between and a "healthy economy" and a "healthy environment."

The second definition that would become dominant in later years comes from The Rio Summit, which contends that sustainable global development as a concept is a matter of ecological efficiency and sees the problem as having a market-based solution. The perspective was spawned in an effort to answer two central questions: "First, is it possible to increase the basic standard of living of the world's expanding population without unnecessarily depleting our finite natural resources and further degrading the environment upon which we all depend? And, second: can humanity collectively step back from the brink of environmental collapse and, at the same time, lift its poorest members up to the level of basic human health and dignity" (Sitarz 1993, 4-5)?

While *Agenda 21* is hopeful, the text leaves these questions far from answered. Instead, the Rio Summit presents the text as a proposal outlining a variety of actions that should be practiced by all of earth's inhabitants. "The bold goal of *Agenda 21* is to halt and reverse the environmental damage to our planet and to promote environmentally sound and sustainable development in all countries on Earth" (Sitarz 1993, 6). While the aim of *Agenda 21* sounds good to an environmentally and socially concerned ear, the specificity for it to be achieved is lacking. What is considered environmental damage? How will one know when it has stopped or reversed? What sort of development, if any, is environmentally sound? By what measure and by whose determination ought these questions be answered?

Conclusion

Today, we are left with a disjunction: two conceptions of sustainable development with each pointing towards very different policy ends, depending upon the narratives employed by the communities of meaning who share them. These two dominant definitions developed within the last 20 years articulate the most common divide between policy relevant communities of meaning within the sustainable development debate: those who envision a political solution and those who place their confidence in market forces. Because of this rift, the challenge of achieving cooperation on sustainable development seems nearly impossible since these two groups do not share in the same understanding of what sustainable development means and what it will look like once achieved. In subsequent chapters, the way these two definitions have shaped what would become the three dominant sustainability narratives will become clear. The question of sustainable development is well-suited for a narrative policy analysis, a form of qualitative policy analysis, whose "starting off point is the reality of uncertainty and complexity in the polarized issues and controversies of today" (Roe 1994, 10). In the next chapter, this project's methodology is discussed, and an explanation of the tools utilized in narrative policy analysis are offered as a theoretical framework for addressing the vagaries of sustainable development and as a vehicle through which a new understanding of sustainable development can be derived.

CHAPTER 3

NARRATIVE POLICY ANALYSIS METHODOLOGY

Introduction

In chapter one, I laid out the challenge of achieving cooperation on sustainable development, given that the term has been defined differently by different stakeholders, depending upon their policy interests. Then in chapter two, I presented a timeline illustrating the evolution of the term and the critical milestones that have led us to this point in history, where understandings of sustainable development are at best contested and at worst ineffectual or possibly even detrimental to addressing the social and environmental challenges that prompted development of the term in the first place. Because of the existence of contending understandings of sustainable development and the problem it is proposed to solve, the frameworks offered by interpretive policy analysis are particularly apt. This is because interpretive policy analysis does more than traditional policy analysis, which typically involves the weighing of costs and benefits of a proposed policy through quantitative assessments that monetize or ignore values considered inappropriate for scientific assessment (Yanow 2000). Instead, interpretive policy analysis reintroduces the matter of values into the realm of analysis by proclaiming that those values have value in that their recognition facilitates a meaningful basis by which conflicting proposals, ideas, and outcomes can be discussed and judged (Yanow 2000).

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Though there are several methods employed by interpretive policy analysts, for the purposes of this project, I will focus first on the interpretive mode of policy analysis in general and then on the narrative policy analysis in particular. By addressing the interpretive approach first, I underscore the importance of moving beyond a mere study of "values as a set of costs, benefits, and choice points" to a study of policy that focuses on "values, beliefs, and feelings as a set of meanings" and sees "human behavior as, ideally, instrumentally and technically rational to human action as expressive (of meaning)" (Yanow 2000, ix) to the work of exploring the concept of sustainable development. In particular, the method of narrative policy analysis is relevant for this project because it is the means by which the narratives presented by the varied and competing camps situated within the sustainable development policy debate can be explored.

Interpretive Policy Analysis

Traditionally, policy analysis looks at actions taken by authority, such as a federal agency, non-governmental organization, corporation, local government, or hospital, in an effort to achieve a particular executive goal (Yanow 2000). The analysis typically is conducted to determine if the actions, whether planned or taken, are necessary and appropriate (Yanow 2000). Over the last 50 years, these analyses have focused on looking at a quantitative comparison of policy costs and benefits to determine the value and appropriateness of the policy in question (Yanow 2000). The traditional analysis commences with the analyst's philosophy, the objectives of the analysis, and policy context specified. The analyst then collects relevant information to evaluate the advantages and disadvantages of alternative courses of action (Yanow

2000). Finally, the analysis concludes with a recommendation, although in some

instances, the analyst also provides a plan of implementation (Yanow 2000).

Though this form of policy analysis offers insight into the hard, financial costs

of alternative policy directives, it only assists us in answering the question "What are

the costs of the policy"? However, by introducing a qualitative complement to the

traditionally quantitative policy analytical approach, analysts can ask the question

"What are the meanings of a policy" (Yanow 2000, v)?

Yanow's approach hypothesizes that the intent and the implications of a policy

are not easily apparent in its text (Yanow 2000). On the contrary, they are based upon

clandestine conclusions that often are incompatible with each other, and which have

relevance within the particular context from which policy makers and stakeholders

derive them (Yanow 2000). "To unwrap these perspectives, the interpretive policy

analyst must identify groups of stakeholders and the 'policy artifacts' (consisting of

symbolic language, objects, and actions) that determine how a policy, together with the

policy process, is 'framed' or understood" (Yanow 2000, v). In essence, the

"architecture of meaning" becomes salient through the systematic investigation of

policy relevant institutional places, programs, narratives, metaphors, categories, and

labels (Yanow 2000).

This form of analysis is appropriate to the project at hand because sustainable

development matches the description of a policy relevant issue; i.e., one surrounded by

debate among contending communities of meaning who understand the problem

differently and who offer very different ways of defining and solving it. By utilizing

Yanow's interpretive approach, more can be clarified about the three dominant policy

narratives that Harrison already has delineated by surveying the literature for us within those communities of meaning than by merely considering the theoretical tools offered by narrative analysis, a subset of qualitative policy analysis. Harrison's analysis is at the macro-level where he does not delve into the local level nor look at specific communities fighting for a particular interpretation of sustainable development within a localized policy debate. Instead, he takes a macro-level snapshot of the prevailing types of communities of meaning that are, even at the local level, aligning themselves to argue for a particular notion of sustainable development. What his review offers for such a macro-level issue, one that far exceeds the domain of any one localized region of policy relevant communities, is a macro-level context within which more localized and specific communities of meaning either are situated or juxtaposed. His scaffolding provides a meaningful framework within which to begin identifying how various localized communities of meaning have situated themselves within the larger sustainable development debate. Though I look only at one community of meaning for each narrative, this analysis marks the beginning for future analyses of communities of meaning, both nationally and globally, that have organized themselves around the cause of sustainable development.

In methodology, an interpretive policy analysis emphasizes the meaningfulness of human action (Yanow 2000). Because of this, an interpretive policy analysis looks to uncover the intentions that underlie the practical reasoning of actors in certain situations. An analyst attempts to uncover the conceptual box particular to each actor involved in the policy debate and to discover how each actor makes sense of the situation (Yanow 2000). The analyst approaches artifacts as texts as a way to better

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grasp the meaning that texts have to their creators (authors) and other policy-relevant

publics (readers) (Yanow 2000). The analyst is able to clarify the meaning of an artifact

or policy event by contextualizing it (Yanow 2000). Yanow refers to context as "the

context of the culture (the set of meanings and their artifactual embodiments) that

comprises the agency or organization (or part of one), the community, and/or the polity

or society (at the local, regional, state, or national level) in which the policy being

analyzed is (to be) enacted" (Yanow 2000, 12). By treating these artifacts as texts, an

interpretive policy analysis then can explicate the practical reasoning, or the intentions

that support the action, of those who find meaning in the artifact or event (Yanow

2000).

Harrison completed much of this work on the macro-scale when he set out to

delineate communities of meaning around sustainable development and locate within

them the dominant policy narratives that form the foundation of their understanding of

the issue. In my work, I specifically situate within Yanow's framework the policy

narratives that Harrison already has exposed. In this way, I can map the interpretive

policy analysis I conduct on Business Roundtable's Sustainable Growth Initiative onto

these narratives.

The interpretive methods employed in this form of analysis are grounded by the

presupposition that the social world within which we live is defined by the expectation

of multiple interpretations to any one object of study. Because of this, "there are no

'brute data' whose meaning is beyond dispute." In other words, interpretive analyses

do not aim to amass objective data that can be understood and analyzed in a vacuum.

Instead, interpretive analyses assume that all data exists within various contexts that,

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like lenses, illuminate various meanings when viewed through them. "Dispassionate, rigorous science is possible – but not the neutral, objective science stipulated by traditional analytic methods (as represented by the scientific method)" (Yanow 2000, 5). This is because policy analysis entails the same sort of sensemaking that is inherent to living, which also requires interpretation. (Yanow 2000)

Because this project is based upon the presupposition that differing interpretations lead to different policy approaches and results, understanding the interpretations shared by each community of meaning is a meaningful and relevant exercise. The interpretive approach adds an additional dimension for analysis by extending the object of study out of the arena of what we once thought could be isolated from subjectivity, and admitting that all meaning exists within a context that is not detrimental to conducting an effective analysis but, to the contrary, is necessary for truly understanding an object of study. The sheer complexity of the sustainable development debate makes such an approach critical. Sustainable development touches all things, biological and man-made. It is about consciousness for some and economics for others. The trouble in defining the term springs from its illusiveness as a concept with no physical form. Since our ideas about sustainable development either bring it into being or they don't, it is important to understand those ideas and the meanings that inform them.

The framework designed by Yanow assumes "it is not possible for an analyst to stand outside of the policy issue being studied, free of its values and meanings and of the analyst's own values, beliefs, and feelings." By acknowledging the role played by the subjectivities of all policy relevant players as well as the analyst, these subjectivities

become a part of the data to be analyzed, thereby broadening the scope of the analysis to be inclusive of potentially critical contextual information. "The argument assumes that knowledge is acquired through interpretation, which necessarily is 'subjective:' it reflects the education, experience, and training, as well as the individual, familial, and communal background, of the 'subject' making the analysis" (Yanow 2000, 6). This places interpretive analysis apart from more traditional forms of policy analysis, which presupposes one's ability to isolate social phenomena from the many contexts within which they are situated in order to arrive at an objective understanding that is appropriate within all contexts (Yanow 2000). On the contrary, an interpretive approach suggests that the only accurate way to find meaning and truth is to look at social phenomena within the contexts where they exist, which will uncover multiple meanings that often change and evolve over time.

This form of analysis already assumes that the analyst cannot stand impartially outside the analysis. Thus it is the ideal vehicle for sussing out meaning within these policy relevant communities that are looking at the issue of sustainable development, while allowing the analyst to have a voice in the project, to offer new ways of looking at the issue, or even to advocate for one policy approach over another (Yanow 2000). No understanding of the problem is expected to be objective. Instead, it is assumed from the beginning that all understandings are mired in a particular way of looking at the world, in particular interests, and in particular symbols. The analyst is recognized as one of myriad subjectivities looking at, in this case, sustainable development from his or her own subjective vantage point. (Yanow 2000)

To date, most work completed within the arena of interpretive policy analysis

has concentrated on the philosophical positions that form its foundation (Yanow 2000).

More specifically, a great deal of this work has crystallized into an argument being

leveled against the positivist philosophical presuppositions that concern our ability to

know and understand the reality of the social world, and which are at the heart of

traditional policy analytic approaches (Yanow 2000). Traditionally, science and social

science were viewed as mirrors that reflect the reality of nature and the social world

(Yanow 2000). What is missing from this perspective is the intermediary nature of the

human who is interpreting that reality though the lens of his or her own experience.

"The interpretive approach is less an argument (in the context of policy analysis, at

least) contesting the nature of reality than one about the human possibilities of knowing

the world around us and the character of that knowledge" (Yanow 2000, 7). In other

words, by its very nature, an interpretive approach implies that more must be done to

know and understand something completely than merely observing and analyzing a

phenomenon outside of the many contexts within which it resides. What the

interpretive approach offers is an opportunity to expand the arena of the analysis in

order to gain a more realistic understanding of a phenomenon as it exists within varied

contexts (Yanow 2000).

Furthermore, what the interpretive approach stresses is that an effective policy

analysis is one that does not restrict the object of analysis to only the ideas or policy

language that is intended by their authors (Yanow 2000). This is because the

understandings of others who are relevant to the policy's execution also are of analytic

concern. As Yanow explains, "interpretive policy analysis explores the contrasts

between policy meanings as intended by policymakers – 'authored texts' – and the possibly variant and even incommensurable meanings – 'constructed texts' – made of them by other policy relevant groups" (Yanow 2000, 9). Though often times establishing policy intent is required as a benchmark for assessing policy outcomes, a process most common in evaluative and post-implementation analyses, this more traditional approach focuses solely on the policy as it was enacted either by its creators or by those who authored the text. An interpretive analysis makes salient the importance of recognizing the existence of other objects of analysis that also are appropriate for assessment, thereby illuminating another avenue for making meaning (Yanow 2000). Because policy implementation often is plagued by problems that arise from varied understandings of policy language, analysts must work to identify these other interpretations or the local knowledge contained within communities of meaning who formulate their own policy relevant constructed texts (Yanow 2000).

How are these alternative policy relevant texts constructed? Over time, members of a community, such as a community of educators or chief executive officers, "come to use the same or similar cognitive mechanisms, engage in the same or similar acts, and use the same or similar language to talk about thought and action" (Yanow 2000, 10) through a process of interaction. Reinforcing this tendency toward community cohesion are group processes that frequently promote homogeneity by encouraging community members to align their sense of identity with that of the group. This leads to an identification of "us," those who belong to the community, versus "them," those who do not. The language shared by a community unites it in understanding.

As Yanow points out,

> Although the language of "community" has its roots in a geographic locale—connoting similarities of position deriving from shared property-based interests, political views, race-ethnicity, class, religion, or other commonalities—it is borrowed into a policy context with broader reference points, which are not place-specific: "location" within an organizational structure, professional training and membership, sex and gender, and myriad other possible dimensions lead to a set of values, beliefs, and feelings that can bind people together in communities of meaning. Cognitive, linguistic, and cultural practices reinforce each other, to the point at which shared sense is more common than not, and policy-relevant groups become "interpretive communities" sharing thought, speech, practice, and their meanings. (Yanow 2000, 10)

Communities, with their shared language, sense of identity, and policy relevant understandings, are important sites of analysis for interpretive analysts who are looking to gain a more complete view of a policy and its implications as understood by those who are affected by them. This is the thrust of the interpretive approach, which aims to understand how and what a policy means.

As we will see within the sustainable development policy debate, communities of meaning exist on a macro-level. Here groups of like-minded individuals who share in a particular vision of the world and their place in it align themselves with each other and share in a common language and common symbols that serve to further unite them. Sometimes this unity is independent of a physical location, although regional interests often color the allegiances within the macro-level communities of meaning. Because each group becomes so insulated within a particular way of seeing the issue of sustainable development, often it is extremely difficult for them to find common ground and a common language for discussing and debating policy. An interpretative approach can help remedy this hindrance to the policy process.

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This brings us to the central question for interpretive policy analysts. "How is the policy issue being framed by the various parties to the debate"? Before we can answer that question, however, we first must determine what constitutes a frame in this context. "Frames direct attention toward some elements while simultaneously diverting attention from other elements. They highlight and contain at the same time that they exclude. That which is highlighted or included is often that which the framing group values" (Yanow 2000, 11). In other words, just as a picture frame serves not only to highlight and draw attention to those objects within its borders but also to remove from view those objects not contained within the frame, so too a theoretical frame presents a particular vision of the world to the viewer. In this way, members of opposing communities of meaning may present their arguments on both sides of an issue in a way that frames the problem differently.

Take, for example, the global climate change debate. Those who argue that climate change is a genuine problem caused by human behavior frame the issue as one of our ethical responsibility to change behaviors that are ecologically damaging and threaten the security of current and future generations of people. Based upon a great deal of scientific consensus on the issue, they believe that 1) climate change is occurring, 2) human-generated greenhouse gas emissions are the problem, and 3) these emissions must be reduced in order to ensure a sustainable future for ecological and social communities on planet Earth. On the other hand, those who disagree with the consensus on global climate change frame the issue in one of two ways. Either they agree that climate change is occurring but choose to align with the body of scientists who argue that temperature changes are resulting from natural climate fluctuations not

caused by human behavior, or they deny that global climate change is occurring by pointing to global warming, the former name of global climate change, and asserting that blizzards and extremely cold weather conditions in some areas mean that the climate is not warming. For those against the prevailing global climate change narrative, either global climate change is a natural occurrence that is not within our control or it is not occurring at all but is only a conspiracy among those scientists who claim that it is. Either way, for these two communities of meaning, the status quo is preferable to any attempts at addressing this phenomenon because they feel that ultimately there is nothing that can or should be done. What all the aforementioned communities of meaning are doing is framing the issue differently. Because of this, their debates really are not about two sides, the pro and the con, to an issue; they are about different ways of interpreting that issue. For this reason, those within this particular debate find it hard to find common ground. Yanow explains it this way, "… frame conflict occurs not only because different interpretive communities focus cognitively and rationally on different elements of a policy issue, but because they value different elements differently. The different frames reflect groups' values contending for public recognition and validation" (Yanow 2000, 11). To put it differently, the way that communities of meaning perceive an issue and value various aspects of that issue colors their understanding of what is at stake and how any policy necessarily ought to address the issue.

Frame conflict exacerbates the charge of finding areas of consensus because the existence of contending frames within an issue connotes more than merely a difference of opinion on a particular issue. This is because, "… contending frames entail not just

different policy discourses—different language, understandings, and perceptions—and potentially different courses of action, but also different values, and different meanings. The role of the interpretive policy analyst is to map the "architecture" of debate relative to the policy issue under investigation, by identifying the language and its entailments (understandings, actions, meanings) used by different interpretive communities in their framing of the issue" (Yanow 2000, 12-13). By doing so, the analyst is equipped to understand better the meanings held by various policy relevant communities, and can make salient the full picture of the policy and all of its implications as seen by those who are affected by the policy in question.

Symbolic relationships are the fertile soil for interpretive policy analysis; they hold the key to understanding the contending frames held by policy relevant communities of meaning. An interpretive approach to policy analysis directs its gaze at "the meanings of policies, on the values, feelings, or beliefs they express, and on the processes by which those meanings are communicated to and 'read' by audiences." One might be prompted to ask, then, how might one identify these meanings? In fact, most of the interpretive policy analyst's work is to ferret out these meanings. The theoretical approach to this challenge is grounded in "interpretive philosophies, such as phenomenology and hermeneutics, [which] contend that human meanings, values, beliefs, and feelings are embodied in and transmitted through artifacts of human creation, such as language, dress, patterns of action and interaction, written texts, or built spaces" (Yanow 2000, 14). Because these meanings are embedded within artifacts exchanged between humans, a policy analyst must look to policy artifacts that serve as

concrete symbols representative of the abstract organizational and policy meanings embedded within them. (Yanow 2000)

In 2000, Neil Harrison completed an analysis of those narratives he saw as dominating debate around sustainable development. Harrison unpacks these symbolic relationships and brings to the fore the meanings that are embodied within the textual policy artifacts of each community of meaning around the sustainable development issue (Yanow 2000). These symbolic relationships are important because they are the glue that holds together the arguments offered by each community of meaning and they serve to cement these arguments within each group as they align themselves around those beliefs, feelings, and values.

Underlying the methodology for an interpretive policy analysis is reader-response theory, which contends that meaning resides not only in what the author has written as well as the author's intended meaning but also in the reader's interpretation. For this reason, the interpretive analyst is encouraged to explore where meaning resides and consider not only the intent of legislators or the policy language but the interpretations of policy relevant communities as well. "This means that interpretive analysts no longer see or treat clients (for example) as passive "targets" of policy "missiles" (the military metaphor underlying traditional policy analysis), but as active constructors of meaning as they "read" legislative language and agency objects and acts. Implementation difficulties, in this view, may no longer be fixed by repairing ambiguous policy language, because in this view not only is language inherently multivocal—capable of carrying multiple meanings—but clients' and others' interpretations cannot be predetermined or controlled" (Yanow 2000, 18). For this

reason, an interpretive approach particularly is well-suited for looking at an issue as complex as the question of sustainable development and what that issue means to various communities of meaning. Recognizing that interpretations cannot be predetermined or that they are not within the control of policy makers only serves to support more fully the argument that there is, in fact, a need to better understand how and what an interpretation means to those who ascribe meaning to it. This approach stresses the importance of recognizing how the convergence of ambiguous policy language and communities of meaning equipped with their own way of seeing the issue further complicates an already complicated issue.

Instead of producing a numerical analysis of policy relevant "facts," the role of the analyst becomes "clarifying the varying interpretations of policy meanings made by different groups, as well as understanding the various elements through which these meanings are communicated" (Yanow 2000, 18). By presenting a view of the interpretations made by communities of meaning and how these interpretations lend themselves towards that community's framing of and resulting stance on an issue, the analyst is able to trace the interests of that group of stakeholders and thereby illuminate sources of meaning as promulgated by these groups. In doing so, "interpretive analysts develop and practice an expertise in the methodical processes of accessing local knowledge and mapping the architecture of policy debates, but they treat policy, agency, and community members—the actors in the situation—as the substantive experts of their own domains" (19) In other words, the analyst gives time and attention to all communities of meaning, not only   elected officials with the power of policy authorship. By opening the sphere of analysis to multiple communities of meaning, the

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hope is that "the interpretive analyst can help generate new ideas for policy action –

possibly by synthesizing opposing arguments or reframing the debate at another level

[…] – rather than merely advising on the choice of one existing proposal over the

others" (19). The interpretive framework allows for a great deal of freedom to move

between and among various frameworks to look at the macro-level view of an issue as

well as the micro-level within a particular community. By moving in and out of these

frames, the analyst is better positioned to provide insight into the issue and to make

suggestions on how one either can look at the issue in a different way or make choices

between contending camps. In this way, the methodology recognizes how the analyst is

very much a part of the meaning making that he or she is analyzing. This is an

important distinction for any project looking at the complex interrelationships between

ideas and their policy implications. A methodology that claims to provide objective,

value-free analysis neglects to realize the relative impossibility of such claim in the face

of a complex problem that cannot be viewed within a vacuum. Because of its

unorthodox and progressive consecution, interpretative analysis is an ideal approach for

a project looking to capture a snapshot of the current understandings of sustainable

development as they are contained in the policy narratives outlined by Harrison, to

analyze the framework employed by a particular community of meaning that is

particularly influential within the sphere of US sustainability policy, and to provide

insight into a way forward for sustainability. Essentially, Harrison's theoretical

approach facilitates all three thrusts of this project.

