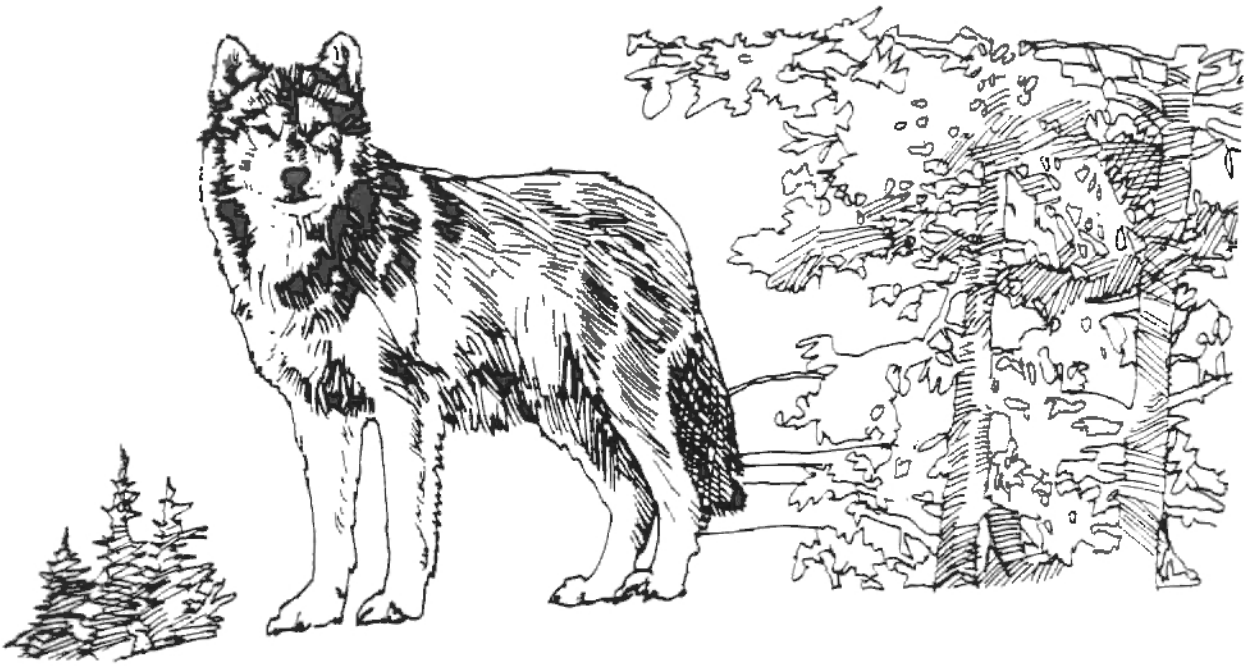

Proceedings of the Fifth Biennial

Conference on Communication and Environment

23-26 July 1999
Northern Arizona University
Flagstaff

Editors
C. Brant Short and Dayle Hardy-Short

Associate Editors
Lea Parker and Richard Rogers

Sponsors
School of Communication
Office of the Provost
NAU Centennial Commission

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Brant Short
School of Communication
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Flagstaff, AZ 86011
brant.short@nau.edu

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Preface

Northern Arizona University served as host to the Fifth Biennial Conference on Communication and Environment, July 24-27, 1999. Approximately 90 participants, representing diverse academic and professional backgrounds, attended the meeting. Conference attendees came from throughout the United States as well as Europe and Australia. The conference was also designated as an official event for the University's Centennial Celebration, which took place during the 1999-2000 academic year.

Papers, presentations, round-table discussions, and lectures reflected the broad areas of inquiry that constitute environmental communication. Technology, advocacy, ideology, and public policy were among the many focal points for conference participants. The breadth and depth of the papers and discussions presented are a testament to the legitimization of environmental communication as part of the academic community. In reading these essays, we were struck by how many of them–in one way or another–deal specifically with the role of logos, pathos, and ethos in our communication about the natural environment. This is not surprising, given that much of our initial writing about this area dealt with rhetoric about the environment. However, many of these essays suggest that–much as we might like to believe otherwise–the natural environment still needs "defenders" willing to argue for it and about it. We have grouped the papers by seven themes (attitudes and public policy, conflict and collaboration, constructing environmental meaning, mediated environmental messages, studies of communication about nuclear power issues, visions of place, and wilderness and its image), but you will discover that many papers share other commonalities that could have made different groupings possible.

A number of special events helped shape the COCE 99 meeting. Bruce Weaver of Albion College presented a lecture at Walnut Canyon National Monument on the historical debate surrounding its creation in the early part of the twentieth century. Environmental journalist Rocky Barker presented the keynote lecture and examined the tensions between objectivity and advocacy that environmental reporters face in their daily work. Brad Ack of the Grand Canyon Trust appeared with several conference participants to discuss the history and future of the Grand Canyon. Christine Oravec and James Cantrill presented an overview of the first COCE meeting (held at Alta, Utah) as well as the conference's evolution through the second (Big Sky, Montana), third (Knoxville, Tennessee) and fourth (Syracuse, New York) meetings.

In preparing the final proceedings of the conference, we utilized a two-tier review process. All papers, abstracts, and panel discussions submitted were reviewed by two scholars to insure an appropriate fit with the orientation of the conference. After the conclusion of the meeting, participants were asked to review at least one paper and suggest possible revisions to the final draft of the manuscript. Although this second level of review was not used in earlier COCE meetings, as conference planners we decided that such a process offered several benefits. Most significantly, the two-tier process provided participants with a refereed manuscript commensurate with other professional publications. At another level, it allowed conference participants to consider feedback from their colleagues as well as dialogue in other sessions as they revised their paper for the conference proceedings. Some conference participants declined to have their papers appear in the proceedings because they utilized other outlets for their work.

The enclosed page of acknowledgments was distributed at the COCE '99 meeting but deserves to be shared with readers of these proceedings.

Thank you for allowing us to host the Fifth Biennial Conference on Communication and Environment. The experience was challenging and educational.

Brant Short & Dayle Hardy-Short
School of Communication
Northern Arizona University

Acknowledgments and Credits

This year's meeting of COCE benefitted from the assistance of many people. We were grateful to have their assistance and support.

Dr. Charles Connell, Provost, for generously agreeing to fund all room and equipment rentals on campus. It is good to have administrators who support and care about faculty efforts.

Mr. Chris Everett, Associate Professor of Photography, graciously donated the image for the conference poster. The image was from work done during his Fall 1997 sabbatical.

Ms. Charlene Franklin, School of Communication Office Manager, performed countless jobs of photocopying, database preparation, and general helper-outer when the planners didn't know how to do something. We are always thankful to have Charlene around—she has great ideas.

Ms. Marion Leonard, School of Communication Business Manager, helped us figure out all the money-type things. She is a treasure and we're grateful for her patience.

Dr. Sharon Porter, Immediate Past Dean of the School of Communication and now Gleeful Forensics Coach, was instrumental in insuring NAU could host the conference. She generously provided a budget for the conference and was very supportive of our efforts.

Ms. Leanne Rumery, Chair of the Communication Studies Division in the SOC—also very supportive of our efforts to host the conference—generously provided funds to help pay for poster production.

Northland Graphics produced the poster, under the expert eye of Kim Molden.

Mr. Mark Davis, the Director of NAU's Centennial Celebration, agreed that the conference keynote was an appropriate lecture for the Centennial, and funded part of Rocky Barker's honorarium.

Mr. Paul Helford, the Interim Dean of the SOC, has enthusiastically supported the conference efforts, and even provided additional funding for the keynote reception.

Ms. Malisa Myrick, a recent graduate of the NAU Speech and English programs, stuffed packets, rolled posters, and kidsat so conference details could be taken care of.

The entire staff of **Sodexho-Marriott**, for preparing and catering all the food, and especially Dodie, Rebecca, and Janet for their careful attention to snack, reception, and meal details.

The **University Union Conference staff**, for setting up and maintaining the rooms (especially Doris and Louise).

Dr. Marsha Yowell, Lecturer in Speech Communication and University Pre-Law Director, for helping out with airport shuttles and moderating.

The reviewers for this year's pre-conference papers and abstracts included: **James Cantrill, Sue Senecah, Lea Parker, Dennis Jaehne**, and **Connie Bullis**.

If there are others we have overlooked, we apologize. NAU has been very cooperative in all areas; it is good to work at a place where Environmental Communication is valued.

Ethical Writing and the Truth in Environmental Journalism

Keynote Speech at the Conference on Communication and Environment
24 July 1999
Flagstaff, Arizona

Rocky Barker
Idaho Statesman—Boise, ID

Roland "Rocky" Barker is the environmental reporter for the Idaho Statesman (Boise) newspaper and a regular contributor to High Country News. He is the author of Saving All the Parts: Reconciling Economics and the Endangered Species Act (Island Press, 1993) as well as The Wingshooters Guide to Idaho and Fly Fisher's Guide to Idaho. He has published articles and editorials in many publications, including the Los Angeles Times, Chicago Tribune, Minneapolis Tribune, Milwaukee Journal, Seattle Times, The Christian Science Monitor, and Outside Magazine.

He holds a bachelor's degree in Environmental Studies from Northland College in Ashland, Wisconsin, and is a fellow of the Knight School of Specialized Journalism at the University of Maryland. Before joining the Idaho Statesman, Barker was the senior reporter in charge of special projects at the Post-Register in Idaho Falls, Idaho.

Barker was the primary researcher for a series of editorials published by the Idaho Statesman calling for the breaching of four dams on the Snake River to save salmon. These editorials won the Dolly Connelly Environmental Journalism Award in 1998. In 1999 the National Wildlife Federation gave Barker its National Conservation Achievement Award for his commitment to conservation. The Idaho Political Almanac named him one of the 100 most influential Idahoans in 1999. Barker has twice been nominated for the Pulitzer Prize for his environmental reporting.

Every writer must recognize his or her audience. He must craft his words so the readers understand and accept his message. If words aren't read, it hardly matters whether they are true or not.

Credibility comes when a writer clearly and regularly presents the truth to the reader. The trick of course is identifying the truth. As a journalist I'm not necessarily privy to the truth. Some writers, ordained by the intensity of their beliefs, know the truth. John Muir, Henry David Thoreau and Adam Smith didn't just seek the truth. They knew it. We journalists don't have that privilege, and that is a blessing.

I am skeptical of most people who profess to know the truth. Adolph Hitler thought he knew the truth. And he was a very good rhetorical communicator.

That doesn't mean I don't believe someone can know the truth. But the old tired journalistic saw still holds: If your mother says she loves you, check it out.

My craft, environmental journalism, is relatively new. It began in the 1960s in the days after Rachael Carson wrote her landmark book *Silent Spring* and before earth day in 1970. Men like Dick Kienitz at the *Milwaukee Journal* writing about pesticides, Michael Frome writing about wilderness for *Field and Stream* and Paul McClennon in Buffalo revealing the horrors of Love Canal.

It remains a controversial segment of the journalism family because we care passionately about the subjects we write about. We have had to fight for credibility with our editors and had to protect it for our readers and ourselves.

We must continually ask ourselves when does caring get in the way of credibility? In many ways we share the challenge community journalists have for decades. As a journalist, by professional standards, I'm not supposed to be a player. Tony Hillerman, the former newspaperman turned Western mystery writer, described our recognized proper role as a fly on the wall to the events we cover, listening, reporting and even interpreting, but not getting involved.

We are taught to write objectively, or at least to have objectivity as a goal. A separate set of journalism ethics has been developed to help journalists reach that goal and to keep themselves outsiders. We are to be independent. We are to avoid relationships that compromise our objectivity. When can we take gifts? Who can pay for our travel? Don't join anything.

These rules, I believe, often erect false walls between the writer and his subjects. As a member of a Gannett newspaper I have to follow a set of these

rules. Gannett's rules are as good as any I've seen. But these are not my own ethics, they are instead a requirement of employment. Ethics are something more personal.

The journalism ethics I follow are for the most part, the same ethics I follow in life—basically respect of human dignity and of the entire life community. The balance I use is the knowledge that no matter how comprehensively I have researched a subject, I may not understand the real truth. I may be wrong, so I have a responsibility to show my readers plausible alternative realities to those I present.

When I wrote *Saving All the Parts* in 1993, I was convinced the way to save salmon was to seasonally draw down the reservoirs behind four dams on the Snake River. Less water would mean faster flows and the young salmon leaving Idaho's wild rivers would reach the ocean faster. This apparently simple idea pushed by then-Gov. Cecil Andrus, had the support of Idaho, Oregon, Washington and the tribal biologists. People I considered the experts. Another set of scientists, from the Army Corps of Engineers and the National Marine Fisheries Service, disagreed. They believed that the current system of aiding migrating juvenile salmon downstream—collecting them at the dams and barging them to the estuary below the final dam, was working fine. And they were skeptical that seasonal drawdowns could be engineered to allow safe passage of both juveniles going down and adults coming back at the same time. Then there were the fall Chinook which migrate in the summer and would not benefit from the drawdowns.

It turns out that both groups of scientists are likely wrong. The latest science, laid out in several peer-reviewed reports from a federal, state, tribal and academic panel, says breaching four dams on the Snake River in Washington may be necessary to save the salmon. None of the scientists are advocating seasonal drawdowns anymore, because the status quo scientists were right. The engineering was tricky and fall Chinook would not benefit. It also would have been the latest in financial black holes that have epitomized the salmon recovery effort in the NorthWest.

The barging advocates still think they're right. And the science, while clear that breaching the dams is the best solution, doesn't rule out that salmon may survive under the current scheme.

My point is today I think I know the solution: breach four dams and the salmon will come back. But I may be wrong. As a journalist I must present plausible alternatives to what I judge to be true.

In 1997 the *Idaho Statesman*, not known as an environmental voice in the West up to that time, came out with a series of editorials calling for breaching the dams. As a reporter, I did the research and helped editorial writer Susan Whaley lay out the case for removing the dams. We showed that economically the state, the region, and the nation would be better off without the dams and with harvestable numbers of salmon.

Our plan also called for setting up a regional forum, restoring spawning habitat, ending fishing for five years while the fish numbers improve, and to quit building hatcheries and spending millions of salmon pork on more studies. My newspaper tried to keep my involvement at arm's length. I don't think they succeeded. And I'm not sure it was necessary.

For many of my colleagues the way to deal with objectivity is to keep their opinions to themselves. They hope that by masking their views, their credibility as objective reporters will be enhanced.

I lost the luxury of hiding my views in 1989, when I became the *Idaho Falls Post Register*'s editorial page editor and again as author and weekly columnist. My readers got proof of what they already knew. I loved wilderness, wildlife and clean air and water.

Despite these revelations, I continue to keep their attention and the respect of people on all sides of the natural resources debates.

When I cover events, such as the recent Edwards Dam removal in Maine, I often hear my own words used to make the case of both developers and preservationists. In 1995, the Washington D.C. Appeals Court quoted my book, *Saving All the Parts*, in its decision on the Sweet Home *v.* Babbitt case about endangered species habitat.

There are other journalists who have chosen a different path. They have become clear rhetorical advocates for the positions they take. Dick Manning left *The Missoulian* in Montana when he could no longer accept the editing he believed balanced his work away from the truth. He has since become a powerful author and essayist whose books, *Last Stand Grasslands* and *One Round River* have become classics of environmental rhetorical writing.

My friend Todd Wilkinson's courageous book, *Science Under Siege*, tells the stories of federal biologists who fought so hard to preserve the integrity of their research it hurt their careers. It's an important book that takes the side of the biologists in scientific and human debates that continue. Like his subjects, Todd has paid a price for the passion in his beliefs, as those who disagree with his view have sought to challenge his credibility.

I have crossed the line more than once myself. In 1994 I produced a publication called *Forestry 2000*, which examined how forestry was changing in the Northern Rockies. This publication printed for distribution in the schools was also inserted into several

newspapers. I had total editorial control. But the timber industry paid for it.

I stand on its reporting today. But I also took a hit in credibility from some readers. I also was able to break through the industry's propaganda machine to present a balanced report on the challenges to protect water quality and to save endangered species to its own workers.

The same year I wrote *Mending Fences*, a report on biodiversity protection in Hawaii for the East-West Center, a government-funded think tank. The Rockefeller brothers paid the bill. I cooperated closely with the Nature Conservancy of Hawaii, a major subject of the report. Once again I retained editorial control along with the East-West Center. The report, which included Nature Conservancy mistakes in dealing with native Hawaiians, did not please them. But they hired me and that presented a clear conflict as serious as the timber industry involvement in *Forestry 2000.*

I have weathered these storms, I believe, because even when I break the rules, I follow my own ethical standards. Ultimately my reporting has been right far more than it has been wrong.

The longer I live in the West, the more I learn about what it means to be an Idahoan, a Westerner, a citizen of greater Yellowstone, the harder it has become for me to live as a fly on the wall, apart from the community in which I live. I no longer feel comfortable talking about them and us.

Aldo Leopold, in *A Sand County Almanac*, reminded us that all ethics rest on the premise that the individual is a member of a community of interdependent parts. Our instincts prompt us to compete for our place in the community, but our ethics prompt us to co-operate, Leopold said. He, and most of us, enlarged the community which we consider to include soils, waters, plants and animals—the whole life community.

But make no mistake: Leopold's community includes the people with which we share this land. I could no more live apart from the community and flourish than a salmon can live without rivers. But my involvement remains balanced by my journalistic ethical standards to be fair, balanced, and tell all sides of an issue.

Being a part of community doesn't mean we don't compete in the marketplace of ideas, resources, and politics. But as a journalist who seeks truth, and knows he doesn't know it, I limit that involvement to bringing the voices of all sides to each other and to the rest of my readers.

My most powerful act of advocacy is to urge all sides to seek solutions, not enemies.

I speak to both sides of the debate with a similar message. Neither environmental, economic nor cultural values will survive if they seek to preserve them with top-down bureaucratic process-oriented federal or in-state control over the lives of every creature in the West. Those who try, whether from the right or the left, will lose not only the political battle but the moral battle as well.

A hundred years ago America completed the war to subdue the Indians of the West and to take their lands. Film-maker Ric Burns said in his series *The Way West*, that the clash between whites and Indians was a collision between two incompatible cultures, visions, and dreams. I have heard many discussions among environmentalists about the incompatibility of cattle on the range or the unsuitability of mining anywhere. Others say wilderness management or protection of biological diversity is inconsistent with their economic well-being.

If they are to make those arguments, then they have to accept the moral imperative that White settlers did in 1846 with the idea of manifest destiny. They are going to have to defeat their neighbors with the same finality the army beat the Indians at Wounded Knee. They also will have to live with the guilt about the people and culture they will replace. And as modern Western history shows, the Indians didn't really disappear.

In north Idaho many logging towns are losing their mills. Unemployment is rising. Communities don't even have enough money to fix up their schools. Meanwhile on the Nez Perce and Coeur d'Alene Indian reservations, gambling jobs are reducing the chronic unemployment that has plagued Indian communities for a century. The Nez Perce gaming businesses generate $50 million into the economy of Lewiston today. The port, which all of Idaho's political leaders are fighting to defend by opposing breaching, only generates $34 million. The most powerful lobbyists in the Idaho Legislature now work for the Indian tribes, not the timber industry.

I believe my dreams of a wild, natural, West and the dreams of many ranchers, loggers, Indians, farm workers and urbanites are compatible. That belief also requires me morally to seek a path that leads to a common future.

We will not protect the West or the world we love on the backs of our neighbors. It's time instead for writers like us to challenge our readers to save the world for ourselves.

I have learned from and continue to learn from the neighbors in my community. From ranchers to loggers, environmentalists and newcomers, I am learning what it takes to be a part of community, yet pre-

serve my journalistic voice. I also learned it from some of the poorest people in the world, in Africa.

Last year I toured Zimbabwe, Zambia, and Malawi and talked to people dominated for generations by chiefs, colonial masters from Europe and lately political strongmen. Recently they began taking the first steps to take control of their lives and their land. Federal governments have restored to villagers power to control the wildlife with which they share the forests and the grassland. They are protecting the elephants, buffalo and lions that still threaten their crops and even their lives. These villagers, many who took part in the frenzied plunder of wildlife that occurred during the unsettled times of the last 205 years, now protect it because they own it. The game, when sold to rich safari hunter, puts money into their pockets.

"The wildlife is ours now, not the government's," said Amon Banda, a tall thin Zambian who chairs his village committee that controls its wildlife. "There are no poachers here now."

These programs are not without problems. In Zimbabwe, where the government's CAMPFIRE, or Communal Areas Management Program, was the pioneer of village-based conservation, some villagers aren't getting the money they earn. Animal rights groups don't like programs that encourage trophy-hunting. They would prefer these programs rely instead on photo-tourism.

The message I came home with is that if both federal and state governments will restore power to local communities to protect their wildlife, they will take this responsibility at least as seriously as managers hundreds and thousands of miles away. People like Amon Banda proved this to me as they belie the myth that people will only protect the environment after they become rich. Just as Western communities cannot depend on corporate fat cats from Wall Street to look out for their interests, environmentalists can't rely on Washington to protect theirs.

Taking this position may hurt my credibility with people on the polarized poles of the environmental debates. And journalists must take seriously their responsibility to include at least the values of all sides in the debate if not every cockamamie idea. This is our role, to walk in both camps. We can see the common threads of hopes, dreams, and interests that neither side can recognize.

We can help them to reach across the ideological canyons and begin working together. I am dedicated to that pursuit, but what of the ethical rules of journalism?

I find solace in the words of Karl Hess, a former speech writer for Richard Nixon and best known for writing the famous words of Barry Goldwater's 1964 nomination speech: "Extremism in the defense of liberty is not vice; let me remind you moderation in the pursuit of justice is not a virtue." After working for Goldwater Hess turned into a libertarian anarchist, organizing a commune and opposing the Vietnam War. In an interview with *Playboy* in 1976 he was asked what the perfect anarchist is. He replied, "A good friend, good lover, good neighbor." The interviewer asked, "that's all there is to being an anarchist?" Hess replied. "What did you expect, a lot of rules? Credibility comes not from making and meeting rules. It comes from acting ethically and telling the truth.

Since I know I don't know the truth, all I can do is to continue that search and bring my reader along with me.