Narrative Policy Analysis

In narrative policy analysis, contemporary literary theory is applied to extremely complex and challenging public policy issues. By doing so, narrative policy analysis makes salient the relevance of policy narratives to public policy and shows how useful narrative analytical approaches are in facilitating the reformation of "intractable policy problems in ways that then make them more amenable to the conventional policy analytic approaches of microeconomics, statistics, organizational theory, law, and public management practice" (Roe 1994, 2). Narrative policy analysis is an ideal approach to look at the various definitions of sustainable development as they are understood by those communities of meaning who share them. Because the sustainable development public policy issue centers around differences in understanding the issue itself, which is extremely complex and not easily controlled or directed, this approach offers the most promise for moving the discussion forward towards a new way of looking at the issue.

Social science refers to the approach refocusing research and theory towards questions of meaning as "the interpretive turn" (Yanow 2000). In more recent times, this turn has fostered a renewed interest in how narratives, or stories, act as conveyors of meaning. Narrative theory has taken shape within numerous fields, including education, history, psychology, and nursing (Yanow 2000). Further, narratives components also are employed within the realm of methodological concerns. "In seeking to articulate the 'goodness' of an interpretation, theorists have identified criteria similar to the requirements for a good story—internal consistency, a logical flow (having a clear beginning, middle, and end), and other elements (e.g. wealth of details)

that persuade the reader to listener that the interpreter knows intimately what happened, has an insider's understanding and a plausible explanation" (Yanow 2000, 57-58). In other words, analysts often use narrative elements as criteria when analyzing a particular issue.

Though theoretical uses of narrative analysis within academia are not commonly focused on public policy, they are applied for purposes that are a perfect fit for policy analysis (Yanow 2000). These sorts of analyses concentrate on "the rhetorical devices used to persuade readers of the validity and/or veracity of the writing, according to the cannons of the discipline" (Yanow 2000, 58). Because public policy is a matter of contention and in many ways requires consensus, the related discourse necessarily is crafted to be persuasive. This makes narrative policy analysis an appropriate tool to look at the meanings behind policy discourse (Yanow 2000).

Often, from the narrative perspective, policymakers, organizations, analysts, and relevant players are seen as story tellers who either are telling stories "for the purposes of argument or claims-making (the analytic approach of political science) or for the expression of individual identity (a more psychological approach)" (Yanow 2000, 58). Narrative is seen as creating meaning and giving it shape in policy and organizational acts. Because narrative relates historical events, it is considered a form of human comprehension that produces meanings by virtue of the formal cohesion it imposes on an otherwise chaotic reality. Further, through the telling of these stories, or narratives, they become sources of meaning, though their storied nature may not be recognized explicitly.

For the purposes of public policy analysis, narrative analysis does more than merely look at actors' personal stories, as is done in other fields. Instead, narrative policy analysis attends to "issue-oriented stories told by policy actors, using such analysis to clarify policy positions and perhaps mediate among them" (Yanow 2000, 58). It looks to analyze the structure or content of stories told by policy relevant actors, facilitating a comparison of different versions. "Treating 'story narratives' as a metaphor, the policy analyst can be led to identify 'protagonists' and 'antagonists' in a policy actor's story about the issue, the metaphors that describe the relationships between them, and the anticipated or desired transformations in them or in the policy situation captured by the 'plot's' conflict or tensions and resolutions" (58-59). The policy analyst essentially unpacks the elements of the policy narratives told, estranging him or herself far enough from the issue to see them as stories that can be analyzed like any other piece of literature. "The plot motif of desired change embodies the values, beliefs, and/or feelings of the narrator—what is meaningful to him—and a comparison of such narratives can elicit differences of meaning across actors and their interpretive communities" (59). The work of narrative policy analysis is to determine what each policy relevant interpretive community values and what the policy means for them. Then, through comparison, much can be learned about the policy overall and how best to approach the issue, given contending interpretations.

At its core, this approach recognizes that policy meaning is indeterminate because there are numerous "readers" and "readings" of policy "texts." "The language of narrative or story or frame enables a focus on the active engagement of clients, community members, and others outside decision-making contexts in making sense of

the policy world. The metaphors of narrative and story encourage us to ask about the authors and storytellers, readers and hearers, plots and storylines, settings, and characters, and to see how authors, readers, and settings may also be characters in their own stories" (Yanow 2000, 60-61). In other words, this method forces us to look at the various interpretive communities and their shared stories and narratives as constructions that have evolved through an iterative process of meaning making within a particular context of understanding. " 'Narrative' focuses on structures and sequences: what meanings, made by whom, with what congruence and conflicts among them? 'Story' focuses on plot and on the acts of telling and hearing—on intentions and attentions— helping policy analysis explore relationships between language and action" (61).

Yanow differentiates between narrative and story to show how one approach focuses more on the shared meanings within a community and how they either align with or contradict one another, while the other approach employs the metaphor of the story to analyze how the story evolves from shared meanings to the actions taken by community members. "In listening to these narratives, the policy analyst is likely to encounter metaphors, categories, markings, and other sense-making elements that reflect and shape local knowledge" (Yanow 2000, 61). This subtle differentiation is one that allows for the identification of story elements within policy discourse and adds to the contextualization that later will be done when creating a meta-narrative.

Conclusion

In conclusion, the interpretive policy analysis approach asks what are the meanings of a policy means rather than what it costs. Different from more traditional forms of policy analysis, interpretive policy analysis shifts the focus from a discussion

of policy values as a series of costs, benefits, and choice points to a focus on values, feelings, and beliefs as a set of meanings. In this way, interpretive policy analysis moves away from the view of human behavior as instrumentally, technically, and ideally rational to one of human action as expressive of meaning. Narrative policy analysis is a form of interpretive policy analysis that looks at issue-oriented stories told by policy relevant communities of meaning in order to clarify policy positions and even mediate among them. In subsequent chapters, this project investigates the dominant Harrisonian sustainability narratives of efficiency, equity, and ethics; critiques Harrison's framework; and employs it in looking at representative case studies.

CHAPTER 4

BUSINESS ROUNDTABLE AND THE EFFICIENCY NARRATIVE

Introduction

In looking at Business Roundtable's (Roundtable) sustainability efforts through

the lens of the Harrisonian efficiency narrative, I argue that several saliencies are

revealed. As the efficiency narrative suggests, Roundtable, a lobbying organization

comprised of the CEOs of top U.S. companies, claims that the problem of sustainable

development can be addressed through free markets that will continually increase eco-

efficiency and encourage technological advancement in order to address environmental

problems. For the efficiency narrative and Roundtable, governmental interference

within the market should be limited to voluntary programs with financial and tax-based

incentives for corporate participation. Regulations and mandates are discouraged and

deemed contrary to supporting sustainable outcomes. For proponents of this narrative,

sustainable development is more about sustaining growth of revenues and shareholder

returns than about sustaining the planet for future generations. However, proponents

argue that a strong economy facilitates environmental protection because impoverished

nations focused merely on survival cannot afford such practices. I argue, however, that

the market encourages consumption and externalizes the real cost of environmental

exploitation and degradation and has led us to the precarious position in which we now

find ourselves. How can the cause of the problem also be the solution?

Harrisonian Efficiency Narrative

For proponents of the efficiency narrative, the problem or "crisis" addressed by this narrative is the urgent need to base economic growth on something other than non-renewable resource exploitation and environmental degradative processes. "Economic growth cannot be sustained if it continues to undermine the healthy functioning of the Earth's natural systems or to exhaust natural resources. By the same token, only healthy economies generate the resources necessary for investments in environmental protection" (National Commission on the Environment 1993, xv). This seemingly Catch-22 elevates the importance of finding efficient means of utilizing limited resources while mitigating environmental damage because, as the narrative suggests, economic growth, which is necessary for environmental protection, requires that Earth's natural systems function (National Commission on the Environment 1993).

The efficiency narrative, or eco-efficiency through markets, "argues that the key to sustainable development is an economy that adapts to ecological limits as they are identified by progressively increasing eco-efficiency" (Harrison 2000, 19). In other words, the efficiency narrative proposes that the efficiency by which natural goods are employed in satisfying human wants is increased through technological innovation. Economic language dominates the rhetoric of this narrative because of the importance of efficiency, and in effect the market, to its foundation (Harrison 2000). Technological innovation is seen as the conduit for maintaining eco-efficiency growth adequate for supporting sustainable development (Harrison 2000).

The market is the metaphor that dominates within this narrative. In keeping with the neoclassical paradigm that dominates the efficiency narrative, this metaphor is

seen as applicable to almost every social and economic problem. The neoclassical

paradigm refers to the world view that each member of society, whether an individual,

corporation, or agency, makes rational calculations about what is in his or her best

interest. By considering the synthesis of these rational calculations, predictions are

made about the quantity and prices of goods to be produced. "Neoclassical economics

describes the economy in microeconomic terms as the sum of the individual decisions

of producers and consumers through markets, generally ignoring non-economic factors

and actors. Through prices, a scarce supply of resources is allocated to the demand for

goods and services in a static economy" (Harrison 2000, 20). That is, goods and

services are priced in accordance with supply and demand. When supply is plentiful

and demand low, prices will be low. When supply is limited and demand high, prices

will be high. For those who subscribe to the efficiency narrative, this model is seen as

the best possible way to address the challenge of sustainable development. The

appropriate allocation of scarce resources and the introduction of novel technologies

that address developmental consequences, such as pollution, waste, and population

growth, will be facilitated through the market.

Harrison points to *Choosing a Sustainable Future* (National Commission on the

Environment 1993) as exemplary of the efficiency narrative.

> We, the members of the National Commission on the Environment, are
> convinced that the natural processes that support life on Earth are increasingly at
> risk and that by choosing to act or not act to confront this risk now, our country
> is choosing between two very different futures. If America continues down its
> current path, primarily reacting to environmental injuries and trying to repair
> them, the quality of our environment will continue to deteriorate, and eventually
> our economy will decline as well. If, however, our country pioneers new
> technologies, shifts its policies, makes bold economic changes, and embraces a
> new ethic of environmentally responsible behavior, it is far more likely that the
> coming years will bring a higher quality of life, a healthier environment, and a

more vibrant economy for all Americans. (National Commission on the Environment 1993, xi)

Therefore, the efficiency narrative is a story told in the following way: the planet is in crisis because, if things continue as they are now, environmental injuries will continue to threaten life on planet Earth and the cost of mitigating environmental damage will continue to rise. However, if we choose to change and utilize natural resources more efficiently while pursuing technological solutions to today's challenges, we can save the planet while still preserving and/or improving everyone's standard of living. With the straightforward beginning, middle, and end, this narrative offers a clear story of what the problem is, how to solve it, and what things will be like once the steps are taken as prescribed.

Critique of the Efficiency Narrative

As was discussed in the previous section, the efficiency narrative, or eco-efficiency through markets, "argues that the key to sustainable development is an economy that adapts to ecological limits as they are identified by progressively increasing eco-efficiency" (Harrison 2000, 19). Put another way, the efficiency narrative proposes that the efficiency by which natural goods are employed in satisfying human wants is increased through technological innovation. Again, economic language dominates the rhetoric of this narrative because of the importance of efficiency, and in effect the market, to its foundation.

Harrison concludes that the resultant policy cannot be up to the task of facilitating sustainable development. "In adapting to uncertain ecological limits, an understanding of the economy in terms of a mechanical model that privileges market freedom misdirects policy" (Harrison 2000, 34). Even though the market may

efficiently allocate scarce resources to satisfy the innumerable diverse preferences around individual utility, "the ungoverned market may encourage consumption, fails to appropriately price and trade natural resources, and does not protect sinks" (34). Because the ungoverned market fails to encourage behaviors that are in alignment with sustainability principles, Harrison warns that individual resource owners may fail to consume resources at an ecologically and/or socially efficient rate under the efficiency narrative. Harrison points to governmental intervention in the market as a possible solution to address this flaw in the narrative. Though such interventions in the market may be beneficial, they are in Harrison's view, premature. "First," he contends, "a model of the market as a nonteleological life form rather than a machine must be broadly accepted" (36). This is because the market, seen as a life form, must be viewed as an unpredictable entity that must adapt to survive, much like natural beings. Acceptance of the economy as a complex adaptive system, an approach approximated by ecological economics, will, in Harrison's view, revolutionize commonly accepted notion about the inculpability of the markets that is present within the efficiency narrative and will, therefore, result in the formulation of policies that assist in adaptation to ecological limits. (Harrison 2000)

Business Roundtable

Business Roundtable (Roundtable), "an association of chief executive officers of leading U.S. corporations with nearly $6 trillion in annual revenues and a workforce of more than 12 million employees" (Business Roundtable 2006, par. 1), includes member companies that constitute approximately one third of the total corporate income tax paid to the federal government and approximately one third of the value of the U.S. stock

market. Committed to advocating public policies that assure "vigorous economic growth, a dynamic global economy, and the well-trained and productive U.S. workforce essential for future competitiveness" (Business Roundtable 2006, par. 1), Roundtable "draws on CEOs directly and personally, and presents government with reasoned alternatives and positive suggestions" (par. 1). Roundtable focuses on those issues believed to have an effect on the nation's economic well-being. Specific issues are addressed by chief executives who "direct research, supervise preparation of position papers, recommend policy, and lobby Congress and the Administration on selected issues" (par. 2). The sheer economic impact of this organization within the United States and the political power at its disposal makes the narrative told by this group important, and most probably it will dominate the sustainable development debate.

Established in 1972, Roundtable resulted from a merger of three existing organizations: the March Group, Construction Users Anti-Inflation Roundtable, and the Labor Law Study Committee. The March Group was comprised of chief executive officers who met informally to discuss public policy issues. The history of Roundtable summarized on the group's website mentions John Harper, CEO of Alcoa, and Fred Borch, CEO of General Electric, as two of the group's more notable leaders. The second group, Construction Users Anti-Inflation Roundtable, headed by then CEO of U.S. Steel Robert Blough, focused on keeping construction costs low. The Labor Law Study Committee was made up mostly of labor relations executives from major companies (Business Roundtable 2007).

These three groups combined to found Business Roundtable, based on the belief that "the business sector should play an active and effective role in the formation of

public policy" (Business Roundtable 2007, par. 2). The idea was to encourage CEOs of leading corporations to study issues jointly and come to a consensus that would embody the positions they would advocate. "The Roundtable was therefore formed with two specific goals: (1) to enable chief executives from different corporations to work together to analyze specific issues affecting the economy and business, and (2) to present government and the public with knowledgeable, timely information, and with practical, positive proposals for action" (par. 4).

Roundtable's historical narrative explains that the executive creators of Roundtable "believed that the U.S. economy would be healthier, there would be less unwarranted intrusion by government into business affairs, and the interest of the public would be served if there were more cooperation and less antagonism" (Business Roundtable 2007, par. 5). Bringing CEOs to the forefront was thought to be the best way to ensure that business would be a more constructive force and have a greater impact on governmental policy formation (Business Roundtable 2007).

Understanding the driving forces behind the founding of Roundtable is critical to the analysis of issues, initiatives, and policy recommendations presented by the group. The group's history indicates that Roundtable was established to unify the voices of the business sector and to protect their interests by influencing governmental policies. By sharing particular vantage point on policy issues, Roundtable members constitute an interpretive community. "Interpretive communities arise around a shared point of view relative to a policy issue. What the point of view will be in any situation will depend on the policy in question, but some common points of beginning reference are those factors according to which a society or polity categorizes itself: race-ethnicity,

class, age, religion, political ideology, professional or occupational experience, hobbies or pastimes, and so on" (Yanow 2000, 37). Membership in Roundtable is determined by a shared belief in the importance of relatively unchecked economic growth potential and a shared status as chief executive officers of leading corporations.

According to Yanow, the initial steps of an interpretive policy analysis are "to identify groups of people who might share understandings of policy ideas and language that would be different from other groups' understandings; and to identify the artifacts through which these understandings are expressed, communicated, and interpreted." In this case, the artifacts of the interpretive community are those documents created by members to influence public and governmental understandings of policy ideas. "The policy or agency artifacts, or both, in the forms of language, objects, or acts, symbolically represent the meanings (values, beliefs, feelings) that the policy issue in question holds for various policy-relevant interpretive communities. The analyst needs to identify the artifacts as well as the groups for whom the artifacts have meaning, and what those meanings are" (Yanow 2000, 27).

Like all policy issues indicated by Yanow, sustainability holds meanings for Roundtable. These values, beliefs, and feelings inform Roundtable's stance on sustainability policy and the discourse associated with sustainability policy. The artifacts of Roundtable then will reflect those values, which resonate from the group's founding belief that "the business sector should play an active and effective role in the formation of public policy" (Business Roundtable 2007, par. 3). More specifically, Roundtable is committed to advocating public policies that assure "vigorous economic growth, a dynamic global economy, and the well-trained and productive U.S. workforce

essential for future competitiveness" (Business Roundtable 2006, par. 2). This commitment forms the framework by which policy issues, such as those dealing with sustainability, are interpreted by the group. It is from this vantage point that the group leverages its interpretation of policy issues to advocate for meanings that align with their commitment.

The clear magnitude of Roundtable's leveraging capability means that the position it takes on sustainability issues is of great consequence to the proliferation of sustainability within the United States and beyond. Roundtable's Environment, Technology & the Economy Task Force was created to address issues of sustainability and their effect on corporate viability. Roundtable stresses its commitment "to preserving and protecting the environment and to economic growth and prosperity." For Roundtable, environmental protection and economic growth are not mutually exclusive. To the contrary, Roundtable argues that "our environment is best protected when our economy is strong; therefore, protecting the environment makes good economic sense." To that end, Roundtable proclaims its commitment "to constructive participation with all stakeholders in the evolutionary process of sustainable growth" (Business Roundtable 2006, par. 5). Further analysis will provide an opportunity to develop a clearer understanding of what is meant by "constructive participation" and "the evolutionary process of sustainable growth."

An analysis of the language employed in Roundtable policy documents will make salient the motivations behind the group's discourse on sustainability and will reveal the values it reflects. For example, the task force web page describes Roundtable's environmental commitment: "Business Roundtable is committed to

preserving and protecting the environment and to economic growth and prosperity. These goals are not only consistent but mutually reinforcing. Our environment is best protected when our economy is strong; therefore, protecting the environment makes good economic sense. We are committed to constructive participation with all stakeholders in the evolutionary process of sustainable growth" (Business Roundtable 2006, par. 2).

The Sustainable Growth Initiative sets out to address sustainable development challenges from the perspective of its U.S. member companies. "The environmental and energy challenges facing the world are serious obstacles to economic growth and can only be managed by thoughtful and far-sighted government policies and business strategies. Threats to water quality and quantity, rising greenhouse gas emissions and the risk of climate change - along with increasing energy prices and growing demand - are of great concern. Constructive participation with all stakeholders in the evolutionary process of sustainable growth is critical" (Business Roundtable 2009, par. 1).

Note here that Roundtable clearly asserts that the sustainability challenges of today "can only be managed by thoughtful and far-sighted government policies and business strategies" (Business Roundtable 2009, 2). Given that statement, it is evident that Roundtable is not subscribing to an ethics narrative that seats the challenge in a change of consciousness.

An analysis of this task force renders a better understanding of Roundtable's values and motivations for promoting sustainability. The task force asserts that environmental protection is best assured by a strong economy. This indicates that the

focus of this group's initiative will be economic. Understanding how 'stakeholders' are defined will shed some light on the scope of the group's interests and on those who are included and excluded from "constructive partnership" with Roundtable in what the group calls "the evolutionary process of sustainable growth." This analysis will clarify the interests and motivations that inform the particular understanding of sustainability promoted by the group.

In this case, the efficiency narrative forms the foundation for the sustainable growth initiative of this community of meaning. As will be supported below, Roundtable consistently fits the profile of a community of meaning that defines sustainable development through the lens of the efficiency narrative. It does so by 1) choosing a definition that asserts that "sustainable development can be achieved by reducing the consumption of natural goods required to maintain or improve human well-being", while at the same time improving the standard of living for all; 2) offering increased eco-efficiency through markets as the means by which sustainable development is to be achieved; and 3) asserting that technological development "necessary to sustain growth in eco-efficiency can be market driven" (Harrison 2000, 4).

The definitions of sustainability that Roundtable chose serve as an opportunity for analysis. They are the ones offered by the Brundtland Commission and the U.K. Sustainable Development Strategy.

> The term "sustainable development" describes strategies that recognize and build on the long-term linkages between economic growth, environmental protection and social improvement. The United Nations' Brundtland Commission described sustainable development as "the ability of humanity to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs." The U.K. Sustainable Development

Strategy said: "Sustainable development is a very simple idea. It is about ensuring a better quality of life for everyone, now and for generations to come." (Business Roundtable 2006, par. 5)

Harrison refers to the Brundtland Commission's definition of sustainable development as one central to the efficiency narrative because it focuses on increasing efficiency in order to extend the life of natural resource supplies, while reducing pressure on natural goods processes (Harrison 2000). In looking at the U.K. Sustainable Strategy definition, the same story is found. Sustainable development for this community of meaning is not about reducing development or lowering the standard of life for current and future generations. Instead, the story told is that sustainable development, when practiced or achieved, will result in meeting the needs of current and future generations. Not only that, but quality of life will be improved once sustainable development is achieved. How is Roundtable interpreting language such as "needs" and "a better quality of life"? What constitutes their interpretation, and will all possible interpretations result in sustainability?