Attitudes and Public Policy

Climate and Catharsis: A Burkeian Analysis of Senate Resolution 98 on Global Warming
Examines how opponents to the 1997 global warming treating crafted appeals that undermined supporters.
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Listening for Voices: The Role of Attitude and Belief in Environmental Communication
Evaluates attitudes and beliefs of stakeholders in the 1998 New York cormorant slaughter.
Nancy W. Coppola 16

Reclaiming the "Indecorous" Voice: Public Participation by Low-Income Communities in Environmental Decision-Making
Examines the political uses of claims to knowledge in public decision-making.
J. Robert Cox 21

Re-Invigorating the Public Sphere, Reviving the Democratic Praxis: Environmental Justice and the Demand for Public Participation
Identifies the assumptions of democratic approaches to participation and outlines the principles of the "participatory ideal."
John W. Delicath 32

Negotiating Messages and Building on Experience: Wildland Fire in Florida's Interface
Describes the development of a local program to educate citizens in dealing with wildland fire.
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Evaluates a method of collecting stakeholder information about land use in Idaho.
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Climate and Catharsis: A Burkeian Analysis of Senate Resolution 98 on Global Warming

Terence Check
Communication Department
St. John's University---Collegeville, MN

Abstract

This paper analyzes the discourse of global climate change, examining the debate that occurred on the Senate floor on July 25, 1997, resulting in the unanimous vote against a proposal to exempt developing nations from some emissions laws. Although it is widely assumed that science provides objective answers to environmental disputes (through computer models which forecast the reliability of the global warming hypothesis), society's perception of environmental problems is largely shaped by rhetorical appeals. Drawing on the work of rhetorical theorist and literary critic Kenneth Burke, this essay examines how opponents to the treaty crafted appeals that successfully undermined President Bill Clinton's position. The paper then discusses whether rhetors can construct successful appeals to mobilize public opinion in favor of policies that address environmental problems with long-term consequences.

Introduction

In his opening remarks to the White House Conference on Climate Change on October 6, 1997, President Bill Clinton stated that the majority of scientists studying global warming had concluded that if the United States did not cut its "emissions of greenhouse gases, temperatures will rise and will disrupt the global climate" (1494). Earlier that summer, Clinton initiated a persuasive campaign to educate the American public about the threats posed by global climate change. The campaign culminated in an international meeting in Kyoto, Japan, in December 1997, where 160 nations met to forge a treaty to combat the greenhouse effect.

In *Earth in the Balance*, Al Gore called global warming "perhaps the greatest danger this country has ever faced." But despite the Vice President's concern about this issue and the administration's public campaign to promote environmental awareness, Clinton "put forward a proposal that was arguably worse than the Bush administration's had been" (Hertsgaard 283). When polluting industries complained with massive advertising and lobbying efforts that the Kyoto proposal placed an unfair burden on the U.S. economy, the Senate responded by voting 95-0 in favor of a non-binding resolution that instructed the Clinton administration not to sign the Kyoto pact if it exempted developing countries from pollution limits imposed on industrialized nations. Any hope of adopting a treaty with meaningful reductions in emissions was ended with the Senate vote.

Given the significance of global warming as an environmental and political issue, it is surprising that few environmental communication scholars have studied this issue. For example, none of the case studies in Muir and Veenendall's *Earthtalk*, or in Cantrill and Oravec's *The Symbolic Earth*, specifically discuss global climate change. Although there has been numerous scholarly work on news coverage of the greenhouse effect, there has been little rhetorical analysis about public appeals and arguments concerning climate change. Yet proposals to alleviate climate change are among the most vulnerable to anti-environmental attacks, given that they ask people to respond to a hypothetical future problem. If ever there was an issue that demanded the attention and skills of environmental communication scholars, this is it.

This essay does not provide all of the answers to the perplexing rhetorical problem of promoting public interest in global warming, but it is intended to raise questions and promote discussion on the issue by examining a pivotal debate on climate change. Using Kenneth Burke's notion of dramatism, this paper analyzes the discourse of global climate change, specifically the debate that occurred on the Senate floor on July 25, 1997, resulting in the unanimous vote against the proposal to exempt developing nations from some emissions laws.

Although it is widely assumed that science provides objective answers to environmental disputes (through computer models which forecast the reliability of the global warming hypothesis), environmental communication scholars argue that society's perception of environmental problems is largely shaped by rhetorical appeals. Increasingly, environmental communication scholars have called for a critique of the

ways in which discourse helps to reinforce dominant ways of thinking. With that objective in mind, this essay first examines Burke's notion of victimage through mortification and scapegoating. Then the essay examines how congressional lawmakers used scapegoating appeals successfully to divert attention from the environmental issues to issues of fairness and equity. The paper concludes by speculating on whether rhetors can construct successful appeals to mobilize public opinion in favor of policies that address environmental problems with long-term consequences.

Catharsis Through Mortification and Scapegoating

The majority of the world's scientists that study climate change believe that increasing levels of carbon dioxide and other gases trap heat from the sun, causing a rise in global temperatures. The earth's average temperature has risen by one degree this century, and scientists on the Intergovernmental Panel on Climate Change (IPCC) predict that global temperatures will further increase by two to six degrees over the next century (Rauber 36). Even if the conservative estimates are correct, there could be significant consequences of global climate change, including vanishing habitats, rising sea levels that could inundate island nations and coastal regions, the spread of disease-carrying insects that follow warmer weather, and a host of other problems. In *The Heat Is On*, author Ross Gelbspan even predicts severe political consequences of a warmer world, since "the threat of climate change challenges the capacities of our governments and imperils the basic processes of democracy" (25).

Currently, the United States is the world's largest emitter of greenhouse gases. American automobiles and industry are producing greenhouse gases eight percent faster than they were in 1990 (Lemonick), and scientists anticipate that the United States will increase carbon dioxide emissions by about thirteen percent during this decade (Stone). Developing nations currently produce less than one-third of greenhouse gases and will account for nearly half of worldwide emissions by 2010 ("Senate Vote"), but historically the United States is the prime culprit for the problem, since greenhouse gases linger in the atmosphere for decades.

Since many countries believe that the United States is responsible for much of the climate problem, there is the potential for widespread guilt in American society. Once guilt burdens a society, people look for ways to cleanse themselves of this pollution. Under these conditions, Virginia L. Holland (1959) points out, "man [sic] feels the need of redeeming himself from this sin which his own inadequate linguistic efforts, his own ineptness in communication, have generated. Consequently, he desires some means of 'catharsis' which will 'stylistically' or 'symbolically' wash away this guilt" (75). Two main options are available to those who are saddled with guilt: they can achieve personal transformation through a process of mortification; or they can seek to displace blame on a worthy scapegoat. Catharsis depends on the successful implementation of one of these strategies.

The process of symbolic or literal self-destruction is one way for people to expiate unwanted guilt. Mortification involves a symbolic or literal killing of the self, sometimes displayed through self-sacrifice. Duncan describes mortification as a "punishment of an 'unruly' aspect of the self. Mortification is never simply the result of 'frustration' from without. It must come from within" ("Introduction" xl). Mortification can involve punishing guilt by allowing the guilty openly to confess the wrongdoing and to symbolically "punish" themselves for it, or there can be self-punishment without a confession. Burke describes mortification as self-inflicted punishment for one's sins, self-imposed and self-enforced restrictions, or "the carrying-out of judgments pronounced, willy-nilly, against the self" (*Permanence* 290). Although mortification results in actual or symbolic "death" of the undesirable principle within oneself, it is different from victimage in that the latter term is more general, including as it does lashing out at others.

Generally, however, people are loathe to blame themselves for a problem. Jerome Davis says that "almost no individual ever thinks of himself as seriously at fault no matter how wrong he is. On the contrary every individual and every group tend to think of their conduct as right" (222). This means that only one form of expiation is left to address the mystery of guilt, and that is scapegoating. Since mortification is so difficult, the urge to find a suitable scapegoat intensifies. Burke contends that the mortified "must, with one aspect of himself, be saying no to another aspect of himself—hence the urgent incentive to be 'purified' by 'projecting' his conflict upon a scapegoat, by 'passing the buck,' by seeking a sacrificial vessel upon which he can vent, as from without, a turmoil that is actually within" (*Religion* 190-91).

Since people tend to find it more convenient and expedient to find scapegoats to blame for their problems, it follows that victimage of others "becomes the central concept in the dramatistic version of action" (Duncan, *Symbols and Social Theory* 258). Allport suggests that scapegoating is a convenient way for society to expiate unwanted emotions: "Guilt feelings arise from the omission or commission of certain deeds. Such feelings may be relieved by blaming others for one's own sins. This projection of guilt onto

others is the classic form of scapegoating. The goat carries our burden of sin" (17).

An understanding of the scapegoat process starts with the Burkeian notion of "identification." Identification occurs generally in two ways: it is a type of association and a type of dissociation. People can develop association by attempting to link their interests to those of others. Identification also occurs through dissociation or antithesis. Burke explains that there are "terms that put things together, and terms that take things apart. Otherwise put, A can feel himself identified with B, or he can think of himself as dissociated from B" (*Language* 49). The process of dissociation as an element of identification is especially prevalent in the scapegoating process. Burke considers the imagery of slaying as a special case of identification, arguing that "the imagery of slaying is a special case of transformation, and transformation involves the ideas and imagery of *identification.* That is: the *killing* of something is the *changing* of it, and the statement of the thing's nature before and after the change is an *identifying* of it" (*Rhetoric* 20).

The process of identification can aid a rhetor in diverting attention from one policy to another. A person can then gain support for a policy by identifying the antithesis of the policy with a hated foe. Burke argues, for instance, that one kind of identification "involves the workings of antithesis, as when allies who would otherwise dispute among themselves join forces against a common enemy. This application can serve to deflect criticism, as a politician can call any criticism of his policies 'unpatriotic' on the grounds that it reinforces the claims of the nation's enemies" (*Dramatism and Development* 28). This is what happens, for example, to environmentalists who urge lawmakers to curtail domestic oil drilling in Alaska. Pro-development lawmakers immediately label such appeals as unpatriotic because they see domestic oil production as a necessary element of "national security." Thus, division provides the basis of identification among people, since their "consubstantiality" is "defined dialectically, by reference to a contrary term" (*Grammar* 372).

Where once people stood consubstantial with a scapegoat, through the process of division they now seek distance from it. People define the scapegoat or the values that it represents as alien, foreign, or unwanted. Such characterizations have the political advantage of unifying people against the principles of the scapegoat. "In the polemics of politics," suggests Burke, "the use of the scapegoat to establish identification in terms of an enemy shared in common is also said to have the notable rhetorical advantage that the candidate who presents himself as a spokesman for 'us' can prod his audience to consider local ills primarily in terms of alien figures viewed as the outstanding causes of those ills" (*Dramatism* 451). There is *division* from the scapegoat, in that people wish to distance themselves from the qualities of the goat, but there is also *diversion* with the scapegoat, in that leaders wish to use the goat to deflect attention from their own dubious policies. By defining the scapegoat as evil, and then distancing themselves from its qualities, people define their own actions as virtuous, if only implicitly so. This allows for the scapegoat to become what Burke calls "the 'essence' of evil, the *principle* of the discord felt by those who are to be purified by the sacrifice" (*Grammar* 407).

The act of re-identification against the principles embedded in the scapegoat concludes the stages of the scapegoat process. The selection of a scapegoat "delegates the personal burden to an external bearer, yet the receiver of this burden possesses consubstantiality with the giver, a pontification that is contrived (where the scapegoat is the 'bad' father) by objectively attributing one's own vices or temptations to the delegated vessel" (*Philosophy* 45). The implementation of the scapegoat technique allows society to absolve itself of its guilt through merger, division, and a new principle of merger.

Given the ubiquitous nature of the scapegoating process, and given the scholarly inattention to this important process, it is important for rhetorical critics to identify and explicate instances of scapegoating when they see them. Duncan elaborates: "If Hitler's death camps teach us anything, it is that we must watch constantly for the emergence of the scapegoat" (*Communication* 127). For society to immunize itself against the misuse of the scapegoating process, critics need to study and explicate this process whenever it occurs. It is particularly essential that critics examine this process when it pervades the discourse on such important issues as environmental protection. "Because the environment has become one of the leading political issues of the 1990s," argue Michael Spangle and David Knapp, "it is imperative that communication specialists analyze the persuasive tactics and appeals" of competing environmental claims so that "polarized and divisive communication" on these issues can be minimized (3-4).

The Senate Debates Resolution 98.

The 1992 Earth Summit in Rio de Janeiro produced a treaty on global warming that President George Bush signed and the Senate ratified. The treaty urged developed nations to reduce greenhouse gases to 1990 levels by the year 2000, but these were voluntary reductions, with no binding limits on carbon dioxide production. The voluntary limits were a failure, in part because the American economy grew faster

than anyone expected in the 1990s, and no politician wanted to slow it down.

In 1995, the United Nations Framework Convention on Climate Change adopted the "Berlin Mandate," which called for the adoption of a protocol that strengthened commitments to limit greenhouse gases by developed nations (referred to as "Annex I Parties") after the year 2000. In July 1996, the Under-Secretary of State for Global Affairs, Timothy Wirth, called for "legally binding" emission limitation targets and timetables for developed countries, a position that President Bill Clinton reiterated in remarks prior to a meeting with business leaders on August 4, 1997, when he acknowledged that there should be "binding limits to emissions of greenhouse gases" (1178) so that real reductions in global warming could occur.

One of the most controversial aspects of the Berlin Mandate was its exemption of developing countries from any new commitments in the negotiating process for the post-2000 period. Since the Clinton Administration was ready to adopt legally binding emission targets as soon as December 1997, as part of a meeting scheduled in Kyoto, Japan, the public relations machines of industry wheeled into action during the summer of 1997. Dan Lashof, a senior scientist at the Natural Resources Defense Council, lamented that a "$13 million disinformation campaign funded by Exxon and other big polluters" had influenced the political debate on climate change, causing many members of Congress to be "either uninformed about global warming, or hostile to taking action, or both" ("Forecast" 21).

In response to industry pressure (although some members of Congress insisted that they were fulfilling the loftier constitutional responsibility of giving advice to the President about treaty negotiations), the U.S. Senate took up a resolution on July 25, 1997, that expressed the sense of the Senate regarding the conditions for the United States becoming a signatory to any treaty on greenhouse gas emissions. The resolution (S. Res. 98), co-sponsored by Democrat Robert Byrd of West Virginia and Republican Chuck Hagel of Nebraska, insisted that the United States should not be a signatory to any agreement which would:

A. mandate new commitments to limit or reduce greenhouse gas emissions for the Annex I Parties, unless the protocol or other agreement also mandates new specific scheduled commitments to limit or reduce greenhouse gas emissions for developing Country Parties within the same compliance period, or

B. would result in serious harm to the economy of the United States. ("Expressing" S8138)

Whether lawmakers realized it or not, their resolution was employing the Aristotelian concept of antithesis, thus reinforcing unification by scapegoat. In his classic essay on the "Definition of Man," Burke states, "antithesis is an exceptionally effective rhetorical device. . . One may find himself hard put to define a policy purely in its own terms, but one can advocate it persuasively by an urgent assurance that it is decidedly *against* such-and-such other policy with which people may be disgruntled" (*Language* 19). By using a scapegoating tactic that diverted attention to the actions of foreign countries, lawmakers were able to accomplish three things rhetorically: first, they recast the debate in terms of rights, not environmental consequences; second, the attention to a scapegoat focused the debate on the immediate economic consequences of the treaty instead of the long term environmental benefits; and third, the scapegoating tactic encouraged the use of metaphors that relied on a *locus* of quantity.

Scapegoating Recasts the Debate as Rights. The scapegoat process worked first to reframe the debate in terms of equity and rights, as opposed to environmental impacts. In the Senate debate, many lawmakers railed against the unfair advantage that foreign countries would have if the treaty were adopted with the Berlin Mandate. Senator McConnell said that it was "important that we not bargain away the economic advantages we have worked so hard to achieve" ("Expressing" S8125). Senator Ford called the proposed treaty "nothing more than a massive foreign aid package paid for with American jobs" ("Expressing" S8118). Even Senators who agreed with the premise of global warming stood up to speak in favor of this point.

Antithesis and division help to reinforce the important diversionary function of scapegoating. Burke makes it clear that "the use of antithesis helps deflect embarrassing criticism (as when rulers silence domestic controversy by turning public attention to animosity against some foreign country's policies). And in this way, of course, antithesis helps reinforce unification by scapegoat" (*Language* 19). By highlighting the supposed unfairness of the treaty, lawmakers were able to direct attention to the immediate consequences of the treaty and frame it in terms of nationalism. If the treaty did not pass with stricter standards placed on developing nations, then those nations could be blamed for inaction since they failed to meet emission standards that the United States was willing to fulfill.

For it to capably bear society's guilt and successfully divert attention from pressing problems, the scapegoat must be powerful. Duncan suggests that the "sacrifice of the ritually perfect victim, in so far as it

affects social order, can then be thought of as a kind of purge. The victim, of course, must be prepared for the ritual role, for only a powerful victim can effectively purge the community of great evil" (*Communication* 125). Burke argues that as "an essence of motivation, the scapegoat is a concentration of power" (*Grammar* 407). The degree of power that society requires of a scapegoat is proportional to the degree of guilt that people must expiate. Widespread guilt requires a powerful scapegoat, so conservative lawmakers invoked a familiar demon during the Senate debate: the United Nations. Fearful of an international police force shutting down American companies, Senator Hagel stated that he was "very concerned about any treaty that would bind our Nation's economy to control by some U.N. multinational entity" ("Expressing" S8116). Urging his constituents in farm country to "wake up," Senator Rogers implicitly suggested that under the treaty, the United Nations would have control over the planting, tilling, and harvesting of American crops ("Expressing" S8122).

While effective in stirring nationalism at the expense of sound environmental policy, the "fairness" argument failed to recognize significant disparities that exist between North and South. While emissions in developing countries are rising, they are still very small in per capita terms. Meanwhile, Americans account for only four percent of the world's population and use twenty percent or more of its energy. Historically, the United States is responsible for a significant percentage of the gases that exist in the atmosphere, since these gases linger there for decades. Most important, poor countries that are saddled with debt and poverty "are in no position to finance energy transitions. It is that simple" (Gelbspan, "Beyond" 22).

"When industry claims there is no global warming," says Daniel Becker, director of the Sierra Club's global warming program, "people think of the tobacco industry saying cigarettes don't cause cancer" (in Corn). Perhaps this is why industry has focused on the fairness issue. But concerns over equity and fairness have actually helped to legitimize the arguments of the handful of "greenhouse skeptics," the minority of scientists who believe that the global warming hypothesis is fundamentally flawed. During the hearings, conservative lawmakers quoted the research of S. Fred Singer, Patrick Michaels, and Richard S. Lindzen. Despite the fact that the work of these scientists has been seriously challenged (by Ross Gelbspan in *The Heat Is On* and in other sources), lawmakers used this evidence to cast doubt on the global warming hypothesis. Anticipating complaints about the quality of this evidence, some of these lawmakers continued to use arguments over fairness as defense against attacks on their evidence. "Contrarians should not be shouted down for the sake of political correctness," complained Senator Murkowski. "Whenever scientists are called out of the mainstream or extreme by a political leader or a journalist, you can bet that an attempted subversion of the scientific method is at hand" ("Expressing" S8135).

Scapegoating Focuses Attention on Immediate Concerns. During the Senate debate, the scapegoating process worked to focus attention on immediate, short-term problems, rather than long-term consequences. By focusing on a group of developing nations responsible for large quantities of emissions (such as China, India, and Mexico), lawmakers were able to individualize the problem. Focusing on a scapegoat allowed people's attention to be drawn to what the criminal has done or is likely to do in the near future. In the case of the Senate debate over Resolution 98, the criminal was China and other developing nations and their crime was stealing American jobs. Claiming that China would surpass the United States as the largest producer of greenhouse gases by 2015, Senator Hagel claimed that it made "no sense at all" to exclude them from binding limits ("Expressing" S8115).

The effectiveness of the scapegoat is enhanced when its victims are cherished. To highlight the tragic economic effects of the treaty, lawmakers noted the consequences it would have for those people who symbolized the American Dream. The treaty would "bankrupt many of our American farmers," worried resolution co-author Chuck Hagel ("Expressing" S8116). It would raise taxes on "the single mother shuttling kids between school and soccer practice," complained Senator Roberts, who went on to claim that the economic burden caused by the treaty would force the United States "to ignore the poor and the hungry of other nations that we have been feeding for tens of years" ("Expressing" S8123). During the debate, nobody mentioned the $25 billion a year that the federal government spends each year to subsidize fossil fuels.

The talk of soccer moms and farmers victimized by unfair foreign competitors worked to divert attention from the consumptive practices responsible for much of the problem. Whether it is used intentionally as a diversionary tactic or not, scapegoating has a powerful ability to deflect attention away from other concerns, helping to maintain the status quo. Marvin Harris provides an historical example of this process in his discussion of the Inquisition, arguing that the principal result of the witch hunts "was that the poor came to believe that they were being victimized by witches and devils instead of by princes and popes" (205). The process allows society to blame the disempowered for a variety of problems. As a result,

the successful implementation of the scapegoating process allows dominant modes of thinking to persist and be perpetuated. In his classic work, *Blaming the Victim*, William Ryan explains, "[i]t is a brilliant ideology for justifying a perverse form of social action designed to change, not society, as one might expect, but rather society's victim" (8). Ryan's theory of "blaming the victim" is not the same as Burkeian scapegoating, but it shares a diversionary characteristic. The process ultimately results in the entrenchment of the way things are. In discussing ancient sacrifices, Beattie says, "[t]he process is cyclic because the end sought is a restoration of a disrupted *status quo*" (36). By diverting attention from pressing concerns, the scapegoating process can enable national leaders to avoid addressing systemic problems that would require difficult choices.

Scapegoating Promotes Metaphors of Quantity.
Metaphoric language is an important aspect of identification. As an example, Burke mentions that there is a difference between an abstract idea like "security" and the concrete image that people create to stand for that image.

"Ideationally, a speaker might have to go through much reasoning if he wanted to equate a certain measure with public security," states Burke. "But if he could translate it imaginally into terms of, say, the mother, he might profit not only from this one identification, but from many kindred principles or ideas which, when approached in this spirit, are associated with the mother-image (or mother principle, or idea of the mother)" (*Rhetoric* 87). Identification, then, can be achieved when rhetors successfully employ metaphors that establish a linkage between their policies and the values of their audience. Metaphors allow people to understand abstract ideas and complex situations.

In the Senate debate over climate change, lawmakers employed several metaphors that highlighted the inequity in the negotiating position of the United States. These metaphors were based on a *locus* of quantity, or arguments based on the effectiveness of a means or the superiority of numbers. In *The New Rhetoric*, Perelman and Olbrechts-Tyteca point out that arguments of quantity form the basis of "conceptions of reason which equate reason with 'common sense'" (86). Indeed, lawmakers took great pains to suggest that their positions best represented common sense. The metaphors that they used reinforced those perceptions.

Lawmakers used two main groups of metaphors —sports and transportation—which are usually measured quantitatively, in terms of points scored or distance traveled. Many senators insisted on an equal "playing field," which presumed that all participants started the game with equal status. Senator Byrd asked for developing nations to "step up to the plate" and agree on emissions reductions ("Expressing" S8117). Many lawmakers insisted that China and other developing countries could not be left "off the hook," implying that American businesses would be prohibitively constrained by the treaty. Comparing treaty negotiations with a dice game, Senator Ford claimed that "developing nations are the high rollers while the developed nations keep coming up with snake eyes" ("Expressing" S8118). Fearing an especially bad economic impact in his home state of Kentucky, Ford lamented, "The way I see it we have been stuck in a game with loaded dice" ("Expressing" S8118).