In 2001, Roundtable developed *Blueprint 2001*, "a set of recommendations directed at senior policymakers who are developing the environmental policy agenda for the next Administration and Congress." According to Roundtable, *Blueprint* presents the organization's position on policy initiatives and values that should determine the future of environmental management. In the words of Roundtable, "the election of a new President and Congress creates a unique opportunity for constructive changes in our environmental protection system." They continue, "The cornerstone of the *Blueprint* is the concept of sustainability. This concept embraces the interrelated

themes of economic vitality and growth, superior environmental performance, and rising living standards for a growing world population" (Business Roundtable 2001, 1).

The linkages between these themes are profound and underscore the importance of free trade, technological innovation, business-led stewardship, and public values in driving environmental improvement both in the United States and globally. Government must harness all these forces effectively to spur progress toward the next generation of environmental and economic goals (Business Roundtable 2001).

In 2009, Roundtable issued its 2009 Progress Report "Enhancing Our Commitment to a Sustainable Future" (Business Roundtable 2009c), which highlights some of the group's initiatives and includes progress update testament letters written by 70 of the CEOs who comprise Roundtable. Michael Morris, Chairman, President, and CEO of American Electric Power Company, introduces the report with a letter of his own. In it, he explains that "these testaments highlight and demonstrate the values, convictions, and actions that Roundtable CEO's and their companies are taking to make the world we share more sustainable." Of the CEO testaments, Morris echoes Roundtable's understanding of sustainable development when he notes that in the report "you will read about companies that are dedicated to promoting economic development while caring for present and future needs. These efforts were done in a way that provided stakeholder value in a responsible manner" (Business Roundtable 2009c, i). Note that the focus is placed first on economic development and then on present and future generations. The importance of generating stakeholder value responsibly is clear; however, what stakeholder value is and how it ought to be generated so as not to be irresponsible is left vague. However, unlike the equity narrative where stakeholders

typically are policy relevant actors affected by the policy in question, for the efficiency narrative, stakeholders typically are stockholders invested in the success of the company.

Just as complex as the debate surrounding the issue of sustainable development, the very polarized global warming debate has led to multiple narratives within and between polarized policy relevant communities of meaning. In the case of Roundtable, their way of defining sustainable development has allowed them change their position on the seriousness of the climate change issue and what ought to be done about it. Their position on climate change evolved even as they have asserted their commitment to sustainable strategies from one denying the validity of the science behind climate change to one insisting that something must be done about it. In each instance, however, their recommended response to climate change has not differed significantly. What are advocated in both instances are voluntary and market-driven approaches that do not involve regulatory imposed Green House Gas (GHG) caps or predetermined timetables. Instead, voluntary measures and the development of GHG reducing technologies are recommended both in 1997 and 2007.

In an open letter to President William J. Clinton dated October 24, 1997, Robert N. Burt, then Chairman of the Business Roundtable Environment Task Force and Chairman and CEO of FMC Corporation, an agricultural pesticides and industrial chemicals producer, writes on behalf of Roundtable to express concern over Clinton's October 22nd Climate Control Proposal. This concern stems from President Clinton's intent to "commit the U.S. to binding targets and timetables at Kyoto." These targets and timetables refer to proposed emissions reduction commitments, which Burt

contends to be "premature." However, Burt does concede that the proposal includes several "positive elements." Burt points out that the proposal's "focus on voluntary measures and on the development of existing and new technologies to reduce greenhouse gas emissions" is agreeable. Additionally, Burt acknowledges that Roundtable shared in the belief that a worldwide emissions program ought to include less developed counties. This is because "it is essential that the program does not result in a competitive disparity which would lead to the migration of jobs and investment from the developed world to the less developed world" (Burt 1997, par. 1).

Of Global Climate Change, Burt writes, "While we recognize that you find the science behind the global climate theory convincing, we are less persuaded. We believe that it is important that emphasis be placed on refining and developing science to the point where we truly know the extent of the problem and its timing and impact" (Burt 1997, par. 2).

The uncertainty Roundtable expresses regarding the science of global climate change also extends to the unknown economic impact of an emissions reduction program. To that end, Burt asserts that, "before the United States makes binding commitments to reduce its emissions by a certain date, we must have a firm grasp of the economic sacrifices that our society will be required to make" (Burt 1997, par. 3).

> For this reason we oppose the binding targets and timetables included in your Proposal. We see no need for these targets or timetables until it is clear they are required by the science and by the long term concentration goal which your proposal says will be set in the future. We note that the first ten years of the Program involves priming the pump through such programs as R&D, tax incentives, incentives for early action and industry consultation followed by a review and evaluation in preparation for the permit trading system. We therefore see no need for the Senate to ratify a global climate treaty until your Administration makes clear how it would implement its program of compulsory reductions to meet these targets and timetables. The Senate should not be asked

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to commit the nation to a compulsory program of emissions reductions without a clear explanation of the measures that are to be taken to implement it. (par. 4)

Ten years later, Roundtable changed somewhat its stance on climate change. They announced in a position statement that "the debate has shifted from whether global warming is a real problem to what needs to be done about it." Roundtable sees itself as taking a leadership role within the climate change debate, having "crafted a statement that recognized the weight of scientific opinion, called for reducing GHG emissions, and offered initial recommendations on the development of effective emission reduction tools" (Business Roundtable 2009a, par. 1). In an email sent to members of the United States Congress on July 17, 2007, Roundtable explained that,

> After reviewing the science, the policy statement concludes that "the consequences of global warming for society and ecosystems are potentially serious and far reaching" and "steps to address the risks if such warming are prudent now even while the science continues to evolve." The policy statement calls for "collective action that will lead to the reduction of greenhouse gas (GHG) emissions on a global basis, with the goal of slowing increases in GHG concentrations in the atmosphere and ultimately stabilizing them at levels that will address the risks of climate change." (Business Roundtable 2007c, par. 2)

The Roundtable Climate Change Initiative mobilizes the expertise and resources of companies through Climate RESOLVE (Responsible Environmental Steps, Opportunities to Lead by Voluntary Efforts). The aim of this initiative is to align member companies around the goal of "enhanced voluntary action to control greenhouse gas (GHG) emissions and improve the GHG intensity of the U.S. economy" (Business Roundtable 2006, par. 3). To achieve their goal of 100% participation, Roundtable promotes technologies that minimize GHG emissions and maximize carbon capture. (Business Roundtable 2006)

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Through the S.E.E. Change Initiative (Society, Environment, Economy), Roundtable members are encouraged "to promote better business and a better world by adopting sustainable growth principles as a core part of their business strategy and to showcase the results achieved" (Business Roundtable 2009f, 2). S.E.E. Change invites member companies to develop challenging environmental and social improvement goals and to pursue their achievement in ways that add business value.

Roundtable centered *Blueprint* around "four broad aspects of environmental policy where sustainability principles can guide progress toward a better system" (Business Roundtable 2001, 1-2). These aspects include: "Solving Problems with High-Quality Science and Technology," "Managing for Performance," "Using Market-Driven Approaches as a Tool for Environmental Improvement," and "Promoting Sustainability in a Global Framework."

The first aspect of environmental policy, "Solving Problems with High-Quality Science and Technology," asserts that scientific and technological advancement is necessary to address environmental concerns without inhibiting economic growth. Roundtable warns, however, that "strategic investment in science and technology will not necessarily mean that we can reduce uncertainties in all cases but it will create a more rigorous and objective basis for decision making and provide the technological tools we need for future progress" (Business Roundtable 2001, 2).

"Managing for Performance," Roundtable's second aspect, calls for a "culture of performance-based management" in addressing environmental issues as an alternative to regulatory processes. "This culture would focus on defining, measuring and rewarding environmental results and reorienting core regulatory functions so they are

driven primarily by performance goals and not activity measures." In doing so, Roundtable argues, agencies will be able to communicate results more effectively to the public and deploy their resources more efficiently. "By setting clear long-term targets for environmental improvement, agencies will be better able to harness innovation, science and technology in the private sector to achieve superior environmental results. As a result, industry will be judged against accountability measures tied to environmental performance and not to regulatory process" (Business Roundtable 2001, 2).

The third aspect, "Using Market-Driven Approaches as a Tool for Environmental Improvement," suggests that regulatory programs driven by market forces yield low-cost environmental results. "These tools – which rely on marketplace incentives rather than direct command-and-control requirements to achieve environmental performance – need to be extended to a wider range of pollution control and prevention programs" (Business Roundtable 2001, 2).

"Promoting Sustainability Principles in a Global Framework," the fourth and final aspect of environmental policy highlighted by Roundtable, deals with the global marketplace. Again, the focus is placed upon utilizing market-based tools to address the challenges of the seeming incompatibility of continued economic growth and environmental protection. "Economic growth is leading to higher environmental and living standards worldwide. However, some are concerned that the products and services distributed by multinational businesses, and the industrial activities supporting them, are harming human health and the environment. Business and government need to undertake initiatives that address these concerns while strongly reaffirming the role

of open markets in promoting economic and environmental well-being" (Business Roundtable 2001, 2-3).

For Roundtable, the solution lies in the ability of private enterprise to select business decisions in the market that improve eco-efficiency, since corporations benefit from doing more with less. In keeping with the efficiency narrative unpacked by Harrison, Roundtable sees the challenge of sustainable development as one that requires little to no government intervention, except in the form of incentives for sustainable corporate policies, etc.

To that end, Roundtable asserts that achievements in efficiency, integral to their approach to sustainable development, should be pursued utilizing voluntary commitments by corporate entities. For example, Roundtable sees getting corporations to commit to voluntary targets as the best strategy for dealing with global warming. "Energy efficiency is a proven and broadly accepted strategy for reducing greenhouse gas emissions and enhancing energy security. Many Business Roundtable members have committed to aggressive energy efficiency programs and recognize the important role of energy savings in improving the bottom line. A continued focus on energy efficiency achieves multiple objectives of improved energy security while also addressing climate change" (Business Roundtable 2009b, par. 1).

In the white paper entitled *Climate Change: Business Roundtable Supports Actions to Address Global Warming* (Business Roundtable 2007), mentioned earlier for its call for improving energy efficiency to combat climate change, Roundtable also asserts that "the development and global deployment of low-GHG technologies is vital to an effective long-term response to concerns about global climate change" (Business

Roundtable 2007b, 3). In keeping with the efficiency narrative, Roundtable warns that

"these technologies are essential to reducing GHG emissions while meeting rising

energy demands to support economic growth." Note that, unlike the ethics narrative,

there is no assertion that humanity ought to live within the natural limitations of nature.

Instead, what is implied is that growth can continue unchecked while combating climate

change, as long as technological advancements are encouraged though the market.

According to this narrative, solutions to global climate change are expected to result

from the economic benefits of continued advancements in eco-efficiency. "Any

legislative or regulatory framework," Roundtable argues, "must stimulate private sector

innovation and investment" (Business Roundtable 2007f, 3). Again, this refers to the

dependence of this narrative on the market metaphor. Unlike communities of meaning

who tell the story fostered by the equity narrative, for proponents of the efficiency

narrative, the political arena is not the space for achieving sustainable development.

Instead, the market is extolled for its efficacy in bringing out the changes necessary for

sustainable development, although political incentives are welcome.

Conclusion

Based upon analysis of the discourse created by members of Roundtable, it is

evident that the efficiency narrative is the dominant sustainable development metaphor

they all share. By seeing the problem of sustainable development as one of a lack

efficiency and technological innovation, Roundtable proposes to address the challenge

through calls for increased efficiency and technological innovation. Furthermore,

unlike communities of meaning who share the ethics or equity narrative perspective,

Roundtable and its constituent companies look to the unchecked market for the means by which sustainability can be achieved.

Though Roundtable appears to promote sustainability through its initiatives, the narrative or story they tell about the nature of the problem that requires sustainability as the solution may actually lead them farther away from the ends they seek. This is because the narrative encourages unchecked growth, which cannot be sustainable, and the elimination of governmental regulations of corporations. The efficiency narrative "tends to encourage consumption and externalities" (Harrison 2000, 34). What this means is that an efficiency model actually promotes resource consumption and externalizing of the byproducts of that consumption, which is counter to how environmentalists recommend approaching this challenge. As seen in the letter written to President Clinton's Climate Control Proposal in 1997, efforts to cap GHG emissions were deemed premature by Roundtable. By 2007, the letter once posted to Roundtable's website had been removed and replaced with a statement announcing Roundtable's support for Climate Change action. However, unlike the type of change required by the Climate Control Proposal, in 2007 Roundtable came out with its own proposal that depends solely upon voluntary commitments and technological advances. Sustainable development policy dependent upon voluntary action leaves too much to chance.

In the next chapter, I explore the equity narrative perspective, which was derived from the definition offered by The World Commission on Environment and Development, as discussed in chapter two. The Harrisonian equity narrative is applied to Bryan Norton's experiences at EPA and is critiqued.

CHAPTER 5

ENVIRONMENTAL PROTECTION (EPA) AND THE EQUITY NARRATIVE

Introduction

The EPA, an organization pieced together from separate legislation to protect water and air and manage toxic and solid wastes, represents the equity narrative in that it understands the problem of sustainable development as dealing with the just distribution of natural limits so as to reduce the impact of those limits on individuals within communities. I argue that while the role of government in addressing the sustainable development challenge should be to intervene actively in the market to adjust for consequent inequalities that influence life chances, the EPA illustrates how the efficiency narrative is overtaking the equity narrative. While appearing to be at odds with the efficiency narrative on issues of individual liberty in the free market, which the efficiency narratives sees as the solution and the equity narrative sees as detrimental to effective communal action for sustainable development, EPA primarily is promoting voluntary and incentive-based programs for sustainability. Further, the experience of Bryan Norton, environmental philosopher, at EPA makes salient the need for authority and scientific support of policy decisions within the political sphere and the recognition that science cannot tell us what we should nor what we ought to do about environmental problems.

Harrisonian Equity Narrative

The Harrisonian equity narrative describes the narrative shared by communities

of meaning that see the problem of sustainable development as one of the equitable

distribution of resources and the solution as one of global governance and authoritative

resource allocation. Harrison writes that "in the equity narrative, sustainable

development is understood as the problem of the just distribution of natural limits, or of

their insufficiency, in order to reduce the impact of those limits on communities and,

thus, individuals" (Harrison 2000, 51). To put it another way, the challenge of

allocating a limited supply of natural goods between individuals, nations, and

generations is the work of the equity narrative. Because politics is traditionally the

realm within which debates such as how to distribute things of value take shape,

Harrison identifies this narrative with politics (Harrison 2000).

When discussing the equity narrative, Harrison references *Our Common Future*

(The World Commission on Environment and Development 1987), cited frequently for

its definition of sustainable development. As discussed in chapter two, the United

Nations formed an independent commission in 1983 to address the issue of sustainable

development.

> Sustainable development is development that meets the needs of the present
> without compromising the ability of future generations to meet their own needs.
> It contains within it two key concepts:
> - The concept of 'needs', in particular the essential needs of the world's
>   poor, to which overriding priority should be given; and
> - The idea of limitations imposed by the state of technology and social
>   organization on the environment's ability to meet present and future
>   needs. (The World Commission on Environment and Development 1987,
>   43)

On the problem necessitating sustainable development strategies, the equity narrative provides an argument similar to that of the efficiency narrative. "These are not separate crises: an environmental crisis, a developmental crisis, and energy crisis. They are all one" (The World Commission on Environment and Development 1987, 4). Therefore, like the efficiency narrative, the equity narrative links the environmental crisis with the developmental crisis. It also points to the connection between the environment and economy. "We have in the past been concerned about the impacts of economic growth upon the environment. We are now forced to concern ourselves with the impacts of ecological stress – degradation of soils, water regimes, atmosphere, and forests – upon our economic prospects" (5). Therefore, not only may economic growth and the industrialization that fosters it affect the environment in negative ways, those environmental consequences of unchecked economic expansion very well may have devastating effects on the state of the economy as well.

Though the difference between the efficiency narrative and the equity narrative's definition of sustainable development may be subtle, the implications may be monumental. While both place an importance on meeting needs for the present and future and both look to technology for part or all of the solution, the distribution of resources, goods, and wealth is highlighted for the equity narrative. The link between poverty and environmental degradation is far more critical. The concept of "needs" implies that individuals ought to be given what they need, not necessarily what they have earned, nor necessarily the same as everyone else. The story here is that need ought to be considered when distributing goods and that the market ought not be the only determinant of distribution, as in the efficiency narrative. For subscribers to the

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equity narrative, political pressures, not market pressures, direct policy for sustainable development.

Critique of the Harrisonian Equity Narrative

As seen from the perspective of the equity narrative, the problem of sustainable development, Harrison concludes, is one of politics. Given this conclusion, though he considers equitable inclusion in public policy decision making to be an important key to sustainable development, it alone will not ensure sustainable development. "If there is generally equal ability of all participants to influence the outcome, discourse over collective action may not result in objectively optimal policies but will satisfy one component of sustainable development, equity in collective choice" (Harrison 2000, 64). In Harrison's view, differing collective values as expressed through an equitable public process are seen as subjective differences that, when voiced, can encourage groups to seek common ground, but that may not facilitate public policies leading to sustainable development. Public opinion alone is not enough on the local or global scale.

Equity becomes an even more complicated narrative on a global level. If development is to be sustainable, society as a whole must be engaged in the process. Harrison asserts that progress may be possible once sustainable development becomes a critical concern on the international agenda and is more concrete than mere ambiguous words. To supplant the current global political economic structures that primarily benefit developed countries, a widespread change in international focus is required. Such a sea change necessitates global cooperation on a scale and of a magnitude that is both enormous and long-term, something Harrison dismisses as unlikely. In other

words, Harrison sees the equity narrative as far from being able to address adequately the challenge of sustainable development. Even with a more clearly defined goal, what "may be possible" faces many obstacles on the global scale. "In the equity narrative, sustainable development is understood as the problem of the just distribution of natural limits, or of their insufficiency, in order to reduce the impact of those limits on communities and, thus, individuals. It is the problem of distributing a limited supply of natural goods between individuals, between countries, and between generations" (Harrison 2000, 51). For Harrison, the equity narrative alone cannot lead to sustainable development.

U.S. Environmental Protection Agency

Exemplary of the type of political institution that adheres to the tenants of the equity narrative as described by Harrison, the EPA has extolled the importance of protecting individual human lives from the negative effects of hazardous chemicals since its inception in 1970 (U.S. Environmental Protection Agency 2010). At that time, establishing and maintaining the conditions by which humans and nature "can exist in productive harmony, and fulfill the social, economic and other requirements of present and future generations of Americans" (U.S. Environmental Protection Agency 2010, par. 2) became a national goal as a result of the 1970 National Environmental Policy Act (NEPA). "The traditional definition of sustainability," the EPA relates, "calls for policies and strategies that meet society's present needs without compromising the ability of future generations to meet their own needs" (par. 1).

In keeping with Harrison's assessment of the narrative primarily shared by communities of meaning who view sustainable development as "inherently a problem

of politics" (Harrison 2000, 51), the EPA seeks to solve the challenge of sustainable development via political means. The distinction between a political perspective on sustainable development based upon the Harrisonian equity narrative, and a corporate perspective based upon what Harrison deems the efficiency narrative, is summarized by the EPA as follows: "Over the past 30 years, the concept of sustainability has evolved to reflect perspectives of both the public and private sectors. A public policy perspective would define sustainability as the satisfaction of basic economic, social, and security needs now and in the future without undermining the natural resource base and environmental quality on which life depends. From a business perspective, the goal of sustainability is to increase long-term shareholder and social value, while decreasing industry's use of materials and reducing negative impacts on the environment" (U.S. Environmental Protection Agency 2010, par. 4).

In essence, the EPA sees as the problem in the same terms as what Harrison offers as the equity narrative, "Common to both the public policy and business perspectives is recognition of the need to support a growing economy while reducing the social and economic costs of economic growth. Sustainable development can foster policies that integrate environmental, economic, and social values in decision making. From a business perspective, sustainable development favors an approach based on capturing system dynamics, building resilient and adaptive systems, anticipating and managing variability and risk, and earning a profit" (U.S. Environmental Protection Agency 2010, par. 5).

Harrison sees the commonalities between the business case for sustainability and the political one ending when it comes to the means by which sustainability is to be

achieved. Where public policy formation, or politics, is defined "as the means by which

collectives (nations, states, societies, cities, and other communities of all types and

sizes) distribute the benefits of collective life," (Harrison 2000, 51) business, steered by

the "market metaphor, […] argues that the key to sustainable development is an

economy that adapts to ecological limits as they are identified by progressively

increasing eco-efficiency" (19) while "the 'right' political system minimizes external

interference in the operation of the market" (19). Herein lies the rub. Given the

tenuous relationship between the market and political intervention and/or regulation of

that market, how is it possible for proponents of the efficiency narrative to find any

common ground with those who approach the problem from the equity narrative

perspective? While free market proponents seek to keep government regulation to a

minimum, political institutions seek to utilize public policy to address the challenge of

sustainable development and to ensure an equitable distribution of resources between

current and future generations, at least in theory. The EPA's assertion that the two

perspectives share common ground begs the question: how equitable could a sustainable

development policy be that is motivated by politics?

Bryan Norton, an environmental philosopher and ethicist, spent some time

working at the EPA and his experiences shed some light on this seeming incongruence.