Transportation metaphors also were prominent in the Senate debate. "The nations of the world are all in this global boat together," said Senator Byrd. "It is not a boat of which only half will sink while the other half stays afloat. Unless we all pull our oars in the same direction and plug the large leaks as well as the small leaks, our ship will flounder and surely sink" ("Expressing" S8117-18). Senator Murray compared the treaty to pulling on one oar, arguing that "you end up going in circles" ("Expressing" S8124). Critical of scientific studies linking human activity to global warming, Senator Bingaman compared legislative action on climate change to traveling down "a wild mountainous road, full of unexpected curves and cliffs." In such a situation, the Senator contended, it was "prudent to slow down until you have a better appreciation of what you are dealing with" ("Expressing" S8131).

Both types of metaphors worked to divert attention from systemic change. The sports metaphors are based on playing a game with a set of rules. To be fair, the rules of the game need to be applied equally to both sides, regardless of the strength of one side. If the game is "loaded," cheaters have manipulated it, making it invalid. Applied to nations, the metaphor of the game reinforces a dualism where two sides are pitted against each other in competition, not cooperation. On the contrary, the transportation metaphors suggest participation on the part of all actors. The road metaphor further suggests caution and incrementalism. Ultimately, both sets of metaphors reinforced the scapegoating process, since they suggested that another party was responsible for either foul play or immobility. The focus of the metaphors was on the failure of others to live up to their responsibilities.

Conclusion

In Burke's dramatistic world view, society is inevitably burdened with guilt because of hierarchical insecurity or because some of its members have violated moral commandments. Since society cannot live with its guilt, it seeks catharsis through victimage, which occurs through mortification or scapegoating. Mortification is the symbolic or actual killing of the self, and is usually only an option when there is no scapegoat available to bear the guilt. The scapegoating process occurs when society places its guilt onto another person, group, or object. People in power often employ the scapegoating process to divert attention from unfavorable policies. Diversion generally occurs when leaders attempt to deflect attention away from one policy by suggesting that the problem is actually created by some individual or group. Once society has selected a worthy scapegoat, people can achieve redemption for their guilt, and the status quo can proceed unaltered.

In the Senate debate over global warming on July 25, 1997, lawmakers used scapegoating tactics to divert attention from issues of consumption and production. One after another, Senators stood up on the floor to proclaim that the proposed climate treaty was unfair to American workers and a threat to the interests of the United States. "The treaty is essentially an attack on America's life style," complained Senate majority leader Trent Lott, summing up Republican opposition to the pact ("Expressing" S8124).

Administration officials attempted to put the best spin that they could on the vote. Under Secretary of State Tim Wirth insisted that the Senate vote "strengthens our hand" at the negotiating table (Cushman). Philip E. Clapp, president of the Environmental Information Center, said, "[t]his is consistent with everything we have called for at the treaty talks" (Dewar). Yet, the Senate vote ended what some environmentalists considered a chance at a meaningful treaty. In the resolution, the Senate asked developing countries to shoulder additional responsibility in combating greenhouse emissions, but the developing countries were looking to the United States for leadership. As one Chinese delegate to Kyoto exclaimed, "In the developed world, only two people ride in a car, and yet you want us to give up riding on a bus" (Hertsgaard 93). The result of the impasse was a weak treaty. In Kyoto, industrial nations agreed to reduce their emissions to only 5.2 percent below 1990 levels by 2012. Most scientists claim that meaningful changes in atmospheric conditions can only occur if greenhouse gas emissions are cut at least fifty percent.

The rhetorical problem highlighted by the Senate debate is significant. Solving a problem such as global warming requires significant sacrifice in the near term in order to offset ambiguous impacts in the long term. Yet Americans (and most environmental groups) are more willing to take action on immediate problems. "Without thick particles floating in the air, without rivers bursting into flames, the issue is more difficult to perceive," concedes environmental journalist Philip Shabecoff. "This is particularly true with an issue like global warming, which you not only cannot see but which will not affect the Earth for decades. How then do you get people to make sacrifices?" (Dowie 250).

A quick look at the agenda of some of the mainstream environmental organizations confirms the focus on immediate threats. The June/July 1999 issue of *Nature's Voice*, a newsletter for members of the Natural Resources Defense Council, highlights three campaigns: the struggle to prevent logging in British Columbia, the fight against a proposed saltworks industrial plant in Mexico, and the effort to keep snowmobiles out of Denali National Park in Alaska. Each of these campaigns features a charismatic animal (the Spirit Bear, the Gray Whale, and Dall rams, respectively) that is endangered by the intrusion of insensitive, greedy, and powerful forces. The problem is easy for people to visualize (pictures of the threatened animals accompany the stories), and aside from some minor adjustments in one's lifestyle (refusing to purchase products from the offending industries), the prescribed action is painless.

On the contrary, global warming is complicated. The burden of proof placed on those urging action is impossibly high, given that scientists cannot accurately predict the effects of warming-induced climate changes in any particular region in the future. The introduction of evidence skeptical of warming, no matter how spurious, becomes reason enough to proceed slowly and cautiously. The problem is abstract, long-term, and there are no victories that can be easily documented. Although people generally support the concept of environmentalism, their support wanes when they are asked to make personal sacrifices. So it becomes convenient to accept the claims of those, like Senate resolution co-author Chuck Hagel, who claim that you can have it both ways. "This is not a debate about who is for or against the environment," insisted Hagel as the Senate debate began. "We all agree on the need for a clean environment" ("Expressing" S8115).

Appeals to self-sacrifice are particularly vulnerable when it can be shown that someone else is taking advantage of your altruism. In reflecting on the chances of a treaty before Kyoto, author Gregg Easterbrook correctly maintained that any agreement "that leads to stories on *60 Minutes* or in *USA Today*

about how American jobs were sacrificed so that other countries could pump out more greenhouse gases will turn the public against global-warming reform" (in "Forecast" 21). A public sour to the environmental movement, in turn, might be less inclined to support other environmental initiatives, as such proposals and their advocates could become vulnerable to charges of extremism and anti-Americanism.

Still, timidity in the face of dangerous environmental threats like global warming is irresponsible. The environmental movement promises to become irrelevant if it accepts market-driven techno-fixes instead of the meaningful systemic reforms that an energy transition demands. While those opposed to environmental reform will continue to present scapegoats as a way of obscuring the debate, environmental communication scholars must be prepared to expose those rhetorical practices and offer meaningful alternatives to the current state of discourse.

Works Cited

Allport, Gordon. *ABC's of Scapegoating*. Rev. ed. Anti-Defamation League of B'Nai B'rith Freedom Pamphlets, 1948.

Beattie, J.H.M. "On Understanding Sacrifice." Sacrifice. Eds. M.F.C. Bourdillon and Meyer Fortes. New York: Academic Press, 1980. 29-44.

Begley, Sharon. "Too Much Hot Air." *Newsweek* 20 Oct. 1997: 48+. Online. Infotrac.

Burke, Kenneth. "Dramatism." *The International Encyclopedia of the Social Sciences*. Vol. 7. Ed. David L. Sills. New York: MacMillan and The Free Press, 1968. 445-52.

—. *Dramatism and Development*. Heinz Werner Series, Vol. 6. Worcester, Mass.: Clark UP, 1972.

—. *A Grammar of Motives*. 1945. Berkeley: U of California P, 1969.

—. *Language as Symbolic Action: Essays on Life, Literature, and Method*. Berkeley: U of California P, 1966.

—. *Permanence and Change: An Anatomy of Purpose*. 1935. 3rd ed. Berkeley: U of California P, 1984.

—. *The Philosophy of Literary Form: Studies in Symbolic Action*. Berkeley: U of California P, 1973.

—. *A Rhetoric of Motives*. 1950. Berkeley: U of California P, 1969.

—. *The Rhetoric of Religion: Studies in Logology*. 1961. Berkeley: U of California P, 1970.

Cantrill, James G., and Christine L. Oravec, eds. *The Symbolic Earth: Discourse and Our Creation of the Environment*. Lexington: UP of Kentucky, 1996.

Clinton, William J. "Opening Remarks at the White House Conference on Climate Change." 6 October 1997. *Weekly Compilation of Presidential Documents* 33.41 (1997): 1493-96.

—. "Remarks Prior to a Meeting With Business Leaders and an Exchange With Reporters." 4 August 1997. *Weekly Compilation of Presidential Documents* 33.32 (1997): 1178-79.

Corn, David. "White House vs. Greenhouse: Will the President Listen to Industry's Hot Air on the Global-Warming Treaty?" *Nation* 13 Oct. 1997: 19+. Online. Infotrac.

Cushman, John H., Jr. "Senate Urges U.S. to Pursue New Strategy on Emissions." *New York Times* 26 July 1997: 8, fin. ed. Online. Lexis.

Davis, Jerome. *Character Assassination*. New York: Philosophical Library, 1950.

Dewar, Helen. "Senate Advises Against Emissions Treaty That Lets Developing Nations Pollute." *Washington Post* 26 July 1997: A11, fin. ed. Online. Lexis.

Dowie, Mark. *Losing Ground: American Environmentalism at the Close of the Twentieth Century*. Cambridge, MA: MIT P, 1995.

Duncan, Hugh Dalziel. *Communication and Social Order*. New Brunswick: Transaction, 1962.

—. "Introduction." 1965. *Permanence and Change: An Anatomy of Purpose*. By Kenneth Burke. 3rd ed. Berkeley: U of California P, 1984. xiii-xliv.

—. *Symbols and Social Theory*. New York: Oxford UP, 1969.

—. *Symbols in Society*. New York: Oxford UP, 1968.

"Expressing Sense of Senate Regarding U.N. Framework Convention on Climate Change." *Cong. Record* 25 July 1997: S8113-S8138.

Flint, Troy. "Audience Hot Over Warming Pact; Business and Labor Leaders Condemn Greenhouse-Gas Treaty." *Plain Dealer* 25 July 1997: 1C, fin. ed. Online. Lexis.

"Forecast: Climate-watchers Offer Opinions on the Conference." *Amicus Journal* (Winter 1998): 20-21.

Gelbspan, Ross. "Beyond Kyoto: It's Time to Think Big." *Amicus Journal* (Winter 1998): 22-24.

—. *The Heat Is On: The High Stakes Battle Over Earth's Threatened Climate*. Reading, MA: Addison-Wesley, 1997.

Gerstanzang, James. "Threat of Global Warming Is 'For Real,' Clinton Declares." *Los Angeles Times* 25 July 1997: A21, home ed. Online. Lexis.

Gore, Al. *Earth In The Balance: Ecology and the Human Spirit*. Boston: Houghton Mifflin, 1992.

Harris, Marvin. *Cows, Pigs, Wars, and Witches: The Riddles of Cultures*. New York: Random House, 1974.

Hertsgaard, Mark. *Earth Odyssey*. New York: Broadway, 1998.

Holland, Virginia L. *Counterpoint: Kenneth Burke and Aristotle's Theories of Rhetoric*. New York: Philosophical Library, 1959.

Lemonick, Michael D. "Courting Disaster." *Time* 3 Nov. 1997: 64+. Online. Infotrac.

Lynch, Colum. "Stormy Weather." *Amicus Journal* (Winter 1998): 15-19.

Muir, Star A., and Thomas L. Veenendall, eds. *Earthtalk: Communication Empowerment for Environmental Action*. Westport, CT: Praeger, 1996.

Natural Resources Defense Council. *Nature's Voice*. June/July 1999.

Perelman, Ch., and L. Olbrechts-Tyteca. *The New Rhetoric: A Treatise on Argumentation*. Trans. John Wilkinson and Purcell Weaver. Notre Dame, IN: U of Notre Dame P, 1969.

Rauber, Paul. "Heat Wave." *Sierra* (Sep./Oct. 1997): 34-41.

Repetto, Robert, and Jonathan Lash. "Planetary Roulette: Gambling With the Climate." *Foreign Policy* 22 Sep. 1997: 84+. Online. Lexis.

Ryan, William. *Blaming the Victim*. 1972. Rev. ed. New York: Vintage, 1976.

Sale, Kirkpatrick. *The Green Revolution: The American Environmental Movement 1962-1992*. New York: Hill and Wang, 1993.

Samuelson, Robert J. "Don't Hold Your Breath." *Newsweek* 28 July 1997: 4+. Online. Lexis.

"Senate Vote on a Climate Treaty." Editorial. *Washington Post* 29 July 1997: A14, fin. ed. Online. Lexis.

Spangle, Michael, and David Knapp. "Ways We Talk about the Earth: An Exploration of Persuasive Tactics and Appeals in Environmental Discourse." *Earthtalk: Communication Empowerment for Environmental Action*. Eds. Star A. Muir and Thomas L. Veenendall. Westport, CT: Praeger, 1996. 3-26.

Stertz, Bradley A. "White House Lobbies Public for Greenhouse Restrictions: Campaign Targets Auto Emissions, Other Possible Causes of Global Warming." *Detroit News* 25 July 1997: B1. Online. Lexis.

Stone, Peter H. "The Heat's On." *National Journal* 26 July 1997: 1505+. Online. Infotrac.

Warrick, Joby. "Clinton Outlines Global Warming Education Plan; Nation Remains Skeptical of Greenhouse Effect." *Washington Post* 25 July 1997: A3, fin. ed. Online. Lexis.

Listening for Voices: The Role of Attitude and Belief in Environmental Communication

Nancy W. Coppola
Department of Humanities and Social Sciences
New Jersey Institute of Technology—University Heights, NJ

Abstract

In July 1998, a team of researchers from the New York State Department of Environmental Conservation discovered more than a thousand cormorant carcasses on Little Galloo Island in Henderson Harbor, as well as a pile of spent shotgun shells. Many of the residents of Henderson Harbor blame the cormorants for the loss of their fishing livelihoods. Environmental groups, however, were outraged by the massacre of the cormorants. Wildlife officials regard the slaughter as one of the worst acts of environmental terrorism in recent U.S. history. This essay presents an analysis of the stakeholders' attitudes and beliefs in an effort to understand how the situation's outcome might have been altered.

In the opening paragraphs of *We Have Never Been Modern,* Bruno Latour (1993) recounts the experience of reading a newspaper article about the ozone layer. He notes the tangle of scientists, executives, and politicians in the story:

> [A]t the end of the article, I discover that the meteorologists don't agree with the chemists; they're talking about cyclical fluctuations unrelated to human activity. So now the industrialists don't know what to do. The heads of state are also holding back. Should we wait? Is it already too late? Toward the bottom of the page, Third World countries and ecologists add their grain of salt and talk about international treaties, moratoriums, the rights of future generations, and the right to development.
>
> The same article mixes together chemical reactions and political reactions. . . . The horizons, the stakes, the time frames, the actors—none of these is commensurable, yet there they are, caught up in the same story. (1)

Most of us in environmental communication would agree with Latour's observation: when it comes to the environment, we may be scientists or politicians, developers or diplomats, we may have entirely different views and perspectives, and yet here we are, all caught up in the same story. Of course, Latour's purpose in relating this episode is to show the dichotomous relation between science and humanity as sketched in our daily news. My purpose is to suggest that in one environmental incident there are many voices. Consider, for example, the story of Henderson Harbor, and listen for the voice of the fish biologist and the voice of the fishing guide.

In Henderson Harbor, a fishing hamlet in Northern New York on the eastern shore of Lake Ontario, four men stand on a dock in the late afternoon sun. They are having their picture taken. They smile with pride as they hold up the day's catch, fourteen walleye and two huge lake trout. The men have been looking forward to this fishing trip all summer. They drove seven hours from Pennsylvania, pooled their money, and paid $600 to a charter captain for two days of fishing. Like many of the residents in the little towns that dot the lake, Henderson Harbor locals make their living directly or indirectly from sport fishing and tourism. Third-generation fishing guide Ronald Ditch explains, "We've got no Kodak, no Du Pont. You're either a fisherman or a farmer if you're going to live here" (Revkin, August 9, 1998, p. 32).

Just ten miles west of Henderson Harbor is Little Galloo Island, a 52-acre Eastern Basin island, striking in its starkly barren landscape. On July 29, 1998, a team of researchers from the New York State Department of Environmental Conservation (NYSDEC) came ashore there as part of its diet study of the double-crested cormorant. Little Galloo is home to 8,000 nesting pairs of double-crested cormorants, making it the largest nursery for cormorants in the United States. Instead of finding the expected pellets of regurgitated fish bones for their study, the biologists discovered piles of bird carcasses and spent shotgun shells. More than a thousand cormorants had been slaughtered, most of them fledglings too young to fly. Aquatic biologist Clifford Schneider described the NYSDEC team's reaction. "I looked down and there was one chick that was on its back. The chick was still alive and just strewn amidst, you know, 50 or so birds that had been slaughtered. . . . That to me was the worst part of the whole thing" (Curwood, 1998).

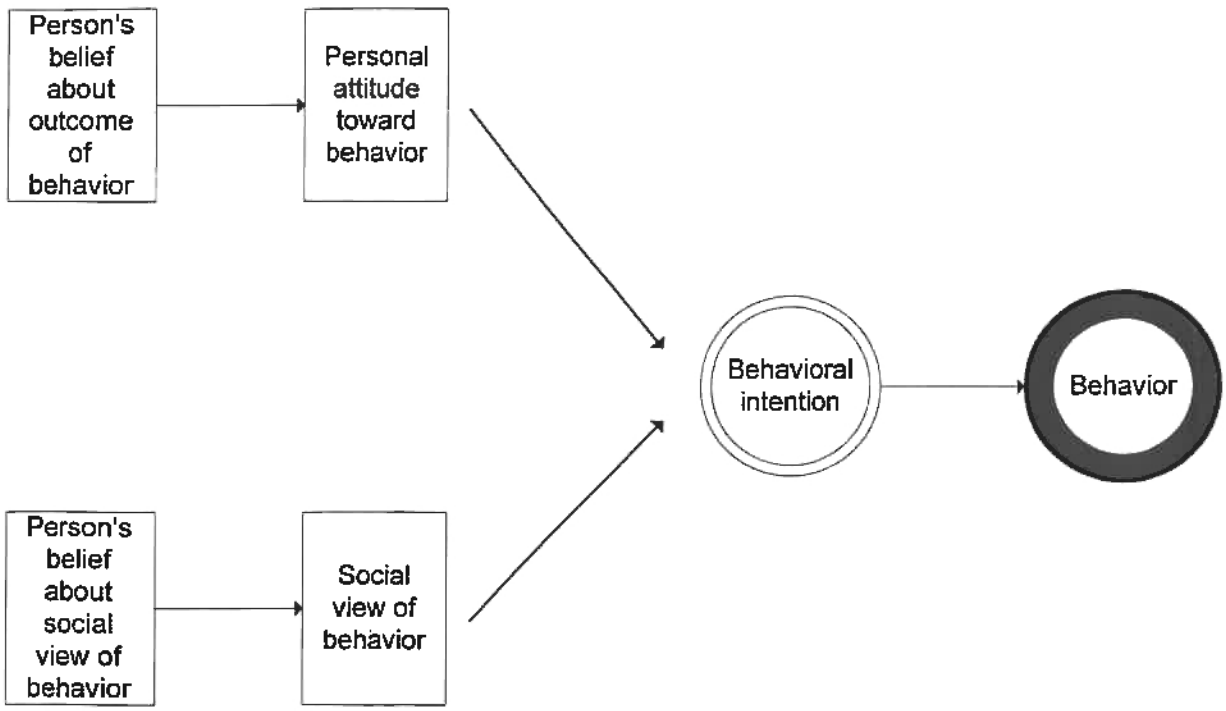
The people on the docks in Henderson Harbor do not think that the mass killing of the birds is a crime. They blame the cormorants for the sharp decline in stocks of smallmouth bass, perch and other popular game fish, from an area that was renowned just a few years ago as one of the best sport-fishing spots in North America. Local residents also blame the double-crested cormorants—long-necked goose-sized birds that dive up to 60 feet and eat a pound or more of fish every day—for the loss of their livelihoods. Environmental groups, however, are outraged by the massacre of the cormorants that were nearly extinct on the Great Lakes in the 1950s, depleted then by the effects of pesticides and pollution. Wildlife officials regard the slaughter of the cormorants as an act of environmental terrorism, one of the worst in recent U.S. history. But the fishermen of Henderson Harbor think otherwise.

How might an understanding of attitudes and beliefs that shape these voices have changed this dramatic situation? Could tension have been ameliorated with correctly-voiced discourse? This paper presents one analysis of the stakeholders' attitudes and beliefs, based on content evaluation of local and national news media and official reports regarding the cormorant killings.

Changing intensely-held opinions is difficult, as all who work in environmental communication know. Decades of social scientific research have demonstrated that provision of technical information alone will not cause a shift in public attitudes (Cantrill & Oravec, 1996; Coppola, 1996; O'Keefe, 1990). In order to change behavior, we have to start with beliefs. According to Ajzen and Fishbein (1980), there are actually four determinants in changing behavior: belief, attitude, intention, and behavior. As shown in Figure 1, a person's behavior is most immediately determined by the person's intention—what the person intends to do. Ajzen and Fishbein argue that people consider the implications of their actions before they decide to engage or not engage in a given behavior. This theory of reasoned action suggests that people act in accordance with their intentions; intentions then predict behavior. A person's intention is a function of two determinants: 1) the person's positive or negative evaluation of performing the behavior, and 2) the person's perception of the social pressures put on him or her to perform or not perform the behavior. The individual's attitude toward the behavior is the product of the person's beliefs concerning the consequences of that behavior and beliefs the person has concerning other's perception of the behavior. By producing sufficient change in these primary beliefs, we can then influence the person's attitude toward performing the behavior. Once identified, these beliefs can serve as the basic arguments in a persuasive communication.

FIGURE 1

Factors Determining a Person's Behavior (Ajzen and Fishbein's Theory of Reasoned Action, 1980)



The conflict over the double-crested cormorants on Little Galloo Island may provide insights into beliefs and attitudes. We can examine the beliefs and attitudes of stakeholders in the incident—state and federal officials, whose job it is to protect the cormorants, and local residents, who blame the cormorants for diminished sport fish and revenue.

Officials from the New York State Department of Environmental Conservation and the U.S. Fish and Wildlife Service acknowledged a precipitous drop in smallmouth bass in the area of Henderson Harbor over the last twenty-two years. Also, press releases noted that the Service and other agencies had received numerous requests from sport fishing interests and elected officials to reduce the number of cormorants. In response, state officials provided technical information showing that the decline in smallmouth bass was caused by the lake ecology shifts of decreasing phosphorous level, declining zooplankton, and increasing zebra mussels. Officials pointed to studies showing that the alewife, a common bait fish, is the main component of the cormorant's diet, not smallmouth bass. They determined that that there is no clear evidence that cormorant predation has a significant impact on sport fish numbers. U.S. Fish and Wildlife Service officials report that the recreational fishing interests in Lake Ontario remain secondary to protecting cormorants. "The Service does not provide permits to kill migratory birds to protect sport fish" (August 4, 1998). In the meantime, however, the state commissioned a new study to determine whether the birds were responsible for the changes in fish stocks. The officials believed that the promise of a new study, the information on lake ecology and cormorant diet from past studies, and the laws protecting migratory birds would quell rising frustration in local residents.