Norton worked in Washington, DC at a number of think tanks primarily focused on

policy aimed at protecting biological resources. In one case, he participated in a project

focused on the derivation of the Endangered Species Act in the early 1980s (Norton

2005). His work on endangered species policy expanded to other policy areas and later

in decade, he began to consider whether the EPA, though well-positioned to handle the

challenge, was capable of developing a rational and comprehensive national environmental protection policy (Norton 2005). Towards the end of the 1980s, Norton was invited to join several EPA policy panels and was able to gain a great deal of insight into the organization and its approach to such issues. What Norton came to find was that the EPA "lacked a central, unifying vision;" so it became his goal to "both help EPA develop a more coherent approach to evaluation of environmental change and bring those values to hear upon policy by strengthening the contribution of science to environmental decision making" (Norton 2005, 4). However, his goal proved to be a bit out of his reach.

In his depiction of the EPA, Norton relates that the former EPA building that served as the agency's headquarters from just after its inception in 1971 until the mid-1990s, "with its division into horizontally impregnable, vertically integrated towers, stands as a fitting metaphor for the agency itself" (Norton 2005, 23). For Norton, "the old building came to symbolize the many confusions and frustrations [he] experienced in trying to save the world" (2). This is because the inefficient organizational structure of EPA, along with its lack of efficacy in pursing integrated policies, has causes that serve as its metaphor beyond the mere architectural failings. Indeed, Norton points to the need for a "common conceptual framework […] for articulating environmental goals perspicuously and for relating various environmental policies to each other" (23).

Norton's involvement in three EPA groups brought about these realizations. He first served as a charter member on the Science Advisory Board (SAB) and as the sole non-economist on the Environmental Economics Advisory Committee (EEAC), where committee members worked to "understand how economic science was being used, and

should be used, in the formation of agency policy." Shortly thereafter, he was asked to participate in the Risk Assessment Forum, "which had the task of improving risk analysis and management, in this case by preparing scientific background papers for the first-ever protocols for 'ecological risk management'." At the same time, he was working in a more informal discussion group, the Ecosystem Valuation Forum, "which brought together a panel of leading scholars and practitioners to discuss the problem of how to evaluate changes in ecological systems." His experience on the first "two panels provided ideal laboratories for the analysis of communication at the nexus where science and values intersect in the formation of policy, and it was on these panels that [he] learned the extent of the Balkanization, according to offices and according to disciplines, that occurs in the policy development process" (Norton 2005, 6). By "Balkanization," Norton referred to the process by which a region is fragmented or divided into smaller regions commonly non-cooperative, or even hostile, towards one another. In the case of the EPA, it is the disciplinary and ideological divides that were exacerbated further by congressional mandates and the lack of a common language between factions within the EPA (Norton 2005).

Though the EEAC and Risk Assessment Forum were focused on seemingly interrelated agendas, Norton noticed that he and ecologist Bill Cooper were the only two involved in both panels (though Cooper to a lesser degree since he sometimes participated as a liaison member in the EEAC). The Risk Assessment Forum was charged with advancing the applicability of risk assessment within the EPA's policy processes. (Norton 2005) This project aligned with the vision of William Reilly, then head of the EPA, who hoped to develop "a systematic, agency-wide procedure for

gathering, interpreting, and comparing information in the regulatory process" (Norton 2005, 6). This vision came on the heels of a change in mandate for the EPA; once focused solely on the effects of environmental ills on human mortality rates, the EPA now was to incorporate the problem of ecological risks in response to those sorts of environmental ills as well.

Norton was invited to join a subcommittee asked "to summarize what is known about how to identify 'ecologically significant' processes and endpoints and to show how this knowledge could guide risk assessors in determining degrees of ecological risk" (Norton 2005, 6-7). Hoping to develop a basis upon which "ecological science and environmental valuation could be made more congruent and commensurate" (7), Norton, along with Cooper, accepted the subcommittee role.

Essentially, the task before the subcommittee and the Risk Assessment Forum was to transpose the risk assessment models, first developed to look at environmental risks to individual humans, to the ecological processes and ecosystems themselves. Of the approximately 30 scientists involved in the form, Norton was surprised that he was the only one with any actual knowledge regarding valuation, "the task of evaluating changes and their impacts on social values." Norton knew, therefore, that without his strong insistence that the group consider the question of "how ecological risk assessment relates to social values" (Norton 2005, 7), valuation would not be a part of the discussion. This reality made salient a very important ideological distinction between the EPA and Norton, who realized that the EPA insisted upon a distinct separation between science, referred to as risk assessment, and a value judgment about the relative merits of any outcome, labeled risk management (Norton 2005).

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The science of risk assessment was, and is, a product of EPA research contract

terms and requests for proposals for methodologies appropriate "for modeling the

potency of suspected carcinogens in humans, because human health—especially

protecting humans from risks of cancers—was the main focus of EPA" (Norton 2005,

8). This particular EPA risk assessment methodology contained a risk assessment

(RA)/risk management (RM) duality where "risk assessment referred to the 'hard'

science of computing probabilities of harm from chemical exposure, whereas risk

management referred to the difficult-to-quantify value judgments that were to be made

by ;managers,' not 'scientists' " (8). I agree with Norton's assessment of the lack of

validity of a model that arbitrarily separates risk assessment and risk management based

upon "an exaggerated belief in the separability of scientific measurement from value

judgments" (8). Norton recognized that the primary value judgment inherent in the

EPA's model of RA/RM was, up to that point, that human life has a value that ought to

be protected from dangerous chemicals. This value judgment, so fundamental to the

EPA's mandate, becomes almost invisible in the attempt to make risk assessment a

value free science (Norton 2005). Regarding this dilemma about the need for value

judgments in ecosystem risk assessment, Norton had this to say:

> Since ecosystems are not individuals, ecological risk assessment requires new
> value premises that cannot rest on the usual assumptions of EPA's RA/RM
> model, that risk to illness of individual humans is the risk to be avoided. One
> can only reasonably speak of the risk to an ecological system if one has some
> idea of the aspects or elements of the system that are socially valued. Ecological
> risk assessment thus undermined the fiction that risk assessment could be
> employed prior to the exercise of evaluation or judgment by risk managers; and
> yet we were instructed to define ecological significance with no guidance from
> risk managers, who required that scientific input on ecological significance be
> gathered before they would make value judgments. (9-10)

In many ways, this seemingly arbitrary separation between risk assessment and risk management was fostered and perpetuated for political reasons. Officials, afraid that decisions stemming from this extremely powerful governmental agency may be threatened by attempts to invalidate EPA policies by calling into question the nature and relative objectivity of the science supporting them, insisted upon creating these artificial walls between the science and the value judgment aspects of the work being done. In this way, they could argue that value judgments were predicated upon objective, scientific findings and not the other way around. Inexplicably missing from this equation, however, was the value of human life and health, an essential value judgment at the core of risk assessment science. Without this basis for making risk assessments, scientists would have no means by which to model their risk assessment tools; there also would be no value at risk to be taken into account (Norton 2005).

Assessing ecological risk brought to light this inconsistency between the reality of valuing within risk assessment and the insistence that the science of risk assessment was value free, and left a void where individual human life and health, the basic value at risk, once sat unperceived. Harrison explains that, "given the rigid separation of risk assessment and risk management, the risk assessors themselves cannot judge which values are important or which indicators best reflect valued characteristics of an ecosystem" (Norton 2005, 11). This makes nearly impossible the application of traditional risk assessment models to ecological risk. "By insisting that risk analysis can be undertaken in relatively insulated inquiries consisting of risk assessment (a purely formal, quantitative and predictive science) and risk management (a process of

balancing risks and threatened values), the current strategy virtually ensures that there will be no open public discussion and deliberation of value issues" (13).

For Norton, this model is a nonstarter. I agree with the perspective that value judgments cannot be separated artificially from scientific inquiry, nor do they need to be, to claim that objective science is being conducted. No objective science is completely value free, a misrepresentation perpetuated for too long, leaving policy makers ill-equipped to handle the complex challenges posed by sustainable development. As in the case of the false duality between risk assessment and risk management at the EPA, the bottom fell out once scientists attempted to replicate this model within the realm of ecological risk management. Value judgments were required a priori and convention would not allow for such a supposition.

The political environment, within which these policy decisions are being made, fostered the continuation of this approach to risk assessment and management, with those involved fearing for their livelihoods, political positions, or appointments. They prefer a value free scientific basis by which they can justify their policy positions, without concern for any inquiries into the potential for special interests that might be fueling those policy positions. "Political appointees and their appointers have every incentive to treat difficult decisions and trade-offs as purely 'technical' or 'scientific.' And they are most comfortable when they can say a decision was 'dictated by science.' The problem was that EPA managers constantly shaped the science they received by the questions they asked; these in turn were affected by their value assumptions" (Norton 2005, 13).

Supposedly, these value assumptions are involved neither in risk assessment nor in risk management. What Norton is saying here is that a type of 'blind faith' in scientific data is steering the EPA towards policies that are, according to them, value free. However, this reliance is an illusion and for all the resistance risk managers have to making value judgments, value assumptions still predicated their policy propositions. "EPA's rules for acceptable risk assessment explicitly required sticking to technical questions; but managers were themselves unwilling to take and defend any controversial value positions either, acting as if values were too subjective to discuss openly and rationally. The RA/RM process thus left no room for input about values, let alone providing a forum for deliberation regarding values and goals" (Norton 2005, 13).

Regarding this slant towards privileging objective science as a means to steer public policy on sustainable development sans value judgments, Harrison also might argue, in the words of Norton, that "you can't get there from here" (Norton 2005, 3). In his own words: "Sustainable development is all of all these […] current environmental problems as well as the interactions between environmental problems, the impacts of development on the environment, and the effects of environmental constraints on human development far into the future. Because we know little about the limits of individual sources and sinks and the danger to human communities and constraints on their development of exceeding those limits, we cannot comprehend sustainable development—as the sum of all relations between human and nonhuman systems through science" (Harrison 2000, 14).

Harrison probably would agree with Norton that the problem with the EPA's RA/RM model is that it assumes science alone can drive policy. However, as Harrison

puts it, "science can never tell us what we should do; at best it will be able to identify

the ecological effects of certain specific local actions, or of inaction" (Harrison 2000,

14). These value judgments, though seeming to be more the purview of those

communities of meaning espousing the ethics narrative, can have a place within the

realm of the equity narrative where political institutions have a responsibility to engage

the community in an equitable fashion and to represent their values in policy decisions.

The challenges Norton faced at EPA exemplify some of what Harrison might

deem as the negative consequences of approaching sustainable development from the

theoretical frame drawn by the equity narrative. While Harrison sees promise in the

potential for the equity narrative to promote "the continuous interplay of ideas," which

"allows policy to change as a result of rhetorical discourse that combines facts with

their interpretation through values and beliefs" (Harrison 2000, 64), EPA resistance to

doing the necessary work of valuing nature in the risk assessment process means that

values are either blindly adopted from political priorities or missing all together, which

makes risk assessment an impossibility. For seemingly political reasons, the EPA

modeled its approach, essentially sustainable development, to ecological risk

management in direct opposition to what Harrison deemed a way that the equity

narrative might promote equitable involvement in sustainable development policy

formation. For the EPA, the idea that interpretation through values and beliefs should

be considered is a nonstarter. In the case of the EPA, all participants, or affected

parties, are not able to influence decision-making. Also, beyond the basic and

uncontested value of human health and life, much of the relevant information required

for making informed decisions, interpretations through values and beliefs, is left completely out of the equation.

Conclusion

The Harrisonian Equity Narrative does bear some fruit when applied to Norton's experience in trying to foster sustainable development policies at EPA. It allows us to articulate better the shortcomings of a purely political response to the challenge of sustainable development and to see how political motivations, in this case ones that force an artificial separation between values and scientific inquiry, make it impossible to get beyond old status quo models of risk assessment. At their core, these models value human health and well being, leaving no room for new values that may be more relevant for risk assessments focused on ecological systems and processes.

Value judgments, which have been artificially separated and to a certain extent eliminated from environmental risk assessment, are necessary for making decisions on how to approach environmental protection. More comfortable with conducting risk assessments that look at the effects of toxins and environmental damage upon human individuals (the value here being human life), the EPA has struggled to re-tool its risk assessment and management strategies to deal with risks to the natural environment and non-human animals. Risk assessors, mandated not to deal within the messy arena of values, are faced with the impossible task of assessing risk to unknown environmental values. What seems to be filling that void is, once again, economic value as EPA aligns itself with the efficiency narrative. Given the conclusion of the last chapter regarding the efficiency narrative, I again must ask how the cause of the problem also can be its solution.

In the next chapter, I explore the ethical anthropology of Anna Peterson and view it through the lens of Harrison's ethics narrative. I critique Harrison's tendency towards dismissing the transformational power of the ethics narrative and point to how it is critical for addressing the dominance of the efficiency narrative.

CHAPTER 6

ETHICAL ANTHROPOLOGY AND THE ETHICS NARRATIVE

Introduction

Anna Peterson, philosopher of religion, presents ethical anthropology as means by

which we may understand how our ideas about humanness and human nature determine

our relations to nature. She argues that while there are destructive consequences to

some ethical assumptions, there are, on the other hand, opportunities for leveraging

other understandings of human nature that may assist us in finding less harmful ways of

coexisting with nonhuman nature. Looking at Peterson's ethical anthropology through

Harrison's lens, I argue that the common theme through all theories associated with the

ethics narrative, that ideas are important and the world is constructed in human minds,

is clearly articulated by Peterson. In fact, she stresses the importance of understanding

the connections between ideas of humanity and nature and our relationship to the

natural world. Since the way we think about ourselves in relation to nature shapes our

behavior towards nature, ethics is a critical ingredient for sustainability. While Harrison

contends that the ethics narrative is silent on how to change values and beliefs on the

large scale, Peterson breaks that so-called silence by pointing to the historical power of

religion in affecting wide-scale social change. For that reason, she advocates for an

investigation into what makes religion such a powerful force in forming, sustaining, and

sometimes challenging ethical practices and ideas. She points to the potency of

narratives for these purposes. I argue that Harrison fails to recognize this in his narrative analysis as well as in the formulation of his policy principles for sustainable development.

Harrisonian Ethics Narrative

The ethics narrative realigns the role of humans within the larger ecological system to one commensurate with the entirety of nature. In the ethics narrative, the appropriateness of a sustainable development policy choice must be measured not only for its effects upon humans but for the good of the entire system as well. In contrast to the other two narratives outlined by Harrison, the ethics narrative contains several theories representing the theoretical trends in multiple disciplines. In some ways, these diverse theories have their own narrative features and may include not only stories and counterstories but nonstories or critiques as well. These theories share a common designation by Harrison because of their core commonalities, which are 1) they all assume that "the world is constructed in human minds: that ideas are important;" 2) they "expect that 'human nature' can be changed;" 3) "although all these theories do not admit as much, their silence on means suggests that ecologism [political ecology] theorists understand that intentionally changing ideas (values and beliefs) on a large scale is very difficult;" and 4) "the focus on idealist ideational structures suggests that, in some form, education must be central to any effort to radically change ideas about the appropriate relations between human and nonhuman" (Harrison 2000, 97). In other words, Harrison contends that this approach alone does not designate a clear path to sustainable development even though theories that subscribe to the ethics narrative

share in the belief that the content of the human mind, along with institutional change, must be considered when addressing sustainable development policy.

The ethics narrative understands sustainable development as a problem of consciousness and offers a change in consciousness as the solution. "The ethics narrative reflects the holistic, systematic logic of ecology, that humans are an integral part of a single system of nature or of life and have no hierarchical position over nonhumans" (Harrison 2000, 81). Put another way, the ethics narrative demotes humans from their position of power over the natural domain and realigns them with all of nature. The narrative restates the problem of sustainable development as one of the "health of the systemic whole greater than the needs of humanity alone" (Harrison 2000, 81). This restatement of the problem serves to suggest very different policies from those offered by the other narratives. The emphasis on the interrelations between humanity and its nonhuman surroundings calls for new ideas about rights, values, ethics, and human self-actualization (Harrison 2000).

> Whereas the other sustainable development policy narratives assume that sustainable development will result from institutional changes, the ethics policy narrative assumes that sustainable development can only be achieved through a revolution in the ideas carried in the minds of men and women. Human behaviors can be modified through institutionally applied incentives and disincentives, a Pavlovian approach assumed in the efficiency and equity narratives. Or humans can choose to change their behavior because of a change in their beliefs and values, or a change in their understanding of cause-effect relations. Thus, policies emanating from this narrative revolve around human learning and the means to encourage it. (Harrison 2000, 82)

Within ecologism, Harrison outlines what he sees as the four main schools of thought that comprise several philosophical approaches to the problem of sustainable development: legal, relational, valuational, and spiritual.

Legal. Harrison points to the legal rights argument, which states that "nonhumans may not be rational as commonly understood, but they have interests, perhaps life itself or even a continued habitual existence in a stable ecosystem, that should be taken into account in human projects" (Harrison 2000, 84). That is, nonhumans ought to be considered more than a means to human ends; instead, their interests ought to be considered and protected by rule of law. According to this argument, therefore, "if natural objects have legal standing, they can be represented in the legal system and their interests protected" (83). Support for this way of valuing nonhuman nature can be found in actual legal cases dating back to "a premodern or 'prehumanistic' time in which humans saw themselves as rooted in a singular and whole creation of God" (83). This way of looking at the world led to cases, such as the one in 16th century France where villagers took legal action in an attempt to evict weevils from their vineyards. The case was settled out of court with a deal allowing the weevils to lease nearby open land, as long as they vacated the vineyards. Proponents of this approach claim that validating the value of nonhumans by granting them legal rights in this way would lead to humans respecting them (Harrison 2000).

What is left unexplained is how a democratic state could change its legal institutions before changing human beliefs regarding the value of nonhumans, since a change in human beliefs is expected to follow the designation of rights to nonhumans, though the change is required prior to such a designation. The lack of a clear middle to this story, showing how this theory might be implemented to reap the benefits of a change in human valuing of nonhumans, means that it is a nonstory with circular reasoning. It essentially has the same beginning and end, without a middle to show how

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we value nonhumans enough to bestow them with legal rights before such an act leads us to respecting nonhumans enough to give them rights (Harrison 2000).

Harrison, however, does not make note of those proponents of the legal approach who, like environmental ethicist Mark Sagoff, see the legal argument as pivotal to protecting the interests of humanity, not the inherent rights of natural resources. In this way, Sagoff argues that "courts should uphold environmental regulations […] that prevent landowners from destroying natural resources the public has long enjoyed and in which it has a legitimate interest." For Sagoff, matters of property "include the rights to use, exclude, and transfer, but not the right to destroy" (Sagoff 2003, 386). Here, the emphasis is placed not on any inherent right of the land itself to existence and protection, but on the rights of humans to own and utilize land as they see fit, except when that use infringes upon the needs or interests of the public and/or future generations. In the absence of any robust theory of natural property rights, Sagoff's approach discourages wasting use values for the exploitation of market value, though market value tends to be considered of greater monetary value. It seems that even with this approach, a change of consciousness for the legal argument as prescribed by Harrison still would be required. In cultures that value through markets, a change in consciousness would be necessary before private landowners could choose use values over market values (Sagoff 2003). Furthermore, that same change in consciousness is required for changes in the legal system where legal rights are attributed and legal decisions are made. When faced with the reality of having to enact a change in consciousness so that rights may be extended to nonhumans, this argument falls apart.

Relational. Harrison considers theories dealing with the relationship between humans and the environment to be relational. More specifically, he focuses on two streams of thought: bioregionalism and ecofeminism. Where bioregionalism asserts "that there is a synergistic relationship between human community and closeness to the environment" that ought to be nurtured, ecofeminism points to "the relationship between the genders" (Harrison 2000, 84) as the source of the problem and sees a turn towards valuing female traits as the solution.

Bioregionalism views the problem of sustainable development as springing from "the social structures and institutions that separate humans physically and spiritually from nature (and from each other) [that] prevent them from realizing their true selves" (Harrison 2000, 84). This is because proponents of bioregionalism believe that the domination of humans by other humans prevents humans from living in harmony with nature and from reaching their true potential. "Small communities that are directly connected to and reliant upon the local ecosystem" (84) are offered as the solution to this problem of disharmony. Bioregionalism, in many ways a cultural project, contends that society as a whole will achieve its truth "by integrating individuals into a community and the community into the local ecosystem" (84-85). This solution implies radical changes in political and social institutions. "It conceives of a human nature that does not struggle for dominance and prestige, is social, mutually supportive, and closely identified with local ecosystems, very different from historical human nature, especially in the industrialized countries of the modern world" (85). Such a view challenges humans to defy what some regard as human nature.

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This form of the ethics narrative also is a nonstory since it starts by defining the problem as one of the disconnection of humans from nature, meaning that they cannot reach their potential. The story concludes with humans reaching self-actualization in small communities that have a synergistic relationship with their local environments. However, the middle of the story is omitted; no prescription for making this change is offered. This presents a problem for bioregionalism since there is no basis by which such an ideal may be brought in to reality. For this reason, I agree with Harrison when he contends that bioregionalism does not offer any concrete means by which its view can be manifested. There is no way to "get there for here," at least none that is presented.

However, I would not dismiss this view as inconsequential. Regional environmental policies allow decisions to be made at the lowest possible level of organization; much can be taken away from this perspective. "There is considerable consensus among the planning community that effective strategies for creating more sustainable growth and land use patterns will require regional perspectives and strategies" (Beatley 1997, 195).

Though this view originates from land-use planning, the importance of recognizing the human connection to a particular regional ecology has implications. For environmental planner Timothy Beatley and writer Kristy Manning, both urban and regional planning require one to consider the ethical implications of development. They discuss the same relationship between humans and nature as bioregionalists discuss. "Individualism and greed in land use decisions are reinforced and condoned by a relatively limited definition, temporally and geographically, of the moral community to

which we have ethical duties and obligations. The challenge, in part, is to confront the ethical dimensions of the current sustainability crisis and to fashion and shape a new ethic that nurtures sustainable places" (Beatley 1997, 195).

The call for a new ethic is enticing. However, like bioregionalism, it too is a nonstory in that it does not provide a means by which such a new ethic may be brought about. Beatley and Manning saw that as outside the scope of their work on the issue. On how to bring about this new ethic, they only say that "as a part of our efforts to create more sustainable places, we must begin to look for ways of supporting an ethic or set of ethics that will, at the same time, help to undergird such places" (Beatley 1997, 231). How to make that happen is left unresolved.