These local residents, however, were not persuaded by the detailed studies; the community resented what they regarded as the intrusion of unreasonable regulations written far away and long ago. They understood the conventional wisdom of lake ecology and knew that zebra mussels proliferated throughout and beyond Lake Ontario, but they also knew it was only here at Henderson Harbor that smallmouth bass stocks had dipped. Fishing guides had to pass through flocks of hundreds of cormorants in the harbor on their way out to deeper water, where they saw the cormorants dive down underneath their fishing lines and come up with a catch. Locals believed that they were being oppressed by laws that favored birds. "You can only oppress people for so long and they're going to strike out," said a local charter captain (Revkin, August 9, 1998, p. 29).

I do not mean to make the assumption that tension in this dramatic situation could have been eliminated with correctly-voiced deliberative rhetoric. But analysis of primary beliefs and resultant attitudes and behaviors might prove to be a starting ground for effective communication strategies. Ajzen and Fishbein tell us to focus on a person's attitude toward a behavior rather than on the person's attitude toward particular objects. The behavior, then, on the part of local residents, could be described as actions that showed frustration with officials for upholding laws that favored birds over people. Actions showing frustration are represented by the residents' repeated requests of NYSDEC Bureau of Fisheries to put some controls on the cormorant population, and the community's public hostility demonstrated by the local bumper sticker, "Catch a fish—starve a cormorant." Behavior on the part of the state and local officials could be described as hegemonic, actions that showed the officials as upholders of the law and promulgators of scientific knowledge. These actions are represented by the U.S. Fish and Wildlife Service statements that the Service did not provide permits to kill migratory birds in order to protect sport fish, and the Service's published research on cormorant feeding habits. To predict their behaviors we can look first at intentions—the fishing community intended to continue demonstrating frustration and hostility, while officials intended to continue showing their power. If intentions are determined jointly by individual attitude and subjective norm (the perception that significant others have of the behavior), we may infer that both individual and social perceptions of the behavior in this close-knit community were positive. When the cormorants were slaughtered, the news media reported that residents likened the incident to the Boston Tea Party and hailed the shooters as heroes (Revkin, August 9, 1998).

Wildlife offices were certainly aware of the growing resentment and responded with reports acknowledging scientific data and promising new data. The communication appeals of the federal and state officials were preemptive and authoritative. Typical is a press release issued on April 29, 1998, "U.S. Fish and Wildlife Service States Position on Cormorant Management." The Service's Northeast Regional Director declared, "Cormorants are a natural part of the ecosystem and typically consume only a small percentage of any fish population. The Service does not currently issue permits to control fish-eating birds with the intent of reducing predation on sport fisheries in public waters."

Results of the criminal investigation into the cormorant killings and the New York State Department of Environmental Conservation (NYSDEC) diet study confirm this analysis of the stakeholders' attitudes and behaviors. Ten Henderson Harbor men with

ties to recreational sport fishing pled guilty in federal court to the cormorant slaughter; three of the men were Henderson Harbor fishing guides. The NYSDEC diet study confirmed that the fish biologists were wrong in earlier statements; the cormorants were, in fact, eating large and small bass and were the main cause for decline in bass fishery. Their final report stated, "double-crested cormorant predation on smallmouth bass in New York waters of the eastern basin of Lake Ontario is excessive. We were able to demonstrate that angling quality for smallmouth bass had deteriorated in the eastern basin, while it remained unchanged or improved in other areas of Lake Ontario that were outside the feeding range of eastern basin double-crested cormorants" (Schneider, et al., 1999). The U.S. Department of the Interior Fish and Wildlife Service, after preparing an Environmental Assessment, approved the NYSDEC application for a depredation permit to take cormorants on Little Galloo Island.

The dramatic situation takes place at the interstices of opposition between the two stakeholders' behavioral intentions. The behavioral intention on the part of the fishing guides—killing the cormorants—was formulated when they believed that this action was the only reasonable action allowed them. Ronald Ditch, the fishing charter captain who led the cormorant killing, once described himself as a local supporter of the official position to control cormorants "in a proper and legal manner " (Revkin, August 1, 1998). He explained his belief and attitude change which followed a sudden announcement by a U.S. Fish and Wildlife Service official during deliberations between New York State representatives and the Service regarding legislation that would establish a hunting season to control the cormorants. "She said, regardless of the findings of any study of the DEC, and regardless of what these birds were doing to the economy, that the federal position would not change on the cormorant issue. Nobody would be able to do anything about it. No control measures were going to be taken. Suddenly, the fishing guides knew it was in their hands to save their livelihoods, their homes and their families" (Revkin, April 9, 1999).

In the aftermath of the killings, the New York State Department of Environmental Conservation (NYSDEC) Bureau of Fisheries shifted its attitude from alignment with the federal hegemonic position. First it expressed deep disappointment over comments made by the U.S. Fish and Wildlife Service official that recreational fishing interests in Lake Ontario remain secondary to protecting cormorants. Next, following its own diet study and subsequent determination to control cormorant impacts, the NYSDEC enlisted public participation. The state agency circulated a questionnaire outlining its plan to reduce the impact of double-crested cormorant predation on smallmouth bass. The questionnaire asked for public input regarding both the overall project and the four options for providing cormorant management. NYSDEC received about 3,500 responses to its survey with an overwhelming majority favoring killing of adult birds to enable bass fishery to rebound (Associated Press, March 14, 1999).

In this instance, scholars in environmental communication may be reminded of Waddell's four models for public participation in environmental issues (1995). The Technocratic Model, here typified by the U.S. Fish and Wildlife Service, assumes that technical decisions should be left to experts in science or government with no role for public participation. The Interactive Jeffersonian Model, represented by the New York State Department of Environmental Conservation *after* the cormorant killings, represents a two-way exchange; technical experts communicate their expertise to the public and the public communicates its values, beliefs, and emotions to technical experts. The cormorant killings is but another dramatic demonstration that the hierarchical top-down model of telling the public what is good or bad for it and expecting it to comply is ineffective.

Had the officials considered the fishing community's attitude toward oppression and hegemony, they might have chosen appeals that were less confrontational. Rather than preemptive press releases, they might have considered public meetings, which would have suggested to the residents that they were as important as the birds being protected. The officials might have undertaken the idea of political deliberation, to translate the good of the polis into specific action and to exhort the good of all for the future. Rather than expository or scientific demonstrations, deliberative rhetoric might have been used in an attempt to change attitudes and actions.

Deliberative rhetoric, as Corbett's classic (1990) explains it, is an attempt to change the attitudes and actions of the audience in regard to a matter of public concern. One of the three kinds of classical persuasive discourse, deliberative rhetoric seeks to exhort or dissuade an audience with an eye toward what would be expedient for the state and produce happiness among its people. Using the characteristic topics of honor and advantage, deliberative rhetoric attempts to persuade the audience of the honor and advantage that will accrue to it if it chooses to adopt a particular mode of action for the future.

Kenneth Burke (1969) notes in his discussion of rhetoric that we traditionally think of rhetoric as inducement to action, *ad agendum*. But, Burke counsels us, we would be more effective if we were to use rheto-

ric's power to effect a change in attitude, "[y]et often we could with more accuracy speak of persuasion 'to attitude,' rather than persuasion to out-and-out action" (50). Burke distinguishes between act and attitude, noting that attitude is an incipient act, a leaning or inclination.

Using a postmodern perspective, I do not employ deliberative rhetoric in the service of consensus-seeking or in marginalizing differences and cultural perspectives. Rather, in the nature of Bakhtinian dialogism, deliberative rhetoric is useful in persuading audiences to voice their opinions.

Certainly an analysis of primary beliefs and resultant attitudes, intentions, and behaviors will help us realize our different views as we accept the challenge of listening for voices.

References

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs: Prentice-Hall.

Associated Press (1999, March 14). Group sides with cormorants. [Syracuse, NY] *Herald American*, p. A17.

Burke, K. (1969). *A rhetoric of motives*. Berkeley: U of California P.

Cantrill, J. G. & Oravec, C. L. (1996). *The symbolic earth: Discourse and our creation of the environment*. Lexington: UP of Kentucky.

Coppola, N. W. (1997). Rhetorical analysis of stakeholders in environmental communication: A model. *Technical Communication Quarterly, 6,* 9-25.

Corbett, E. P. J. (1990). *Classical rhetoric for the modern student* (3rd ed.). New York: Oxford UP.

Curwood, S. (1998, September 4). Mass killing of cormorants in fishing community. National Public Radio. Canton: WSLU.

Latour, B. (1993). *We have never been modern.* Cambridge, MA: Harvard UP.

O'Keefe, D. J. (1990). *Persuasion: Theory and research.* Newbury Park, CA: Sage.

Revkin, A. C. (1998, August 1). A slaughter of cormorants in angler country. *New York Times.*

Revkin, A. C. (1998, August 9). In a fishing hamlet, no grief for cormorants. *New York Times*, p. 29+.

Revkin, A. C. (1999, April 9). Nine men plead guilty to slaughtering cormorants to protect sport fishing. *New York Times*, p. B5.

Schneider, C. P., Schiavone, Jr., A., Eckert, T. H., McCullough, R. D., Lantry, B. F., Einhouse, D. W., Chrisman, J. R., & Adams, C. M. (1999, February 1). Double-crested cormorant predation on smallmouth bass and other warm water fishes of the eastern basin of Lake Ontario: Overview and summary. In *Final report: To assess the impact of double-crested cormorant predation on the smallmouth bass and other fishes of the eastern basin of Lake Ontario.* New York State Department of Environmental Conservation Bureau of Fisheries and United States Geological Survey Biological Resources Division.

U.S. Department of Interior Fish and Wildlife Service. (1999, April). *Environmental assessment of a U.S. Fish and Wildlife Service action to issue a migratory bird depredation permit for the take of cormorants on Lake Ontario Islands, New York.*

U.S. Department of Interior Fish and Wildlife Service. (1998, April 29). U.S. Fish and Wildlife Service states position on cormorant management. Press Release.

U.S. Department of Interior Fish and Wildlife Service. (1998, August 4). Cormorant killers may have blamed birds for low fish numbers. Press Release.

Waddell, C. (1995). Defining sustainable development: A case study in environmental communication. *Technical Communication Quarterly, 4,* 201 - 216.

Reclaiming the "Indecorous" Voice: Public Participation by Low-Income Communities in Environmental Decision-Making

J. Robert Cox
Department of Communication Studies
University of North Carolina at Chapel Hill

Abstract

This essay examines the political uses of claims to knowledge in public (environmental) decision-making. It argues that the voices of residents in low-income communities, particularly, are often constructed as indecorous or "inappropriate" when such individuals speak before governmental agencies. Using two case studies, the essay identifies procedural barriers that restrict citizens' "standing" to testify in such forums and considers the subtle norms of exclusion that often accompany agency rules for making knowledge-claims. Finally, the essay describes the emergence of a counter-discourse that has begun to articulate new norms of meaningful, democratic participation of citizens in environmental decision-making.

Over a decade ago, Timmerman (1984) observed that toxics or hazardous waste management has become one of the central arenas in which "a series of moral dilemmas. . . are being played out" (in Edelstein, 1988, p. 187). On one side, state officials and technical consultants speak of balancing "risks" and "parts per million" of chemical substances. On the other side, community groups objecting to a waste facility, for example, may feel their concerns matter little and their efforts to speak dismissed. It is not unusual to read editorials characterizing the rhetorical efforts of low-income residents, particularly, as "heavy on emotion and often feather-light on solid technical grounds for objection" (Waste is still with us, 1991, p. 22A).