Harrison also considers ecofeminism as redefining the problem of sustainable development in terms of relationship. For ecofeminists, however, "it is the defective relations between the genders that prevents an appropriate relationship between humans and their natural environment: the fault is in the man-centered nature of the dominant western culture" (Harrison 2000, 85-86). I would argue that this patriarchal tendency extends far beyond purely Western culture. Whether a matter of biological predisposition or social determination, a valuing of traits commonly associated with the male gender, such as the drive towards domination, is seen by ecofeminists as the cause of environmental degradation. For ecofeminism, "development is then seen as unsustainable because male society dominates nature as men dominate women" (87). In the view of ecofeminists, the tendency toward the domination of nature within male-dominated cultures moves those cultures farther away from sustainable development. The prescription offered by ecofeminism is a reversal in the valuing of male traits of

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domination to the valuing of what proponents consider to be female traits. "Preventing an environmental crisis requires that caring female traits become more valued and a dominant foundation for human behavior. There is little agreement about these traits and there is little likelihood that they can be objectively identified" (86). As with the stories discussed previously, the one told by ecofeminism neglects to offer the middle part of the story. Here, the problem of male domination is solved by overthrowing that domination so that a female-dominated society, depicted vaguely at best, can ensure that the female traits found in nature are valued and sustainable development is achieved. Given the absence of the middle of the story, the narrative of ecofeminism also can be considered a nonstory. Though I find some value in recognizing the connection between a culture's veneration of dominating qualities often attributed to males and the domination and consequent destruction of nature in the name of those highly regarded attributes, this recognition alone is not enough to lead to sustainable development. Furthermore, glorifying stereotypical female attributes does not bring us any closer to equality of the sexes. In my view, ecofeminism may do more damage than good in attempting to value female traits over males while using a patriarchal definition of the feminine as a basis for making those claims.

Valuational. Approaches focused on valuing nature, such as the land ethic, biocentrism, inherent worth, and intrinsic value, fall under Harrison's umbrella of valuation. Each of these arguments positions itself as an alternative to utilitarian ethics by attempting to "identify an ethic that separates nonhuman values from human uses" (Harrison 2000, 88). Because for utilitarianism, "an action is moral when its consequences provide a net gain in happiness to the society as a whole," the problem

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with a utilitarian approach to sustainable development is that "as natural resources are consumed, they become of greater value and contribute more to the happiness of humankind by their exploitation." For the arguments Harrison considers under the umbrella of valuing nature, "utility is measured by individuals, the more who find utility in the existence of unspoiled nature, the greater the good from acting to conserve natural goods" (88).

For Harrison, the land ethic broadens the scope of traditional ethical concerns to include ecosystem ecology. As Aldo Leopold puts it, "the land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land" (Leopold 1970, 239). According to Harrison's interpretation of the land ethic, since the land is nature's source of energy, the private owner of the land has an ethical responsibility towards the land, which requires "curtailing rights of landowners with duties to the land-centered community" (Harrison 2000, 89). While this partially may be the case, what Leopold seems to advocate is a step back from even seeing the land as property. Leopold uses the metaphor of Odysseus returning from wars in Troy and hanging all of his servant girls whom he accused of misdeeds during his travels. This act, Leopold asserts, was not a matter of impropriety because "the disposal of property was then and is now, a matter of expediency, not of right and wrong" (Leopold 1970, 201). Seeing the land as property fosters attitudes that might lead one to believe that destroying the land is not an ethical issue but a matter of rights. In Leopold's own words, "A land ethic changes the roles of *Homo sapiens* from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also respect for the community as such" (204). This

appears to be the sentiment at the heart of most versions of the Harrisonian Ethics Narrative, which advocate for a change of consciousness about humanity's roles within nature.

Like the nonstories described previously, the land ethic follows the same model. While first setting out to redefine the problem, that of private land ownership leading to a lack of ethical obligations towards the land for the good of a land-centered community, the land ethic moves directly to the solution, that of living in communion with the land. As with other nonstories, the means by which this is to occur, or the middle of the story, is not offered.

Harrison explains that biocentrism sees Earth as "essentially a single living organism" and contends that "life has created for itself the conditions on Earth under which life can survive." For the biocentrist, "life is the central 'good' of which humans are only one form" (Harrison 2000, 89). Harrison contends that biocentrists do not take serious the threat posed to life on Earth by humans. As it is now being conceived, biocentrism argues that life creates the universe. However, Harrison's references relate to Lovelock's biocentrism of late 1970s, an earlier version of this theory that focuses more on how Earth is a large organism with all life forms acting as organs would act. Parting ways with Harrison on this reading of the biocentrist story, I argue that biocentrists of Lovelock's ilk would see detrimental human activities as posing a threat to life on Earth. It is more this later flavor of biocentrism that moves the conversation towards how our consciousness shapes the universe. Lovelock's biocentrism story begins with the metaphor of the earth as an organism with its constituent life forms as organs.

> If Gaia exists, the relationship between her and man, a dominant animal species in the complex living system, and the possibly shifting balance of power between them, are questions of obvious importance. […] The Gaia hypothesis is for those who like to walk or simply stand and stare, to wonder about the Earth and the life it bears, and to speculate about the consequences of our own presence here. It is an alternative to that pessimistic view which sees nature as a primitive force to be subdued and conquered. It is also an alternative to that equally depressing picture of our planet as a demented spaceship, forever travelling, driverless and purposeless, around an inner circle of the sun. (Lovelock 1979, 10)

For Lovelock and his brand of biocentrism, the metaphor employed is in service to his larger argument that the relationship between man and nature ought to be considered and not taken for granted. However, how this change of consciousness is to occur and what is expected to result at the end of this story are not offered. That leaves biocentrism as a nonstory, similar to those previously discussed.

Harrison investigates the argument of inherent worth offered by philosopher Paul Taylor, from the vantage point of ecology. Taylor sees humans as a part of a web of life, the dominant metaphor implying a connection between all things, and "concludes that humans are only equal to, and not morally superior to, other organisms. In this view, the good of any living thing is determined by the role it plays within the web of life. Therefore, "life, at the level of individual organisms, must be respected." The story of inherent worth, then, uses the web of life metaphor to show how each living being has as much value as any other. "In practice, humans as moral agents must not harm any organism, interfere with its freedom, or deceive or betray it, and must make restitution where harm occurs." Inherent worth is another nonstory since it offers a new way of looking at life forms within nature but does not offer a plausible middle or end to the story. The end offered is that "human duties to conserve individual organisms makes sustainable development a matter of individual choices, the ultimate

decentralized decision making" (Harrison 2000, 90). However, without a middle to the story stipulating how this new view is to be operationalized, and a seemingly impossible end that requires humans to refrain from negating the inherent worth of any organism, this is another nonstory.

By differentiating between having an obligation to individuals within a species and having one to a species as a whole, intrinsic valuation, on the other hand, addresses the problem of seeing all life as having inherent value and therefore deserving of the same moral obligations. The view of philosopher Holmes Rolston, Harrison explains, is "that humans have no duty to protect individual organisms but that humans have no right to destroy species" (Harrison 2000, 90). This is a departure from the more generally accepted view that only sentient beings deserve moral consideration by humans. Furthermore, "Rolston (1988) argues that not only does each life form have a subjective value for itself but also an objective value in itself" (90). To be clear, this value is not determined by humans but is intrinsic in the life form itself. This view asserts that "intrinsic value occurs naturally and is an emergent property of natural entities, something that happens independent of the consciousness that observes it" (91). However, like the other nonstories, this view does not offer a clear prescription for sustainable development. Instead, it provides only the start to the story, one that postulates an intrinsic value for all living things but does little more than suggest that humans do not have the right to eradicate entire species. The middle and end of the story clearly are missing.

Spiritual. For Harrison, theories involving spirit and nature imply that "feeling at home within nature and within ourselves requires a deep belief in the connection with

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all life" (Harrison 2000, 92). More specifically, Harrison looks at the approaches taken by deep ecology and ecotage.

Founded on the interconnected institutions of biocentric equality and self-realization, deep ecology is the process of continual searching within oneself for a better understanding of reality while questioning the assumptions of the dominant worldview. This "ecosophy" lends itself to a more solitary exploration of these precepts. Unlike the other nonstories subscribing to the ethics narrative, this nonstory has only an end, that of self-realization. One must assume that the problem, then, is a lack of self-realization. However, it is unclear how achieving self-realization can lead to sustainable development. "Self-realization is only possible through identification with family, community, species, and thence with nonhumans" (Harrison 2000, 92). The ends of self-realization may offer a solution to the challenge of sustainable development.

Ecotage involves the "nonviolent sabotage of ecologically destructive human activities" (Harrison 2000, 92). This is an approach to addressing the challenges of sustainable development that is pursued by organizations like *Earth First!* (Harrison 2000). In contrast to the personal journey advocated by deep ecology proponents, those involved in ecotage recommend a type of communal, political action. Ecotage defines the problem as one of choosing between the cultural and the natural world; they see a dichotomy and an urgency to take a stand on one side. The nonstory here offers this type of sabotage as a means to achieve an end not clearly defined.

In sum, Harrison contends that even though the ethics narrative does not carve a clear path to sustainable development, sustainable development policy must consider institutional change along with a paradigm shift within the human mind. Harrison

argues that the ethics narrative sees sustainable development as a problem of consciousness. "The narrative completely restates the problem as one of the health of the systemic whole greater than the needs of humanity alone. In doing so, it redefines sustainable development and implies policies very different from those proposed by the other narratives. By emphasizing the interrelations of humanity to its nonhuman surroundings, the various green theories within this policy narrative invoke new ideas of value, of rights, of ethics, and of human self-actualization" (Harrison 2000, 81).

Ethical Anthropology

Anna L. Peterson conducts research about religion in nature and religion in the Americas. Of particular interest to this conversation is Peterson's argument that our ideas of humanness forge ethical systems, which is the impetus behind her exploration of the connections among ideas about humanness, about nature, and about environmental ethics. In so doing, Peterson encounters central issues concerning "the shape of our communities, the destruction of our natural environment, and the character of moral discourse" (Peterson 2001, 1). Given what Harrison considers to be the main thrust or premise of the ethics narrative, "that sustainable society cannot be achieved without a change in human consciousness" (Harrison 2000, 7), Peterson's exploration of the confluence between human ethical systems and human ideas about humanness exemplifies this narrative perspective.

Her interest in social and environmental ethics has led her to publish numerous articles in those fields. In *Being Human: Ethics, Environment, and Our Place in the World* (Peterson 2001), she delves into the essence of humanity in an attempt to foster a shift in the way humans live in the world. She describes her approach as "ethical

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anthropology," which parallels the already established subfield, theological anthropology. "Just as theological anthropology explores the relations between ideas about human nature and ideas about God, ethical anthropology examines the connections between ideas about human nature and ideas about values" (Peterson 2001, 4). By discussing established Western conceptions of what it means to be human as well as alternatives to these perspectives, Peterson argues for the development of a cogent, consistent environmental ethic that alters our ideas both about nature and what it means to be human. In exploring particular visions of humanness and their ethical and environmental consequences, Patterson hopes to unearth the injurious repercussions of various ethical presumptions and views on human nature that might inform the pursuit of less environmentally degradative approaches to existing within nonhuman nature (Peterson 2001).

At the heart of Peterson's theoretical approach is the affect of ideas of humanness on human moral and ethical belief systems. Peterson writes that ideas about what it means to be human and what constitutes nature are entangled and mold ethical systems and practices. "Questions such as what counts as human, what does not, and what is natural or unnatural do not simply feed philosophical debates, but help determine moral and political priorities, patterns of behavior, and institutional structures" (Peterson 2001, 1). What Peterson is saying is that beliefs and attitudes, though seemingly insubstantial in their intangible form, actually have tangible effects on those who carry them, on those who are exposed to them, and on the natural and built environments that are touched and/or created by virtue of them. I agree with Peterson that thoughts essentially are things and that these things often act as an

invisible puppeteer, quietly pulling the strings of our environmental policy approaches from behind the curtain of our universal subconscious. An important first step is recognizing the power of these beliefs and attitudes in affecting sustainable development policy. However, more than realization is needed to impact policy.

Though Peterson contends that assumptions about what it means to be human are not the only determining factors in ethical claims and decisions, she argues "both that any idea of human nature has ethical implications and that all ethical systems rest upon certain ideas of human nature." This idea connects to earlier discussions in the first section of this chapter where Bryan Norton's experience at EPA was discussed. Exemplifying Peterson's claim, Norton pointed out how the EPA neglected to recognize the valuing of human life and health that was inherent to the risk assessment work they performed, because the attitudes and beliefs that informed those values ran so deeply that they were taken for granted. This is "because much of what makes moral claims and their social, economic, and political consequences seem reasonable, natural, or right is their coherence with a particular idea of the human" (Peterson 2001, 3). That is to say, every understanding of humanness predisposes or inclines one to accept corresponding moral claims as natural.

When applying ethical anthropology to the environment, Peterson looks to the field of environmental ethics, established to address environmental issues of ethical concern. Peterson contends that environmental ethics, as commonly understood, is seen as "a type of practical or applied ethics" as opposed to "ethics that elaborate formal and abstract moral systems." Environmental ethics commonly is viewed as an ethical system in and of itself, not one that is informed by a broader ethical notion that would

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provide the foundation for all ethical considerations of the environment. Peterson deems

this approach to environmental ethics as problematic. Instead, she suggests that

environmental ethics ought to be conceived as a type of lived ethics as opposed to an

ethical framework to practical issues. This approach implies that ethics ought to attend

"to the moral assumptions, principles, and ideals that shape, implicitly or (perhaps less

often) explicitly, the ways individuals and groups make decisions, set and pursue

goals—in short, live their lives" (Peterson 2001, 4). The concept of lived ethics

involves considering how ideas and real life mutually shape one another and implies

that moral systems ought to be applied not merely to concrete situations. Instead, moral

systems ought to be applicable to and livable within concrete situations (Peterson 2001).

Because "the primary models for lived ethics are religious" (Peterson 2001, 5),

Peterson asserts that a turn to religion will benefit environmental ethics. In fact,

Peterson notes several recent texts that investigate the constructive and destructive

aspects of religion's influence on peoples' attitudes toward and relationships with

nature. Though she finds value in these texts, Peterson points to a lack of investigation

into "the internal dynamics that make religion such a potent force in forming and

sustaining challenging ethical ideals and practices" (5). Her text, then, attempts to fill

this gap by "examining how certain ethics, religious and otherwise, recast people's

ideas about what it means to be human, the value of nonhuman nature, and the

possibilities and requirements of social and ecological transformation" (5-6).

Peterson departs from the tradition forged by leading religion and environmental

ethics theorists who argue for the construction of a single environmental ethic that

combines all localized ethical differences into an overarching ethic. Peterson, on the

other hand, points to those differences as indispensable in understanding the relationships of power fostering those differences. She contends that once the elements of different ethics and worldviews are separated from their cultural, historical, narrative, and ecological contexts, they have a tendency to fall apart both practically and philosophically. This is because they derive most of their power from being embedded within particular stories, contexts, and histories. Peterson's perspective bolsters the main thrust of this project that the narratives shared by policy relevant communities of meaning have concrete effects on policy approaches and that to understand these narratives, one must understand the context within which the narrative was formed and is perpetuated (Peterson 2001).

Essentially, what Peterson is suggesting is that if religion is to aid in ecological action, then a standalone environmental ethnic is not sufficient. Instead, what is needed is an investigation into what makes efficacious ethics effective. An investigation of this kind, Peterson asserts, "requires attention to the internal elements, structure, and dynamics of religious ethics generally, as well as to understandings of nature in particular" (Peterson 2001, 17). Peterson, by asserting that an investigation into those ethical movements that have been effective in creating change is necessary to address the challenge of sustainable development, defies Harrison's conclusion that the ethics narrative can have no real means by which to enact change on any meaningful scale. Indeed, what Peterson is saying is that one only needs to look at the sometimes troubling and sometimes awe-inspiring power of religious movements around the world and throughout history to support the claim that ethics can and do have a profound effect on many levels.

Peterson offers narrative as one of the elements that makes religious ethics so powerful. Indeed, "many kinds of ethical claims – suppositions about what it means to be human and the values that such suppositions sustain – come embedded in narratives, stories about humankind's (or a group's) origins, purpose, and destiny" (Peterson 2001, 17). The embedded nature of these ethical claims means that they often are imperceptible to those who share them. Because of this, they are not subject to scrutiny and critique. "We need different stories because we need different ideas. We need different ideas because we need different relationships. And we need different relationships because we need different ways of living in the world" (19).

These narratives implicitly advocate certain courses of action and justify certain beliefs, while condemning others. Formally stated maxims, generally abstract, do not constitute an individual's visions, priorities, and values. Beliefs about how one ought to be, what one ought to do, and how one's community ought to look do not take this form. Rather, they typically emerge from a more generalized notion of the world, synthesized in narrative form, which includes where we came from, where we are headed, and what people are like.

Peterson points to narrative not only as instrumental in how we got to this point in environmental thinking but also as a means by which we may devise and implement an environmental ethic that, in essence, would amount to a sustainable relationship between humans and the planet. In doing so, Peterson unknowingly admits to one of the shortcomings Harrison critiques in the ethics narrative. Though human nature can be changed, "changing ideas (values and beliefs) on a large scale is very difficult" (Harrison 2000, 97). Peterson contends that because many humans, starting at birth,

develop belief systems that predispose us to environmentally degradative behaviors, "the urgent task for environmental ethics is to uncover what might make people change their ways of understanding and living on the earth, in its particular ecosystems" (Peterson 2001, 4). Though Peterson urges us to look to religion, which has shaped and changed ethical systems since its inception, she goes no further in her analysis. She seems to intuitively believe that religion holds the answer and that once it is found, education can change ideas and minds. However, as Harrison asserts about the ethics narrative, "ideas, values, and beliefs evolve slowly over time, rooted in culture and protected by social institutions." I would argue, however, that ideas and values can and have changed seemingly overnight; for example, under the direction of a charismatic ruler during a time of severe economic and political crises. But, without the proverbial reaching of a bottom, or by virtue of a crisis of a great magnitude, a revolutionary change in human belief systems probably is not imminent. Therefore, I would agree with Harrison that "even if ideas can be changed, it is not clear that they can be changed fast enough for sustainable development" (Harrison 2000, 97). Peterson concludes that "we need alternatives to the idealistic hope for a straight line from ideas to practice and to the cynical notion that no such line exists" (Peterson 2001, 239). In leaving us with this task, Peterson clearly is confessing that she does not know yet what these alternatives are. Her ethical anthropology does not defy Harrison's critique that "there is no easy path to the nirvana of ecologism" and that "green theorists have notably failed to illuminate any path" (Harrison 2000, 97), thus leaving a coherent environmental ethic unconstructed.

Conclusion

Peterson's ethical anthropology underscores Harrison's critique of the ethics narrative. Though Harrison places much value in the power of ideas and beliefs to shape ecological understanding, he does not see a concrete solution in the ethics narrative. Those ideas took many generations to evolve, and to date ethical theorists have not offered a clear way of changing those ideas to address the challenge of sustainable development in an expedient fashion. However, what Harrison neglects to recognize is the point Peterson makes that religion historically exemplifies the transformative power of the ethics narrative in changing hearts and minds regarding beliefs about human and environmental values. This phenomenon invites further investigation into how the ethics narrative might transform outmoded views of the human relationship with nature to reflect new understandings based on sustainability insights. Harrison, on the other hand, views this as the proverbial 'the chicken or the egg' situation. Since changing ideas requires education, and curriculum changes require changes in ideas and beliefs on the political level, "how can policy change before ideas change" (Harrison 2000, 97)? Relying on coercive governments to institute change from the top down is one solution, but this does not seem ethical, thereby defeating the narrative's intent. I argue instead that throughout religion there have been precedents for the transformative power of ideas, and future research could focus on this phenomenon.

Beyond what Peterson adds to the conversation about the ethics narrative, I argue that other ethical implications are relevant to the discussion of sustainable

development. In my concluding chapter, I introduce the importance of considering the

notions of distributive and procedural justice for sustainable development policy.

CHAPTER 7

COMPLEX ADAPTIVE SYSTEMS AND SUSTAINABLE DEVELOPMENT

POLICY PRINCIPLES

Introduction

All three Harrisonian sustainable development narratives are incomplete,

primarily because, as Harrison concludes, "sustainable development cannot be

objectively defined, cannot be known" (Harrison 2000, 99). Instead, Harrison

reconceptualizes sustainable development not as a goal of policy formation, as his three

narratives suggest, but as a means by which another goal, "optimizing 'social adaptive

capacity' " (100) may be achieved. Harrison suggests looking at the sustainable

development challenge from the perspective of complex adaptive systems, seeing the

world and all its constituent human and ecological communities, as the means to

shaping this reconceptualization.

Critique of Harrisonian Narrative Policy Analysis Conclusion

As this analysis has shown, "based on selected premises, each policy narrative

offers conclusions about what policies will lead to sustainable development" (Harrison

2000, 4). Harrison does the work of identifying these premises and conclusions, and

offers an analysis of the internal logic of each argument, valuable in assessing the

aspects of each predominant narrative that might lend themselves to the development of

a new understanding of sustainability.

At the root of any project attempting to define sustainable development more appropriately is the challenge of developing an ideal that, as commonly understood, can be interpreted to support almost any objective or agenda. For this reason, Harrison sees sustainable development as the ultimate "postmodern" issue. Commonly held beliefs of modernity, such as human domination, social improvement, teleological history, and progress through rationality, have fostered an expansion in production that has increased material wealth greatly, while simultaneously conflicting with ecological limits. Though Harrison contends that sustainability is a question raised by modern life, he sees no concrete solution being found in *post*modernism. Indeed, in Harrison's view, neither modernism nor postmodernism hold the key to addressing the challenge of sustainability. Neither epistemology offers an avenue to a sustainable lifestyle for humans on this planet. What Harrison does find in the *post*modern turn is an inclination towards increased public involvement and representation in the political sphere (Harrison 2000).

The *post*modern tendency towards fragmentation and absolute subjectivity offers both political participation, as outlined in the equity narrative, and a new sensibility, as defined in the ethics narrative, as its cure-all. To that end, Harrison argues that increasing political participation among interested individuals may help to solve the problem of minority exclusion; however, it does not guarantee effectual collective action and even may discourage it. Harrison declares that, "sustainable development policy is too important to be left to the vagaries of unguided pluralistic decision making among myriad subjectivities; and any new sensibility may be long in coming" (Harrison 2000, 103). For Harrison, the postmodern sentiment, though

valuable in some respects, is too open ended to be trusted as a means to achieve sustainable development; specific direction is necessary for a challenge of this magnitude. An analysis of the narratives governing our views on sustainability is only the beginning.

As Harrison's analysis shows, each policy narrative provides an ineffective, incomplete, or impractical recipe for sustainable development. Instead of being a clear cut formula for achieving sustainable development, each narrative is seen by Harrison as "a rhetorical combination of facts and values that embodies certain ideas about social structures and the nature of the relationship between humans and non-humans." Though each narrative offers insight into how various communities of meaning organize themselves around the concept of sustainable development, no one narrative, no a combination of narratives, provides the tools for achieving sustainable development. This is because the narratives are incomplete and because they see sustainable development as an objective, definable goal. I concur with Harrison that sustainable development, as such, cannot be the goal. It can only be seen "as a continuous process for which policy principles may be defined but for which there is no specific goal" (Harrison 2000, 101). Given this definition, the predefined interests of each policy relevant community of meaning become moot. Sustainability, no longer a matter of deciding between contending objectives based upon the particular interests of each narrative community, becomes a matter of leaving open as many opportunities as possible for all to adapt to an uncertain future.

Harrison points to the potential for a discursive meta-narrative to offer a compromise between competing narratives but then refutes the value of that as well,

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arguing that "limited knowledge of the human impacts on the natural systems that support human development render any narrative, including a discursive metanarrative, too confining to make policy useful" (Harrison 2000, 102). He chooses not to pursue the meta-narrative, though I would argue that there may be some value in looking for commonalities between contending perspectives as these insights may help communities of meaning within all camps to recognize where their goals align. It also could provide common ground for cooperation as a new vision of sustainable development is constructed and policies are defined.

With various communities of meaning vying for traction in the battle of interests and narratives that has come to define the challenge of sustainable development, I, like Harrison, see this as a uniquely postmodern predicament. "As commonly understood, sustainable development can be interpreted to support any agenda, or objective. In that sense sustainable development seems to be the ultimate "postmodern" issue. Modern beliefs in progress, social improvement, human domination, and teleological history through rationality have lead to the production expansion that has greatly increased material wealth but challenges ecological limits. Sustainability is a question raised by modern life. Unfortunately, *post*modernism proposes no conclusive answer to this question" (Harrison 2000, 102).

In Harrison's view, neither modernism nor postmodernism hold the key to addressing the challenge of sustainability since neither epistemology offers an avenue towards a sustainable lifestyle for humans on this planet. However, where Harrison sees an epistemological dead end, I see an opportunity.

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Harrison admits that the postmodern turn does incline us towards increased public involvement and representation in the political sphere. I would argue further that both our modernistic history and current postmodern condition sufficiently prepare us for new ways of seeing, a prerequisite to acting sustainably. A return to, or rejuvenation of, ethical and moral discourse inevitably will have us looking at issues regarding truth and objectivity in ways that remind us of our modernistic roots. At the same time, our postmodern tendency towards subjectivity and skepticism will ensure that our ideals take into consideration all interests and are not merely vestiges of some idealized past, which, in actuality, marginalized and alienated many "minority" groups (women included) and fostered the kind of unsustainable environmental practices that have brought us to this place today.

A postmodern world without some inclusion of modern ideals can be an extremely unstable foundation for sustainable development since such development requires agreement on certain values, the least of which is the value of sustaining the potential for development from generation to generation. Harrison recognizes this difficulty and the ways that the postmodern approach attempts to compensate for the values it does not provide. "As a panacea for this extreme subjectivity and fragmentation, postmodernism proposes greatly increased political participation (as in the equity narrative) or a new sensibility (as in the ethics narrative). While increasing the participation of subjectively interested groups in policymaking may solve the problem of minority exclusion, it does not ensure effective collective action and may inhibit it. Sustainable development policy is too important to be left to the vagaries of

unguided pluralistic decision making among myriad subjectivities; and any new sensibility may be long in coming" (Harrison 2000, 103).

For Harrison, the postmodern sentiment, though valuable in some respects, is too open ended to be trusted as a means by which to achieve sustainable development. Values must be decided upon, not merely be a manifestation of political discourse on the topic as in the case of sustainable development. Specific direction is necessary for a challenge of this magnitude. An analysis of the narratives that govern our views on sustainability is only the beginning.

Harrison's conclusion about the dominant sustainable development policy narratives is that none of the three common policy narratives will suffice in fostering sustainable development (Harrison 2000). Harrison proposes that we might move away from those three dominant narratives and into a new conception of sustainable development through a non-mechanistic model that centers sustainable development policy principles on a complex adaptive systems approach (Harrison 2000).

Towards a Complex Adaptive Systems Approach

I concur with Harrison that each of the three Harrisonian Sustainable Development Policy Narratives is a story describing the policy means for reaching sustainable development. Stories such as these are told in an effort to maintain order and social cohesion in modern societies. Dominant elites develop and foster narratives that support their political and philosophical beliefs. Each of the narratives, with its unique value preference or premise, characterizes an ordering of society for sustainable development. Harrison is correct in his assertion that "none can define sustainable development broadly enough in policy-relevant terms to fully capture the concept."

This is because, as Harrison's analysis shows, each policy narrative provides an ineffective, incomplete, or impractical recipe for sustainable development. Instead of being a clear-cut formula for achieving sustainable development, each narrative is merely "a rhetorical combination of facts and values that embodies certain ideas about social structures and the nature of the relationship between humans and non-humans" (Harrison 2000, 101).

The main concern Harrison voices about the three policy narratives is that they are all goal-oriented in approach and assume, in the modern tradition, that humans are rational and that the world can be understood through reason. What makes this claim dangerous is that societies are more like complex adaptive systems where no one can be certain of the effects of goal-driven policy. Only until a policy is instituted and then analyzed for its efficacy can its true consequences be assessed. However, it is this mechanistic view of human and natural systems that governs the three policy narratives surrounding sustainable development. When human society is seen as a machine, policymakers and theorists assume that social goals can be chosen and achieved first by predicting the effects of policy and then by fashioning the policy towards a desired outcome. Harrison explains that, "as each participant believes she knows the probable outcomes of each proposed policy and as each has learned to be self-interested, she fights for the policy that is least damaging to her own interests" (Harrison 2000, 103). Since a mechanistic approach is not suited to solving the complex problem of sustainable development, any individual or policymaker who believes that the effects of policy can be predicted and that a battle of self interest can be effective in achieving sustainable development is misguided.

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Harrison turns the dominant narratives based upon a mechanistic world view upside down by suggesting that a completely different approach is needed, one that recognizes the dependence of humanity upon natural systems and offers a complex adaptive systems approach to addressing sustainable development. Essentially, Harrison suggests that by using an adaptive systems approach to remove the duality between humans and nature, the premise that there is a need to optimize natural systems to sustain human societies no longer is valid. Instead, the aim of the complex adaptive system, inclusive of humanity and the natural systems that sustain it, is viability. To put it another way, this new approach would aim to "maximize robustness, or survivability, in the face of an ill-defined future" (Harrison 2000, 104). For Harrison, making sustainability the focus of the complex adaptive system, which by its very nature is focused, eliminates all need for values-based approaches to support sustainable development. What Harrison neglects to consider, however, are the ethical implications of such a model, which rests solely on survivalist values and is devoid of any notion of justice, at least in this instance. These concerns with Harrison's complex adaptive systems model will be addressed later.

For the purposes of this discussion, it will be important to clarify the following: What is a complex adaptive system (CAS)? Why is complex adaptive systems theory relevant to the work on sustainability? What other considerations are required in order for complex adaptive systems viability to be sustainable? In order to address the first question, CAS theory in its purest form will be discussed before moving to the larger questions of how CAS, in Harrison's view, is relevant to the work of sustainability, and

what ought to be considered further if CAS is to be effective in moving us closer to a new understanding of sustainability that has viability as its main objective.

What is a Complex Adaptive System?

For a basic understanding of the history and development of CAS as it has flourished within an interdisciplinary context, we will look to two sources. Information technologist Jason Brownlee takes the perspective of information technology and research as it relates to evolutionary computation and artificial life, while Wendell Jones, author of *Beyond Intractability: A Free Knowledge Base on More Constructive Approaches to Destructive Conflict*, focuses on CAS as it relates to social systems.

What is a complex adaptive system? To answer this question, we will turn to Brownlee who provides an overview of CAS when he employs it as a framework for looking at what he deems "ambiguous work within the field of artificial immune systems and artificial life" (Brownlee 2007, 2) in Technical Report 070302A for the Complex Intelligent Systems Laboratory, Center for Information Technology Research in Melbourne, Australia Though the conclusions in his report are not directly applicable to our discussion of sustainability, he does offer a baseline understanding of CAS from an interdisciplinary perspective that, coupled with the discussions of several other researchers from other disciplines who share his interest in CAS, will provide a foundation for developing a framework applicable to sustainability.

Over 20 years ago at the Santa Fe Institute in New Mexico, economists, physicists, and others who studied complexity established the field of Complex Adaptive Systems. This framework of conscripted principles derived from numerous natural and artificial examples of complex systems has been applied within such

manifold fields of study as ecology, business management, anthropology, psychology, and genetic evolution. However, it is taking time to develop a unified theory, as in the case of sustainability. Nevertheless, CAS, because of its interdisciplinary nature, is an appropriate lens through which to view the challenges of sustainability. An interdisciplinary framework is essential for looking at issues of sustainability because of the interconnectedness of all things within a complex adaptive system and because no single disciplinary perspective with its narrowly focused theoretical framework is robust enough to address all levels of complexity. The field of CAS inherently is interdisciplinary, drawing firstly from systems theory, complexity science, network theory, and control theory, and secondly from other related fields such as game theory, artificial intelligence, optimization, and statistical mechanics. Though these precursors to CAS have implications that are of value to a detailed investigation of CAS theory, for the purposes of this discussion, it will be important to look only at CAS in its present state as well as how it relates to understanding complex adaptive systems at the nexus of our built and natural environments (Brownlee 2007).

CAS applies to those fields of study and their consequent theoretical frameworks for natural and artificial systems that challenge reductionist, or top-down, analysis. They defy this type of analysis because small differences in initial conditions within these systems lead to vastly different results, making traditional analysis using the scientific method impossible. Typically, emergent system phenomena result from interactions between these systems, which typically consist of populations of adaptive agents that result in complex non-linear dynamics. In other words, a nonlinear system exhibits a dependence on initial conditions and tiny or effectually immeasurable

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differences in initial conditions can lead to extremely differing outcomes, unlike a linear system where a small change to a single variable produces a small and easily quantifiable systematic change. Because CAS generally are impervious to traditional analysis and techniques, the study of CAS focuses on the examination of high-level abstractions of natural and artificial systems. Each relatively abstract, higher level of abstraction builds on a relatively concrete "lower" level, which tends to provide an increasingly granular representation. As Brownlee explains, "macroscopic patterns emerge from the dynamic and nonlinear interactions of the system's low-level (microscopic) adaptive agents" (Brownlee 2007, 2). To put it another way, the CAS is comprised of interactions between individual agents that foster emergent properties or conditions that arise unexpectedly.

Traditional reductionist methodology has the view that all complex phenomenon can be explained through an analysis of the simplest physical mechanisms that form the basis of the phenomenon. But because emergent patterns are more than the sum of their parts, this methodology cannot describe how the macroscopic patterns emerge. Instead, a more totalistic and holistic analytical approach is applied through CAS theory, an approach that correlates the simple rules that form the basis of the interaction of simple adaptive agents with their consequent emergent effects in a 'bottom-up' fashion. In this approach we look at the basic components of the systems and integrate the data to make salient relevant patterns. On the contrary, in a top-down approach we establish system knowledge and attempt to disassemble it. This can be likened to the difference between a box of model airplane parts and the fully assembled model airplane. Because of the

hierarchical interactions between components, these components are equivalent in composition but not in function (Brownlee 2007).

Examples of CAS most commonly can be found in the majority of systems studied in biology, economics, and sociology. Frequently referenced examples include the function of adaptive immune systems, the stock market, bacteria becoming antibiotic-resistant, weather systems, the development of embryos, insect swarms, the flocking of birds, social systems, thinking and learning in the brain, trading systems, politics, cultures, traffic systems, the biosphere and the ecosystem, genetic evolution, social insects and ant colonies, the testing of scientific theories, and the implementation of new ideas. CAS theory is an ideal tool for examining issues of sustainability because of its efficacy in supporting the investigation of complex systems that are sensitive to initial conditions and whose individual components jointly produce emergent properties through an iterative process (Brownlee 2007).

Historical perspective around CAS theory and its implications is important here because of the need to contextualize the relevance on the theory to numerous fields of inquiry. In our subsequent discussion of how CAS relates to the challenge of sustainability, by leaning on both Jones and Brownlee, we are able to gain insight into how such a broad-based and mostly scientific, or more specifically, biologic, tool can be operationalized. Essentially, Brownlee points to the Santa Fe Institute's meeting on complexity in economics, attended mainly by physicists and economists concerned with complex systems whose agents change, as the springboard into more intensive CAS research.

From the perspective of adaptation, Brownlee points to John Holland, scientist, as one of the largest contributors to the development of the field. Holland looked at adaptive systems as they are found within genetic evolution. His application of CAS theory to genetic evolution led to the development of what he termed an 'adaptive plan,' or "the progressive modification of structures by means of suitable operators" (Brownlee 2007, 2). Based upon the adaptive plans approach, Holland looked at how computers could be programmed to solve problems by specifying not how to do something but what is to be done. His work with CAS led to a specialization of his adaptive plan that resulted in the development of the 'genetic plan,' which led further to the fields of evolutionary computation and genetic algorithms.

Besides Holland, Brownlee identifies several other CAS theorists including Waldrop, who recounted the history and findings of the CAS field and wrote a detailed review of the science of self-organization, adaptation, and complexity; Gell-Mann, who also contributed a seminal text on complexity theory; Arthur, who proposed a new definition of CAS, as studied in economics, which is comprised of six properties; Dooley, who condensed the definition of CAS; and Levin, who distilled the work of Holland and Arthur to three essential aspects (Brownlee 2007).

Jones, in his review of CAS within the social sphere, warns understanding and describing complex social systems is a real challenge for those of us embedded in European or North American cultures. He argues that, "there are epistemological assumptions so deeply embedded in these cultures' education and worldview, that one is not even generally aware of them." By epistemological assumptions, Jones is referring to the foundations of knowledge within European and North American

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cultures. These are cultural inheritances that are taken for granted as truth prior to attempts to de-construct them. As they relate to the derivation of CAS theory, "… the assumptions are as follows: 1) every observed effect has an observable cause; 2) even very complicated phenomena can be understood through analysis, or the whole can be understood by taking it apart and studying it; 3) sufficient analysis of past events can create the capacity to predict future events" (Jones 2003, 1). Essentially, these assumptions form the basis of the scientific method upon which these cultures depend for rational investigations of natural and artificial phenomena.

Europe and North America tend to lean towards a dependence upon the scientific model, which depends on the ability of sound reasoning and cause and effect analysis to describe natural and artificial phenomena, as the above assumptions state. By virtue of this predilection, these assumptions, then, make the work of understanding and dealing with complexity difficult for several reasons. Firstly, in CAS, not every observed effect has a clearly definable and observable cause. Though a scientist may postulate a definable cause, the unpredictable nature of the CAS may make it impossible to replicate the cause and effect relationship. Second, because the whole is greater than the sum of its parts in CAS, taking a system apart and analyzing those parts is not sufficient to understand the system. Finally, future events cannot be predicted accurately by studying past events within a CAS because CAS do not act in predicable ways (Jones 2003).

Though these assumptions have been extremely effective in cultivating our understanding of the physical world, they have been less than effective in shedding light on how human communities interact and behave. Though the field of social science has

devoted most of the second half of the 20th century to applying these principles to human phenomena, little progress has been made through this framework. This is because human behavior, unlike widgets in a machine, is not predictable. A new tool to study phenomenon within and between human and non-human communities is needed. That explains why numerous theorists across multiple disciplines are turning to complexity theory for frameworks that will allow them to pierce the surface of phenomena that defy traditional means of analysis (Jones 2003).

Complexity science, an area of science formerly termed "chaos," developed as the limitations of this Post-Enlightenment or Modern analytical approach became obvious within the study of physical phenomena. It was during the final few decades of the 20th century that new tools to assist in the overall understanding of complex natural phenomena were cultivated. For example, the study of weather served as an appropriate venue for utilizing new analytical tools because, despite the fact that weather systems are predictable in their general behavior, the minutia are almost impossible to predict (Jones 2003).

In order to better understand CAS theory, it is helpful first to look at systems in general. A system is an aggregation of connected elements that produce a whole where the features of the individual constituents contribute to the behavior of the whole. For example, the human body is an extremely complex system comprised of millions of cells, each serving a different function but all contributing to the behavior of the whole. Other examples of systems can be found in ecosystems, cities, and complex machines such as automobiles and power plants (Jones 2003).

By definition, it may appear that almost anything can be labeled a system. Therefore, it is important to ask, what isn't a system? Items that are grouped together but whose individual behavior does not culminate in the creation of a whole do not constitute systems. A collection of coins, for example, necessarily does not constitute a system because the constituent parts are not linked together to produce a whole that is determined by the behavior of each individual coin (Jones 2003).

To better understand why complex adaptive systems theory is uniquely suited to contemplate sustainability concerns and policy development, it is important to drill down more deeply into the concept of systems. Now that we understand what a system is, it is important to distinguish between two types of systems, determined and adaptive. The extent to which the system response is determined is relevant for this discussion. Even though determined systems may be embedded into complex adaptive systems and may even affect them, it is important to be able to distinguish between the two types of systems and to understand why adaptive systems cannot be served by the same analytical techniques that apply to determined systems.

What is meant by "determined" is the extent to which systemic "inputs and outputs are exactly and reproducibly connected" (Jones 2003, 2). To put it another way, system inputs, when combined in a controlled way, always will produce the same output in a determined system. For example, let us look at the automobile: gas pedal… brake… etc. To produce this collective system response, numerous components and elements of the vehicle also must work in fully determined ways. Because these components work in determined ways, we can depend upon them to perform as

expected. In an adaptive system, however, we cannot count on outputs; therefore, operating the vehicle would be dangerous.

Another reason why adaptive systems cannot be depended upon for their consequent outputs is because the relationship between inputs and the outputs is not linear, as with determined systems. In its simplest form, this means that small inputs will create small outputs and large inputs are required for large outputs. Returning to the automobile example, when the driver presses gently on the brake, the vehicle gradually decreases in speed. Unlike adaptive systems, small changes to inputs cannot lead to large scale, unpredictable changes in outputs. However, within an adaptive system, small and sometimes imperceptible changes in initial conditions can lead to extremely different results. This is why traditional methods of analysis fail to capture the cause and effect relationships within complex adaptive systems. For these systems, as with issues of sustainability, a different analytical tool is necessary, one that does not depend on the ability to isolate a process from external factors in order to reproduce results.

Critique of Harrisonian Sustainable Development Policy Principles

Harrison's analysis of the principle characteristics of complex, or living, systems leads to policy principles for the maximization of survivability and, therefore, sustainable development. He proposes the following five principles: "First, complex adaptive systems have emergent properties. Second, they adapt to changes in their environment. Third, they are dynamically balanced between chaos and order, like life. Fourth, they draw energy from their surroundings to maintain their internal order. Fifth, complex adaptive systems are indeterminate and unpredictable" (Harrison 2000, 104).

It is from these five principal characteristics of complex systems that

Harrisonian Sustainable Development Principles take shape. After reflecting upon these

principal characteristics, Harrison concludes that the complex adaptive systems model

advances towards five principles of sustainable development that result in a resolve to

build social adaptive capacity. The principles are formulated in the following

objectives: 1) the community's needs should be addressed directly and separately from

the needs of individual constituent; 2) adaptation should be fostered by any means

possible, "including deliberate modification of institutions and ideas, to new

information about the effects of human activities on ecosystems and changes to the

values that influence perception of the environment" (Harrison 2000, 110); 3) policy

should balance adaptation with maintaining community; 4) "ecological efficiency

should be optimized" (111); and 5) sustainability policy should remain flexible since

policy outcomes are not predictable. Together, these principles form a robust notion of

social adaptive capacity. "This is the capacity of a human community to adapt to its

(human and natural) environment through ideational and institutional changes while

maintaining social cohesion and collective action" (111). This change in ontology

demonstrates a re-conception of human society and its component communities as

complex adaptive systems, making sustainable development the pursuit of social

adaptive capacity. Harrison calls it both a state of mind and rules for actions.

That complex adaptive systems have emergent properties is in contrast to

mechanistic systems whose outputs can be determined by the characteristics of their

constituent parts. Therefore, unlike mechanistic systems whose behavior can be

predicted, the behavior of a complex adaptive system cannot be predicted and "will

emerge spontaneously from the operation of the system" (Harrison 2000, 105). This is an important distinction for driving home the point that the effects of policy cannot be foreseen. Current policy process based upon a rational model of decision-making tends to assume that goals can be selected and policies devised to reach those goals in a predictable manner. "A rational model of policymaking defines goals from among contending utilities or interests and assesses the costs and benefits of a small range of alternatives" (112). The assumption inherent in such a view is that human communities and ecology are similar to machines in that their behavior is predictable, and the desired outcome can be guaranteed by tinkering with this or that part of the machine. Therefore, selecting interest-driven policy directives cannot lead successfully to sustainable development because the consequences of such a policy cannot be determined prior to enforcing them at a specific time and place in history. As with any CAS, human and ecological systems will be affected in differing ways depending upon the initial conditions at the time the policy is enacted. Furthermore, the policy, once initiated, will have various effects depending upon feedback mechanisms within the system and the degree to which initial conditions change due to the policy directives and the effect they have on the system over time. It is this model that informs each of the three Harrisonian sustainable development narratives. However, conceptualizing communities as living organisms, one can see that each community has needs and requirements that are distinct from the individuals that comprise it, much like the organs in the body have differing needs from the body as a whole. Sustainable development policy, then, should consider individual as well as communal needs. The effects of policy choices, felt on a variety of levels and scales, emerge from the confluence of

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initial conditions and policy directives at a particular moment in time. Since these emergent properties of social and natural communities cannot be predicted, I concur with Harrison that traditional policymaking based upon a rational model fails to fully comprehend the scope, depth, and breadth, of policy choices on policy relevant communities.

Adaptation is concrete evidence of the CAS drive to survive under any condition. CAS find ways to survive and thrive through change, both on the micro and macro levels. Applying these principles to human communities (humans and the communities they form are examples of CAS) means that humans must, and in many ways already do, adapt to their environment, which includes both natural communities and other human communities. "Unlike natural systems, through the interplay of ideas human systems may use changes in internal models (policies) to create mutations, new social forms" (Harrison 2000, 106). In other words, human systems can benefit from reason and the ability to amass knowledge from one generation to the next, and over time, apply those insights gained through learning to ensure the survivability of humanity and, of necessity, the planet upon which human survivability depends. Harrison also stresses that in relation to issues such as global climate change and the energy crisis, adaptation should use precaution rather than wait for scientific certainty. Unlike natural systems that do not benefit from foresight and thus only can react to environmental changes as they occur, humanity is in a unique position to make behavior shifts prior to environmental shifts happening; heretofore only ecological and other systems could respond. Indeed, the natural byproduct of these emergent characteristics of complex adaptive systems is that they foster adaptation. Warnings from

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environmentalists and ecologists, that environmental conditions may exceed the ability of humans and other natural systems to adapt, make the promise of precautionary adaptation through policies that strive to leave open opportunities for adaptive capacity an interesting opportunity. However, I would suggest that this concept be honed to ensure that it does not violate Harrison's first principle regarding the emergent properties of complex adaptive systems, i.e., the inability of policy makers to predict the results of any given policy. How can we ensure that policies designed to create new social forms indeed will have their desired effect if results cannot be predicted?

Self-organization is the third Harrison Sustainability Principle. Since living systems do not exist in equilibrium, they balance adequate self-organization to exist as a system with sufficient disorder to allow for adaptation. Therefore, in a system that is self-organizing, voluntary participation is stressed as important. The equity narrative's endorsement of community participation in decision making, with the emphasis on decision making being kept at the lowest possible level of organization, is valuable here. The reason is that human systems, as with ecological ones, cannot function the same way at every time period in every location. Instead, each point in time and location brings its own set of challenges and opportunities for system viability. Decisions that are mandated from far outside the system may neglect to appreciate fully the nuances that make the system unique and therefore subject to different responses than another seemingly similar system. In nature, CAS respond to conditional changes at the micro level that then lead to shifts at the macro level. Though the reverse, i.e., macro levels shifts changing the micro level, can happen as well, this still is opposite to the top-down approach to change, which, for the most part, is not multidirectional.

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The fourth principle deals with the principle that living organisms are dissipative structures "maintaining themselves by converting low-entropy resources to high-entropy waste" (Harrison 2000, 108). Though this is a natural occurrence, the human footprint upon the natural landscape can be reduced so as to minimize the amount of disorder created by human development. This is especially meaningful since humans manipulate the natural environment in ways that exponentially increase entropy. If human development is to be sustained, Harrison recommends that humans reduce their rate of consumption by 1) reducing population growth, 2) reducing consumer wants and demands, and 3) enhancing ecological efficiency, as suggested through the efficiency narrative (Harrison 2000). However, though suggestions for reducing population growth and consumer wants seem understandable with the context of Harrison's policy principles, the political means by which such changes might be effected remains unclear. In order to address population control issues, Harrison argues for educational measures and the empowerment of women rather than coercion (Harrison 2000). I agree with Harrison's assertion that coercive means "might reduce the social cohesion necessary for effective sustainable development" (Harrison 2000, 108). However, it remains to be seen how effective education and female empowerment might be in curbing population growth. Furthermore, beyond merely promoting eco-efficiency, I argue that fundamental changes must be made within economic systems that are market based and require continual growth on a quarterly basis. This constant push for economic growth fuels the consumption rate that Harrison recommends reducing. Until markets no longer are dependent upon perpetual growth models, consumption cannot be reduced without destroying the fabric of the society that depends upon the market to

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sustain itself. The call to "optimize" ecological efficiency is one that I would temper with an overarching commitment to not allow such an optimization to outweigh adherence to Harrison's other principles, a problem which we have seen clearly in the EPA's sustainability efforts, which have suffered from allowing the efficiency narrative to supersede that of equity.

Flexibility is the fifth and final principle Harrisonian Sustainable Development Policy Principle, which states that policy needs to remain flexible so as to be able to adapt rapidly to new ideas and information. The key for Harrison is that policy should be directed towards the end goal of survivability and not any other special interest because, in the end, outcomes of policy initiatives are impossible to predict. "Even the most scientifically 'perfect' policy may have significant unintentional effects on natural ecosystems or human systems" (Harrison 2000, 109). Maintaining a balance between policymakers making policy decisions that will advance sustainable development and recognizing that goal-oriented policies are not well suited for dealing with complex adaptive systems makes this a nuanced and challenging model to put into practice. Flexibility may be an integral part of this puzzle, since it allows for adaptations and innovation in the face of missteps and unanticipated effects. However, it remains to be seen how flexibility and the ability to be nimble can be manifested in political institutions that often are gridlocked and set in their ways.

Though Harrison does not overtly admit this, his policy principles for sustainable development require a certain amount of prediction on the part of the policy makers. How ought one plan for communal needs without anticipating how they may be affected by a particular policy? Further still, how ought any policy be pursued

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without expecting that resulting conditions will be more in alignment with the goal of leaving open opportunities for adaption?   In other words, it seems that some predictions must be made even if one is aiming for the goal of adaptive capacity. Even though Harrison contends that this approach eradicates these theoretical challenges, many still remain. This will be discussed further in the following section dealing with additional considerations for sustainability. Before that discussion, however, it is necessary to take a closer look at Harrison's five principles for sustainable development.

First, when regarding communities as living organisms, one can see that each community has needs and requirements that are distinct from the individuals that comprise it, much like the organs in the body have differing needs from the body as a whole. Sustainable development policy then ought to consider individual as well as communal needs. The challenge here is how to consider individual and communal needs in the face of an uncertain future. How do we parse out these needs and attend to them so as to ensure that all needs are met?

Second, encouraging adaptation by any means possible indicates that a feedback mechanism is required to assess the effects of human systems upon the over aching macro level CAS and to incorporate that learning into a policy directive that moves forward. Like in the case of considering the needs of both individuals and the community, how ought we move policy forward in light of the constraints of dealing with unpredictable systems?

Third, Harrison notes that it is important within the realm of policy to balance maintaining community with being able to adapt. What does this mean? Human communities often resist change because of how it affects cultural mores and traditions.

Harrison possibly is suggesting that the call for adaptation at all costs ought to be tempered with an understanding of the role of culture within a community and its importance to the vitality and viability of that community. What aspects of community ought to be maintained, what ones can be removed in the name of adaptation, and who ought to decide? Harrison leaves these questions unanswered.

Forth, Harrison points to the importance of optimizing ecological efficiency. He takes this principle from the efficiency narrative, which focuses on better rationing of resources and more efficient means of utilizing them to ensure that their availability is sustained for as long as possible. Again, the ability to optimize depends, in part, upon being able to predict the effects of policy on CAS. Some prediction may be required for this to be a consideration (Harrison 2000).

Finally, Harrison's fifth policy principle asserts the importance of flexibility, given that policy outcomes are not predictable. What this possibly indicates is that Harrison is arguing for a blending of the traditional, top-down approach to policy that is, on the other hand, nimble and reactive in an iterative fashion to system effects. Obviously, Harrison is not arguing for the eradication of policy directive altogether. What he is offering to the sustainability conversation is a fresh perspective, utilizing existing tools and retrofitting a new lens upon the theoretical tools already in existence (Harrison).

Conclusion

I agree with Harrison's conclusion that none of the three narratives adequately conceives of the problem that sustainable development is to solve. His turn to complex systems thinking for a basis by which we may build policy principle for sustainable

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development is an apt one. The main concern Harrison voices about the three policy narratives is that they are all goal-oriented in approach and assume, in the modern tradition, that humans are rational and that the world can be understood through reason. What makes this claim dangerous is that societies are more like complex adaptive systems where no one can be certain of the effects of goal-driven policy. Only until a policy is instituted and then analyzed for its efficacy can its true consequences be assessed. However, it is the mechanistic view of human and natural systems that governs the three policy narratives surrounding sustainable development. When human society is seen as a machine, policymakers and theorists assume that social goals can be chosen and achieved first by predicting the effects of policy and then by fashioning the policy towards a desired outcome. Viewing natural and social systems as complex adaptive systems (CAS) provides new insights into solving some of the most challenging environmental problems of our time. The principle characteristics of CAS, that they have emergent properties, adapt to environmental changes, balance themselves between chaos and order, draw energy from their environment, and act unpredictably, serve as the foundation of Harrison's policy principles.

Harrison offers Complex Sustainability and his related policy principles as an answer to the problem of differing, impotent, and often contradictory theories of sustainability. This new direction on sustainability thinking is one that is worth further discussion since it allows policy makers to focus on viability rather than sustainability as the ends of policy directives. The reason this is important for re-envisioning sustainability is manifold. By focusing on viability, the emphasis is placed on leaving open as many options as possible for the most robust opportunity for adaptation and

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survivability in the face of an uncertain future. Contemporary perspectives on public policy creation for sustainable development essentially follow a paradigm in which a social goal is set, which then should be reached by instituting policy intended to secure the ends of that social goal. Instead, what Harrison offers is a method of securing the greatest chance of survival by ensuring the most robust opportunity for adapting to a changing world whose eventuality cannot be known and predicted from the outset. This discussion veers from Harrison's view in that, though Harrison contends that his construction of sustainable development is free from "modern concepts of truth, universality, and reason-driven progress" (Harrison 2000, 102), viability is in fact a policy goal and leaving options open is in fact a means by which to obtain that goal.

The essence of Harrison's message that survivability in the face of an ill-defined future ought to be the focus of sustainable development policy is the foundation upon which a new conceptualization will be discussed. While Harrison is on the right track with his argument that CAS theory offers important insights for sustainability policy, some crucial considerations are missing from his analysis; these considerations will be discussed in chapter five. Most importantly, even though Harrison discussed ethics, what is missing, to a certain extent, from his discussions is an ethical notion that allows for human will to be inserted into the equation of a biological systems-based approach to survivability. This ethical component addresses the potential survival of the fittest mentality that otherwise might infiltrate a theory based on how natural systems either adapt as a whole to changing conditions or die out.

Together, Harrison's principles form a robust notion of social adaptive capacity. What these amount to is enhanced social adaptive capacity, or "the capacity of a human

community to adapt to its (human and natural) environment through ideational and institutional changes while maintaining social cohesion and collective action" (Harrison 2000, 11). I argue that this view, though a step in the right direction, takes for granted that enhanced collective action through social cohesion aided by participation in policymaking is enough to ensure a just system. Harrison contends that human communities can mirror complex living systems by balancing flexibility with retaining the emergent properties that spring from the interaction of communities that make them more than merely the sum of all individuals. Though he advocates for precautionary adaptation and the use of policies to foster new social forms, tools that do not exist in natural complex systems, Harrison seems to gloss over how relationships of power inform the dynamics of complex social systems and that those relationships have subverted narrative aims towards those proposed in the efficiency narrative.

In chapter eight, I conclude this project by reviewing my findings from all three case studies and presenting Just Sustainable Viability that extends Harrison's sustainable development policy principles with a more robust ethical component.

CHAPTER 8

BEYOND SUSTAINABILITY POLICY PRINCIPLES

Introduction

In the preceding analyses, I looked at the three Harrisonian Sustainable

Development Narratives and applied them to three case studies of communities of

meaning where each represents the views of one of the narratives. In this chapter, I

review what has been learned from applying the theoretical lens of Harrison's

sustainable development narratives to the three case studies analyzed, critique

Harrison's sustainable development policy principles, and present Just Sustainable

Viability as an alternative that extends his principles by including distributive and

procedural justice considerations.

Efficiency

In order to reduce the consumption of natural resources and improve the

standard lifestyle for all, the Harrisonian Efficiency Narrative offers the promise of

increasing eco-efficiency through markets. Technological innovation is seen as the

answer to some of our most challenging environmental problems. A premium is placed

on eliminating external influence on the market, regarded as the best means of

manifesting the technological changes necessary to address sustainable development.

When the efficiency narrative was applied to Business Roundtable, several

saliencies were identified. In keeping with this narrative, Roundtable stresses the

importance of free market forces, voluntary participation, and technological innovation in sustainable development efforts. That Roundtable supports policies that encourage the adoption of the market metaphor in this way is problematic because "the market efficiently allocates those goods that it recognizes: goods and services subject to private property rights." Markets are made possible by virtue of enforceable property rights, which are protected by government. However, markets fail when property rights elude adequate definition or enforcement. This poses a challenge for utilizing market forces for sustainable development because "markets fail to provide collective goods and encourage overuse of open access sources and sinks" (Harrison 2000, 23). The former is true because corporations do not produce anything without a profit motive, making the provision of collective goods a for-profit exercise. The latter is true because when companies conduct business, as demonstrated by Roundtable, open access resources and sinks, also known as waste disposal, are not calculated as real costs and therefore are not taken into account. As seen in the letter to President Clinton written by Robert N. Burt, then Chairman of the Business Roundtable Environment Task Force, and discussed in chapter four, political lobbying thwarts any government attempts either to internalize these costs or to require companies to be accountable for polluting waste and for the overuse of natural resources that are not yet privatized, like water.

Roundtable's commitment to "vigorous economic growth" (Business Roundtable 2006, par. 1) is counterintuitive to sustainable development concepts that stress the importance of cultivating what is sustainable. Based upon a commonsense understanding of physics and the recognition that growth cannot continue unchecked indefinitely, any approach to sustainable development founded upon a model of

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continual economic growth misdirects policy. In the name of economic growth, such a model encourages the sort of consumption that has created the problems sustainable development is attempting to address. Roundtable makes the connection between economic growth and environmental protection by reminding us that without a strong economy, society would be too focused on satisfying basic needs to worry about environmental issues. However, Roundtable does not take that connection further by recognizing that, without the unchecked economic growth fostered by an ideology of consumption, there would be few, if any, environmental problems to solve. This part of the equation appears to be a blind spot for proponents of the efficiency narrative. This is not surprising since members of this community of meaning are businesses and business people whose livelihoods are dependent upon the quarterly growth of revenues and profits.

Also reflective of the efficiency narrative's ideology of unchecked economic growth are the externalities of that growth, which commonly are born by those communities that do not directly benefit from that economic growth. "Externalities occur when a production operation causes others to bear a portion of the full social cost of production." The controversy around global climate change exemplifies this tendency. Within the global climate change debate, industrial producers emit greenhouse gases, which constitute "the cost-free consumption of a sink by a producer." Roundtable, with the top corporations in the United States as its members, at first questioned the science behind climate change claims, but once climate change science became more accepted by the mainstream, it then embraced the notion while at the same time arguing that reductions in greenhouse emissions should be voluntarily

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pursued, not governmentally imposed. Again, in the letter to President Clinton, Burt advocated for voluntary and market-driven approaches that do not involve regulatorily imposed GHG caps nor predetermined timetables. (Burt 1997) However, I agree with Harrison when he argues that "externalities will be reduced (and open-access sinks retained) if polluters are motivated to include the full social cost of production" (Harrison 2000, 27). This idea is not one that proponents of the efficiency narrative support. Instead, they would prefer to receive economic incentives to voluntarily participate in emissions reduction strategies. The last thing these large corporations want is governmental emission regulations, caps, or restrictions that come with financial penalties for non-compliance. That is because such restrictions and threats of penalties curb the exponential growth these companies promise shareholders.

Since the way to address this problem, according to Roundtable, is through voluntary measures and the development of GHG reducing technologies, Roundtable touts the voluntary sustainability efforts of its member companies in its 2009 Progress Report "Commitment to a Sustainable Future" (Business Roundtable 2009c). However, it is unclear exactly what the incentive for companies to voluntarily reduce their emissions would be sans regulation. Public relations (PR) opportunities around the sustainable development brand could be one motivator. Outside of that, given the market metaphor upon which the efficiency narrative is built, either market forces would have to signal a demand for sustainable practices on the part of companies from which consumers purchase things (difficult at best since products often are produced in piecemeal by companies all over the word and the practices of these companies are hard to track) or it would have to be more cost effective for a company to chose a sustainable

practice over a less environmentally friendly one. In the case of greenhouse gas sinks, it is doubtful whether either of these two factors would motivate a change in behavior. One reason is because companies that dump toxins into the environment at no cost are unlikely to find a bottom line benefit for paying for that externality or for investing in technologies that reduce emissions. Secondly, the companies that produce these emissions often are primary producers of energy or raw materials and thus have little to no direct interaction with the public who hypothetically could demand higher emissions standards via the market. Instead, these emitters often sell their products to companies, also motivated by the efficiency narrative, which would prefer to reduce their costs by purchasing raw materials and energy at the lowest possible cost, emissions or no emissions. Corporations have no morals and decisions typically are based upon purely economic models. Though there are a few exceptions to this rule, as the idiom goes, "it is business, not personal."

What Roundtable members do invite, however, are tax incentives that encourage investment in technologies aimed at sustainable development. They urge policy makers to incentivize businesses to develop technologies to address sustainable development needs. This seems counter-intuitive to Roundtable claims that free market forces alone will be enough to spawn the type of technological advancements necessary for dealing with such challenges as slowing global climate change or replacing finite energy sources with renewable ones. If the market alone truly was able to handle this problem, why would Roundtable members ask for governmental incentives? This phenomenon casts a shadow of doubt on the efficacy of the market to redirect corporations and entrepreneurs toward sustainable products and processes without the guiding hand of

governmental intervention. Roundtable so much as asks for that intervention, as long as it is neither punitive nor mandatory in nature. Roundtable does welcome, however, monetary incentives and governmental programs aimed at supporting technological innovations for sustainable development. For some reason, those sorts of government interventions in the market are welcomed, not condemned.

This analysis shows that purely market-based approaches to sustainable development are doomed to fail. They neglect to appreciate fully the problem sustainable development is trying to solve. In many ways, the market mechanisms that the efficiency narrative expects to save us are really the cause of the problem in the first place. Unchecked growth is not sustainable when one has finite resources and only one planet upon which to live. Sustainable development also cannot be pursued without technological advances and development within lesser-developed countries. The role of the market both in perpetuating the problem and in finding the opportunities to help solve the problem should be considered. Market regulations and the development of appropriate tax structures to encourage sustainable behaviors and discourage non-sustainable ones ought to be pursued. Harrison suggests the same regulatory changes that I support: "First, products and services could be taxed based on their natural goods content. Second, consumption could be directly taxed. Third, marketable quotas and permits for natural goods usage could be assigned to producers" (Harrison 2000, 24).

These sorts of measures would discourage consumption and encourage technological innovation through quotas and permits for producers. Further, I advocate for a complete overhaul of the tax structure so that individuals and businesses are taxed

on consumption, not penalized for income. While Harrison seems to allude to this as well, he does not state it directly.

Equity

The Harrisonian Equity Narrative considers the problem of sustainable development to be one of the equitable distribution of resources and proposes global governance and authoritative resource allocation as the solution. Distribution is to be pursued so as to reduce the impact of resource limitation on communities. This narrative, therefore, is political in nature and the resolution of social and environmental challenges pertaining to the sustainable development struggle are seen as requiring political interventions (Harrison 2000).

When the Harrisonian Equity Narrative is brought to bear upon the EPA's sustainable development efforts, several saliencies were identified. Unlike corporations that define the goal of sustainability as increasing shareholder and social value while reducing industry's use of resources and curbing negative impacts to the environment, the EPA aligns itself with a public policy perspective, defining "sustainability as the satisfaction of basic economic, social, and security needs now and in the future without undermining the natural resource base and environmental quality on which life depends" (U.S. Environmental Protection Agency 2010, par. 4). This view seeks to address ecological limitations via political means through the assertion of power and authority. Inherent to the challenge faced by the EPA as well as other proponents of the equity narrative is the "tension between individual liberty and effective communal action" (Harrison 2000, 58). Though authority is a necessity for sustainable development, as seen in the efficiency narrative where voluntary programs neglect to

yield consistent and dependable results, "rational choice, the dominant approach in political science […] cannot explain and may actually inhibit the political processes necessary for sustainable development" (61). This is because this model assumes that all human choices are motivated by self-interest and derived by weighing the costs and benefits of any given course of action. However, like complex systems thinking suggests, far too often political decision-making is more complicated than the model allows.

The sheer complexity and diversity of problems associated with human societies facing ecological limits leads many theorists to suggest that it is necessary to place collective needs above those of individuals. What often is proposed as a solution is "a technocratic state or technocratic/environmental elite" that is prepared "to make tough and technically complicated decisions of which democracy is incapable" (Harrison 2000, 52). The experiences of Bryan Norton at the EPA exemplify the challenge of depending upon an environmental elite to solve environmental challenges objectively. In the case of the EPA, political motivations facilitated the artificial separation of values from scientific inquiry, making it impossible to get beyond old status quo models of risk assessment. The old models neglected to address ecological risk assessment requirements because they had as their foundation a privileging of human health and well being that remained a blind spot of the political players at the EPA. Risk assessors, when faced with a challenge requiring them to make determinations about ecological values, failed to recognize that they had been making value judgments all along and because of EPA mandates, they were unable to fill the vacuum where the taken-for-granted value of human health once resided. Those mandates created an artificial

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separation between risk assessment and risk management while at the same time insisting that the entire process be a value-free endeavor, driven only by pure science.

Here, the structural problem resides in the fact that policy directions commonly are supported by objective science, which is supposed to be value free. This is what allows policy makers to justify policy directions and the financial investment of taxpayer dollars to support them. These political decisions sabotage progress towards sustainable development because they force an unnatural separation between science and the values that ought to inform sustainable development policy. As illustrated by Norton's time at the EPA, science alone cannot and should not drive policy because "science can never tell us what we should do; at best it will be able to identify the ecological effects of certain specific local actions, or of inaction" (Harrison 2000, 14).

Blind faith in scientific data directs the EPA towards policies that it believes to be value-free. However, value judgments already are inherent to the work of risk assessors, though often they fail to see these values. What's more, a valuing of ecological and social systems actually is necessary for devising sustainable development policies. Without it, there is no way to determine what should be sustained.

Ethics

The ethics narrative, understood as a problem of consciousness, offers a change in consciousness as the solution to the challenge of sustainable development. "The ethics narrative reflects the holistic, systematic logic of ecology, that humans are an integral part of a single system of nature or of life and have no hierarchical position over nonhumans." The narrative restates the problem of sustainable development as

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one of the "health of the systemic whole greater than the needs of humanity alone" (Harrison 2000, 81).

Peterson's ethical anthropology opposes Harrison's claim that the ethics narrative "offer[s] no foundation for a mass political movement" (Harrison 2000, 95). Pointing to the history of world religions as exemplary of the power of ethical systems to transform societies, Peterson makes salient a shortcoming in Harrison's analysis. While Harrison contends that minds cannot be changed on a large scale without "political activism (an obvious means by which to make whole-sale changes in social values)" (93) and that such political activism "is opposed to the individualism implicit or explicit in each theory" (93) within the ethics narrative, the phenomenon of the transformative power of religion begs to differ. This is why, Peterson argues, an investigation of what makes efficacious ethics effective is needed if religion is to aid in sustainable development efforts. Peterson urges us to analyze "the internal elements, structure, and dynamics of religious ethics generally, as well as to understandings of nature in particular" (Peterson 2001, 17). By highlighting the transformative power of religious ethics in effecting global changes, Peterson challenges Harrison's conclusion that the ethics narrative offers no real means by which change can be enacted on a scale meaningful enough to contribute towards sustainable development.

Critique of Complex Systems Thinking and Harrisonian Policy Principles for Sustainable Development

Harrison's conclusion that none of the three sustainable development narratives adequately addresses the challenge of sustainable development leads him to consider complex systems thinking as it relates to the complexity inherent to the confluence of

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social and ecological systems. He shows how viewing social and ecological communities as complex systems implies a lack of predictability, which makes policymaking for sustainable development particularly difficult. Instead of conceiving of sustainable development as an end for which policy can be directed, he argues that system viability is the end for which sustainable development is the means. I agree with Harrison on this assertion and argue that his policy principles are a valuable first step in moving from ineffectual sustainable development narratives towards an approach that better comprehends the problem being addressed.

I argue that the following sustainable development policy principles offer valuable guidance for pursing system viability:

1. The community (the organism that individuals constitute) has needs, separate from those of the constituent individuals, which should be addressed directly.

2. The objective should be able to adapt to new information about the effects of human activities on ecosystems and changes in values that influence perception of the environment, by any means possible, including deliberate modification of institutions and ideas.

3. Policy should balance adaptation with maintaining community, and social cohesion aided by participation in policymaking should enhance collective action.

4. In agreement with the efficiency narrative, ecological efficiency should be optimized […] through appropriate use of market mechanisms [though optimization should not supersede adherence to the rest of the principles].

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5. Because policy outcomes are unpredictable, sustainable development

    policies should remain flexible (Harrison 2000, 110-111).

However, as I argue in the next section, these are not enough. What is missing is a

more robust ethical dimension that extends beyond changing values that color one's

relationship with the environment.

Just Sustainable Viability

In chapter seven, I explored the alternative to Harrisonian sustainability

narratives proposed by Harrison; namely, Complex Sustainability. Though I contend

that Harrison is on the right track in applying complex adaptive systems thinking to the

challenge of sustainable development, I argue that his policy principles for sustainable

development lack a robust ethical component. I maintain that this component is

necessary for the construction of a sustainable development process that optimizes

adaptive capacity. To address these shortcomings in Harrison's Complex

Sustainability, I offer a revision of his policy principles that takes ethics beyond the

mere recognition of the importance of a change in consciousness regarding human

interaction with the environment.

For Harrison, the ethics narrative indicates "the holistic, systemic logic of

ecology, that humans are an integral part of a single system of nature or of life and have

no hierarchical position over nonhumans" (Harrison 2000, 81). However, I contend that

the ethics narrative does not necessarily espouse this sentiment. The crucible of ethics

and sustainability and its implications extend far beyond this singular ideology. For

many, sustainability ethics is not about humans having no hierarchical position over

non-humans. In fact, the call for what may be deemed an environmental ethic, such as

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in the work of Aldo Leopold, often stems from the responsibility that humans, by virtue of their ability to act ethically in the face of environmental questions, have towards nature. Whether this implies a hierarchical position of man over nature is irrelevant. What is relevant is that humans have the capacity for ethical behavior. Coupled with a position of power and supremacy that has an undeniably profound effect upon the environment, humans have the potential to affect ecological and human communities. Because of that fact, humans have an ethical responsibility. Whether or not we think of ourselves as above nature, we cannot escape the reality that we are, in fact, in a position of power over nature in many respects. We can choose either to leverage that position for further unquestioned dominance or to take responsibility for our actions and our influence over natural and human communities in a way that is ethically permissible.

I argue that this ethical responsibility extends not only to the environment but to us and to future generations as well. As Harrison's more recent work in resilience and adaptive management strategies contends, social systems and ecological systems are different in several meaningful ways. Complex human communities, replete with advanced governing structures, dominate nature and natural processes through artificial means (Harrison 2003). Based upon my analysis, I conclude that none of the three Harrisonian sustainability narratives adequately conceives the problem sustainable development is proposing to address. The saliencies illuminated by applying Harrison's framework to the case studies presented for each narrative offer opportunities for reconceptualizing sustainable development so that it can better serve policy development. I agree with Harrison's conclusion that sustainable development must be reconceptualized and we should model "human society and its natural environment [as]

complex adaptive systems" and sustainable development as a means by which one can "maximize robustness, or survivability, in the face of an ill-defined future" (Harrison 2000, 104).

What is missing from Harrison's new conception of sustainable development as facilitated by a complex adaptive systems model is an ethical component to elevate his discussion from one dealing solely with the survivability of human and ecological communities to one that contemplates the role of higher level human capacities for justice and fairness as they relate to the evolutionary adaptability of the human society organism. As nature does not account for the circumstances of an organism's birth, Harrison's complex adaptive systems model does not consider the degree of preparedness each member of the human community brings into the system. If the sole end of the complex adaptive systems is to keep options open to maximize the potential for survivability, then individual humans born at a disadvantage may be externalized in the attempt to reach the goal of building social adaptive capacity and therefore receive none of the fair and just opportunity afforded to them under contemporary notions of distributive justice. By virtue of their birth circumstances, each individual will come into the world with a certain social adaptive capacity. Though this capacity may change over time, factors such as genetic make-up, culture, social mores, and socio-economic background all contribute to an individual's social adaptive capacity. Therefore, Harrison's argument benefits from including an ethical framework that turns to notions of distributive justice to even the playing field for developing social adaptive capacity and therefore sustainability through system viability. Distributive justice ought to be an essential aspect of sustainable development, one that extends Harrison's conception of

the complex adaptive systems model though the insertion of notions of distributive and procedural justice. They even the playing field for human players within the overall system and serve as the missing pieces of Complex Systems Thinking for Sustainable Development.

To justify these two principles, it is important that I provide some background on why these two principles are a necessary addition. Since many events such as birth class, status, sex, etc. are out of our control, any system that looks to merit alone in determining the fair distribution of resources neglects to consider that the playing field for cultivating the character, skills, and abilities necessary for claiming rights to a certain distribution of collective goods and products is unjust. "And because our 'personal characteristics' are so shaped by society, because we have so little control over them, they must be set aside when considering principles for a fair distribution of goods." Therefore, a just distribution must be prefaced with ensuring that all members of society have the basics necessary for growing their skills to contribute to society, once they have matured. "If our talents and moral energy are really just products of our society, then it is silly to hold us, as individuals, responsible for having them or not having them" (Fleischacker 2004, 112). This ought to be an essential aspect of sustainable development, one that extends Harrison's conception of the complex adaptive systems model though the insertion of notions of justice that even the playing field for human players within the overall system and leads us to Just Sustainable Viability.

Until recently, distributive justice primarily was considered the arena of justice that deals with merit and the fair distribution of products or money as it relates to the

relationship of one's contribution toward them. However, recognizing that not all individuals commence life on an equal playing field, some contemporary theorists have re-envisioned distributive justice to mean a fairness that precedes merit, one that takes into consideration the circumstances of one's life that gives them either an advantage or a disadvantage in earning merit. For the purposes of this discussion, we will extend aspects of the theoretical framework borrowed from the environmental justice movement by adding to it a notion of distributive justice and its practical counterpart, procedural justice. These enrich the conversation by adding key elements missing from the environmental justice movement, including a deeper understanding of fairness and equity, a method for determining what is fair, and a theoretical framework for ensuring the process of achieving a just end also is just in its means to that end.

Why is justice important to a discussion of sustainability? Michelle Maiese of the Conflict Research Consortium, University of Colorado, Boulder, sees fairness and justice as principles that one can consider to be rules of "fair play" (Maiese 2003e, par. 4) for social justice issues. Maiese explains that, "whether they turn out to be grounded in universal laws or ones that are more context-bound, these principles determine the way in which the various types of justice are carried out" (par. 4). Because social justice necessitates that individuals "play by the rules" (par. 4), there are different forms of social justice that inform both the formulation of fair rules of engagement and the consequences of failing to play by those rules. Distributive justice, for instance, determines what can be considered a "fair share" (par. 4) of the public assets. In turn, principles of restorative, or retributive, justice inform responses to actions that violate

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societal rules of "fair play" (par. 4). Indeed, if human development ever is to be considered just, rules of fair play must be established and followed (Maiese 2003e).

Justice is of central importance to a healthy, functioning society. Because of this, it also is a critical component of a sustainable one. Maiese explains that ineffective or ineffectual principles of justice undermine a society's confidence in social institutions. Injustice is not sustainable because injustice leads to alienation and, finally, to rebellion. Such an environment of instability does not allow for the time and attention necessary for addressing environmental and social justice concerns. Instead, environmental and social conditions are certain to worsen in an unstable society where individuals and nations are pitted against each other for the few remaining natural resources and political power required for survival.

Indeed, societies where resources are distributed unfairly tend toward social unrest. "When people have a sense that they are at an unfair disadvantage relative to others, or that they have not received their fair share" (Maiese 2003e, par. 8), Maiese explains, "they may wish to challenge the system that has given rise to this state of affairs" (par. 14). Symptoms of social unrest more likely are to be found when there are significant discrepancies between the "haves" and "have-nots" and some basic needs are not being met. A society often will be more stable when principles of justice are applied effectively. This stabilizing effect, then, contributes to society members feeling more secure and satisfied. Maiese argues that, "one measure of fairness is whether society members believe that authorities are concerned with their well being and needs" (par. 4). Society members are more likely to get involved in the greater social system

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when those in authority consider their points of view and attempt to treat them fairly (Maiese 2003e).

Therefore, justice must be addressed in order for a social system to be sustainable and healthy enough to focus on environmental concerns and protecting the interests of current and future generations of humans. In this section, we first will look at distributive justice as it has evolved from merely a matter of giving someone what he or she has earned to a theory that requires one to ask about the initial conditions that precede and inform one's ability to contribute. We will focus on the distributive justice offered by John Rawls, who invokes the veil of ignorance as a theoretical tool for determining a fair system for all players involved, regardless of their social standing. To this, I layer on a view of procedural justice that will ensure one can carry out predetermined rules fairly to facilitate a just outcome.

Like distributive justice, procedural, retributive, and restorative justice also have principles of justice and fairness as their central tenants, which are impartiality, consistency, standing, and trust (Maiese 2003d). These principles are supposed to guarantee processes and procedures that effectuate reliable, consistent, and unbiased decisions. In other words, the goal is carrying out predetermined rules fairly to ensure that a just outcome can be reached. Maiese stresses that, "fair procedures are central to the legitimacy of decisions reached and individuals' acceptance of those decisions" (par. 9).

The principle of impartiality is critical in ensuring that procedures are fair. This is true in the context of legal proceedings as well as in negotiation and mediation. In either case, any third party carrying out the procedures must be impartial in order to

ensure a just conclusion. In other words, the third party must make an honest, unbiased determination based on appropriate information. Furthermore, the rules themselves also must be impartial so as to eliminate the possibility that they might favor some people over others from the outset (Maiese 2003d).

Maiese points out that, "an unbiased, universally applied procedure, whether it serves to distribute wealth or deliver decisions, can ensure impartiality as well as consistency." The principle of consistency contends that distinctions between one individual and another ought to be rendered from genuine aspects of personal identity, not extrinsic aspects of the differentiating mechanism itself. Maiese puts it another way by saying that, "the institutional mechanism in question should treat like cases alike and ensure a level playing field for all parties" (Maiese 2003e, 13). That is to say, procedures ought to be applied consistently if justice and fairness are to be achieved.

The principle of standing contends that because individuals value their membership in a community, decision-making procedures and societal institutions ought to affirm their status as members (Maiese 2003e). In other words, institutions ought to provide a means by which members can have their voice heard and participate meaningfully in the political process. This principle especially is important for disadvantaged members of a group or society, who ought to be empowered and given a chance to participate (Maiese 2003e). This is essential because, as Maiese notes, "when decision-making procedures treat people with respect and dignity, they feel affirmed" (par. 14). Such affirmation encourages continued participation.

Any attempt at a just distribution ought to be facilitated by a procedure that considers impartiality, consistency, and standing. When applied to Rawls's renewed

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theory of distributive justice, these principles can be seen as guideposts that serve to frame negotiations that take place after the original position, as we navigate the waters of a society that already has set its initial governing principles.

Complex adaptive systems theory looks at the interrelationships between complex ecological and social systems and makes salient the importance of keeping opportunities open for increasing social adaptive capacity in order to secure the most opportunities for systems viability and, in turn, individual survivability. In the same view, a notion of distributive justice as mapped out by Rawls suggests that given the original principle, fairness also requires that there are opportunities for each individual to have individual liberties regardless of arbitrary personal characteristics. In other words, a society that is just leaves possibilities open and does not limit personal liberty in the same way that sustaining complex adaptive systems requires that the potential for means of survival is not limited by eliminating options for adaptation. Since one always cannot foresee the ways by which reducing biodiversity, for instance, may reduce the likelihood of system viability, one ought to work to ensure that as much biodiversity as possible is saved. Just as with an ecological adaptation, room for social adaptation ought to be encouraged. By limiting the potential of individuals because of race, sex, or social class, a society reduces its opportunities to capitalize on the contributions that those individuals might have made, if given a fair shot.

Utilizing complex adaptive systems theory as a way of looking at the challenge of sustainability only takes us part of the way. In looking at the environmental justice movement, which introduces some of the societal challenges of the environmental movement and which a notion of distributive justice that includes a theoretical veil of

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ignorance attempts to address, questions about how one ought to think about oneself in relation to the environment and about one's duty to future generations still are left unaddressed.

Given that our highly developed sense of morality can be used to help us ensure the best possible opportunity for social adaptive capacity, ethics must be considered when framing sustainability through Complex Adaptive Systems Theory to create a new vision of sustainable development, Just Sustainable Viability. As discussed in chapter four, if sustainable development is to be "a state of mind, a way of perceiving the world, not a materially definable goal" then, as Harrison advocates, sustainable development can be seen "as the pursuit of social adaptive capacity" (Harrison 2000, 112). This view is a change in ontology that re-conceives human society and the communities that constitute it as complex adaptive systems. Taking this view, it is important to look at human communities, as Harrison suggests, as well as the entire system that includes the natural and built environment. Since the system also is composed of the ideas and attitudes we have and therefore indelibly marked and molded by them, our ethical notions must be considered when attempting to balance adaptation with maintaining community. Where Harrison sees value in the ethics narrative associated with sustainability lies in the change of consciousness required to make the necessary changes to begin living in accordance with a model for building social adaptive capacity. However, here it is argued that the role of ethics does not stop there. Instead, it has a role to play in leveling the playing field where individuals are dealt more or less of an initial advantage in competing and cooperating in society. Rawls stresses the importance of affording an even playing field to all individuals who, through no fault of

their own, may not be able to achieve through merit what justice would hold for them, if given the opportunity. Therefore, because many individuals are not in a position to earn what might be considered fair distribution of benefits, a justice that precedes merit is required.

Procedural justice also is important because Harrison's principles for sustainable development neglect to consider the means by which those ends are achieved. When looking to build social adaptive capacity there undoubtedly will be many instances where we are forced to consider at what cost we are willing to pursue that end. Therefore, procedural justice is important for ensuring that fair procedures are followed.

I argue that an appropriate next step in the evolution of the concept of sustainable development is to look at the universe and our place in it as complex adaptive systems, with the goal of sustainable development to leave open as much opportunity as possible for social adaptive capacity. However, I extend Harrison's policy principles to include a robust ethical dimension missing from a framework transposed directly from the interdisciplinary field of complex adaptive systems. What I propose is an extension of Harrison's policy principles that includes considerations of distributive and procedural justices by adding the following two principles to his five:

6. Because not all individuals are born into society with the same advantages and/or disadvantages, sustainable development policies ought to consider a Rawlsian notion of distributive justice.

7. Because social systems are subject to authority, unlike ecological systems, sustainable development policies ought to consider notions of procedural justice.

As Harrison does point out, the prevailing environmental of this narrative involves the need to change human consciousness to recognize that the natural environment has a value outside of human utility. What I add to this discussion is the reifying relationship between our ideas about the environment and the environment itself, as discussed by Peterson. It is not enough merely to consider social adaptive capacity, but also total system adaptive capacity and our ideas about the environment that affect our behavior within it and towards it. Also, as Newton shows us, a theory like Harrison's neglects to offer a longer-term vision that takes us beyond our individual lifetimes to our ethical obligation towards future generations.

Conclusion

What I found in common with the efficiency and equity narratives, representing both the political and corporate perspective and both having significant influence on policy formation, is that they are promoting market-based solutions of eco-efficiency and technological advancement. What they blatantly lack is guidance on what we ought to do, ought to value; Bryan Norton's experience at EPA illustrates this. In order to assert authority for making risk assessment and management decisions, EPA mandates a value-free, objective scientific basis for assessing risk. This seemed to work when they only were tasked with assessing environmental pollutants and toxins and their risk to human life. Here the assumed value was that of human life, though scientists and politicians claimed that no value judgments were involved in risk assessment, only hard-science and management decisions based upon hard-science.

Business Roundtable sees sustainable development as a matter of adapting the economy to ecological limits through increasing eco-efficiency and technological

advancement. With no explicit values presented, the implicit value is that of economic growth, shareholder returns, and short-term revenue. After lobbying Congress questioning climate science, they changed their story and admitted that there was a problem to be addressed. They then lobbied for voluntary programs, incentives, and subsidies. Most, if not all of EPAs sustainability programs now are voluntary. That brings into question the commitment of proponents of the equity narrative to its tenets and provides strong evidence for the overtaking of the equity narrative by modes of thinking inherent to the efficiency narrative.

Blatantly missing from the efficiency and equity narratives is a proclamation of values; what ought we do? Mandates, voluntary programs, and incentives may train us in a Pavlovian fashion to do a certain thing. However, they do not naturalize these actions the way that narratives can. Narrative frameworks shape not only ideas but also behavior and communities, often reinforcing the naturalness and correctness of certain ways of living (and, in turn, narratives rest on existing worldviews and practices). This is especially true of ethical narratives. As Peterson illustrates in her call for an ethical anthropology, religious narratives have proven themselves to be particularly effective in guiding moral life. Do I refrain from killing merely because it is against the law? I would argue no. Instead, we often dare not even think of committing such an atrocity because we can come to view it as wrong, unethical, immoral, unthinkable. The value of human life is taken for granted. Why do we not have the same feeling about our planet? Why can we live with ourselves while pursing exploitative practices that destroy our planet, exploit communities and children for short term economic gains?

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Send soldiers to war over political and economic gains? Why are these practices not as repulsive as murder? In many ways they are the same as murder.

Should not the power of narrative for molding our sense of conscience shame us when we exploit resources in the name of short term profits? Our post-modern tendency towards extreme subjectivity has called into question all that we value and left us convinced there are no objective values. I argue that we ought to introduce a discussion of values into the sustainable development narrative. It should feel wrong to act irresponsibly towards each other and the environment.

We must decide what is valuable and what ought to be saved and protected. If we don't chose these values, the efficiency narrative will chose them, with the ultimate value being that of the almighty dollar. I propose that we devise a new narrative to replace the old, one that illustrates how humans are a part of the social and natural complex adaptive systems. One that tells the story of how we cannot live sustainably without ethics, without justice. And we cannot have a just and ethical society without living sustainably and ensuring social adaptive capacity, or the capacity of a human community to adapt to its (human and natural) environment through ideational and institutional changes while maintaining social cohesion and collective action.

Political and economic attempts at attaining sustainability cannot succeed without injecting ethical principles. Incentives and regulations are not enough to turn the tides towards sustainability. In order to protect the environment and ensure that future generations inherit an habitable planet, there can be no choice between ethics and sustainability; they must be equal partners.

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