Although such instances often command media headlines, they elide serious discussion of the failures of public participation in recent environmental policy issues. Implicated in this failure, I would suggest, is a tension between the mediating structures of civil society that stand "between the individual in his [sic] private life and large institutions of public life" (Berger & Neuhaus, 1977, p. 32), and a techno-professionalization of knowledge. Lynn (1987) notes that, "citizen involvement in decisions regarding risky technologies, at least on the surface, seems at odds with the American trend toward. . . towards a professional ethos in which citizens are viewed as not being capable of understanding complex technical phenomena" (p. 359).

In this essay, I want to examine certain *political* uses of this "professional ethos" and the moral dilemmas it sustains for those who attempt to participate in the structures of public (environmental) decision-making. I want to argue that some voices—the voices of those in low-income communities—are often constructed as *indecorous*, as "inappropriate," when they attempt to speak before governmental agency forums. Though editorial columns implicitly urge this characterization of the lay-public, there has been no effort to theorize the social and institutional origins of the indecorous voice or its political implications. I want to suggest that this construction happens largely because the structures for public involvement and norms under which low- income citizens are able to speak often construct their testimony or public comments as "emotional," technologically "ignorant," or as having a "personal agenda."

I want to develop this argument in three parts:

First, I explore the more overt, structural sources for the construction of the indecorous voice. Drawing on the state of Louisiana's handling of air and water permits for Shintech Corporation's construction of a plant in Convent, Louisiana in 1996-98, I look particularly at the procedural arrangements for citizens' standing to testify in the permitting process and at the political implications of these arrangements.

Second, I consider the more subtle norms of exclusion that accompany the procedures of regulatory forums for making knowledge-claims.

Finally, I describe the emergence of a counter-discourse that has begun to question these arrangements and to articulate new norms of meaningful, democratic participation by residents of communities that seem to be most vulnerable to environmental degradation.

Let me begin by illustrating what I mean by the construction of the indecorous or "inappropriate" voice.

"Hysterical Hispanic Housewives": Constructing the Indecorous Voice

Rose Marie Augustine's story is typical. In the south side of Tucson, an area where mainly Latino/a Americans and Native Americans reside, chemicals from several industrial plants had seeped into the groundwater table, contaminating several wells from which some 47,000 residents drew their drinking water. One of those residents, Rose Augustine, later described her and her neighbors' experience: "We didn't know anything about what had happened to us. . . . We were never informed about what happens to people who become contaminated by drinking contaminated water. . . . We were suffering lots of cancers, and we thought, you know, my God, what's happening?" (United Church of Christ [videotape], 1991). Environmental Protection Agency officials would later confirm the severity of toxic leaching from nearby industrial plants in Tucson and would list this site as one the nation's "Superfund" priority sites for cleanup.

In a meeting in 1985, local officials deflected residents' questions about health concerns. When they persisted, Augustine reported, one county supervisor replied, "the people in the Southside were obese, lazy, and had poor eating habits, that it was our lifestyle and not the TC [toxic chemicals] in the water that caused our health problems." Another official, she said, "called us 'hysterical Hispanic housewives' when we appealed to him for help" (Augustine, 1993). This gendered dismissal of low-income women's voices is not unusual. In earlier cases, Hayes (1987) found that when community members offered bodily evidence of illness, they were often "belittled as the complaints of 'housewives'" (p. 200).

The Tucson official's dismissal of the complaints of residents is not unlike Cicero's observation on propriety: "How inappropriate it would be. . . to use mean and meager language when referring to the majesty of the Roman people" (1962, XX.69). Cicero, of course, meant to illustrate the classical principle that advises that rhetors speak best when they respect the "decorum" of the moment, that is, when they adapt in appropriate ways to the demands of the particular audience and occasion.[i] Indeed, so central was the concept of decorum to classical rhetorical practice that Leff (1990) speaks of "an architectonic force, the point at which thought and action, form and content, and wisdom and eloquence coalesce" (p. 112).

Within what Leff calls a "modernist, functional" tradition, however, the concept of decorum has taken on a much more constraining role. Key to such an interpretation is an "*accommodation* to the circumstances that frame the rhetorical act" (1990, p. 121; italics added). That is, the discursive "standing" for a subject to speak may be authorized by the extrinsic constraints of agency procedures and norms for knowledge claims. And it is this more limiting tradition that I wish to pursue here. It is precisely the norms for what *is*, and *is not* "fitting" in agency regulatory forums, I shall argue, that often construct the lay public's ways of speaking as inappropriate or indecorous for the discursive styles and requirements demanded by health and government agencies.

I want to argue, then, that we may err in accepting media images of hysteria or the apparent absence of "reason" in low-income residents' attempts to voice their fears or to object to plans that affect the air or water of their communities. In sustaining the procedures and norms that construct these voices as indecorous, we dismiss the claims of material witnesses to personal knowledge and "standing" that may identify and enable us to redress real grievance.

Let me begin to identify, then, the differing terms for "appearing" and speaking that construct the indecorous voice.

Structural Sources of the "Indecorous" Voice

"Standing" and Requirements for Public Participation

The public is ostensibly defined in federal statutes and regulations as an integral component of the environmental policy process. The discursive appearance of the public usually takes place in hearings before governmental agencies in which citizens can comment and/or enter statements into the record. Undergirding the principle of public participation in matters of the environment, particularly, are the precedent-setting regulations implementing the provisions of the National Environmental Policy Act[ii] and, more recently, the federal agency rules promulgated under President Clinton's Executive Order on Environmental Justice (1994).[iii] Integral to such provisions is the concept of "standing," the presumption that, as Supreme Court Justice William O. Douglas originally proposed, an individual having "sufficient interest in a matter" may stand before governmental authority to speak and to seek protection of that interest. Arising from litigation, the principle of standing has been articulated to new contexts recently as citizens have come before non-judicial federal forums to seek redress for environmental and public health grievances (Andrew, 1999, p. 287).

Although federal agencies have made strides in implementing strategies for public participation, most interactions with regulatory authority occur elsewhere. Typically states are the level of government most deeply involved in decisions about hazardous facilities. Many state agencies, indeed, have similar policies—patterned after federal statutes—for involvement of the public and are accountable in principle to oversight by

the Environmental Protection Agency (EPA). Nevertheless, state programs have come under fire in recent years for structuring public participation in ways that disallow the meaningful involvement of citizens who live near hazardous facilities. It is instructive then to look at one such case in which a state agency arranged for public involvement in a significant environmental decision.

"Standing" and Public Comment in the Case of Shintech Corporation

The small community of Convent, Louisiana serves as an example of the failure of some state programs to include low-income citizens meaningfully in environmental reviews. The community in St. James Parish lies within the so-called "Cancer Alley" of petro-chemical plants that are located along the Mississippi River in the southern part of the state. The parish is surrounded by eleven major industrial sites and ranks third in total toxic emissions in the state (*Louisiana*, 36, 1997). In the early 1990s, the large Tokyo-based Shin-Etsu Chemical's subsidiary Shintech announced it intended to build a $700 million polyvinyl chloride (PVC) plastics plant in Convent. Polyvinyl chloride production poses particularly hazardous risks for toxic emissions into the air and water of nearby communities. According to the EPA, vinyl chloride emissions from PVC plants "cause or contribute to air pollution that may reasonably be anticipated to result in an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness. Vinyl Chloride is a known human carcinogen which causes a rare cancer of the liver" (EPA, 1998, pp. 23785-23786). The Shintech plant would have been one of the world's largest manufacturing facilities for vinyl chloride.

Following a truncated and highly contentious period for public comment and hearings in 1996, the Louisiana Department of Environmental Quality (DEQ) granted air and water permits that authorized Shintech to begin construction on the proposed site. In May 1997, Tulane University's Environmental Law Clinic (TELC) filed two administrative complaints with the EPA over the state's handling of the permits. Filed on behalf of the St. James Citizens for Jobs and the Environment (a grassroots citizens group) and five other environmental organizations, the first complaint alleged violations of Title V of the Clean Air Act; the second alleged violations of Title VI of the 1964 Civil Rights Act. (Census data for 1990 indicated that 81.6% of the residents in the Convent area surrounding the site were African American and poor [TELC, *Amended Complaint*, 1997, p. 2].) On July 16, 1997, the Law Clinic filed a revised complaint with the EPA's Office of Civil Rights that supplemented its original Title VI complaint. Alleging violation of Title VI in the state's granting of a permit to Shintech, the complaint cited unjust discriminatory effects in the DEQ's administration of its regulatory program, particularly in the conduct of the public comment and hearing process. (TELC, *Amended Complaint*, 1997).

On September 10, 1997, EPA Administrator Carol Browner granted the citizens' Title V petition, citing over 50 technical deficiencies under the Clean Air Act and re-opened the public comment and hearing process for the air permits. The ruling deferred the related allegations of discriminatory behavior in the public participation process until it had investigated citizens' concerns in their Title VI complaint. Although the EPA ruling centered on technical faults in the air permit, it also indicated that the state agency had to address the concerns of minority and low-income residents in the new permitting process (Ferstel, 1997, p. 1).

I cite this case because the Office of Civil Rights' acceptance, on August 8, 1997, of the citizens' Title VI complaint of unjust discrimination broadens the significance of the Convent case. The complaint has been widely viewed in the environmental justice community as a test case of the EPA's "strategy" for implementing the provisions of Title VI under the 1994 Executive Order on Environmental Justice. (The EPA had not ruled on the TELC complaint as of October 2000.[iv])

What, then, happened in Convent, Louisiana that would prompt this precedent-setting investigation?

In February 1999, I had the chance to visit with the leaders of the St. James Citizens for Jobs and the Environment group in Convent and to review with them the Title VI complaint they had filed with the EPA. Although the Louisiana DEQ had had a legal obligation to involve citizens at every level of review of the Shintech permits, local residents believed that officials had engaged in systematic manipulation and distortion of the process of public participation in the granting of permitting for Shintech. (It should be noted that evidence for the Title VI complaint comes principally from citizens' reports of their experiences with the DEQ process and related state documents; no attempt has been made here to summarize responding briefs from the State of Louisiana or Shintech Corporation.) The TELC complaint alleged the state had: (1) limited citizens' access to public documents relevant to the community's well-being and safety; (2) restricted the communication between DEQ staff and community members in a way that dismissed residents' concerns; and (3) conducted the main public hearing on Shintech's permits in a manner that greatly lessened the opportunities for opponents of the plant to be heard.

Let me cite only a few examples:

Limited Public Access. Under the procedures established by the state Department of Environmental Quality, citizens had thirty days to review thousands of pages of technical proposals for Shintech's air permit. "In contrast, with regard to a proposed sewer expansion in another Louisiana community which totaled less than 100 pages, the DEQ granted 100 days of public review" (Shintech controversy timeline, 1998, p. 3). The citizens' complaint to the EPA alleged that the level of education, resources, and time constraints (including family and job commitments) limited the ability of residents to comment on this material. "Complainants did not have the qualifications or resources to adequately review the information in such a short period of time" (TELC, *Amended Complaint,* 1997, p. 5).

Compounding this were other attempts by state and local officials, and Shintech itself, to withhold documents from the public record and, thus, from scrutiny by community members. On at least one occasion, the complaint alleged, the state DEQ granted a request from Shintech that the results of its site assessment be kept confidential from the public. The assessment had found contamination at the site that "may have a potential to present material risk of harm to public health or the environment" (quoted in Shintech controversy timeline, 1998, p. 1). On another occasion, when residents requested public documents related to the Shintech case, a St. James Parish official raised the cost of photocopies from 25 cents per page to 75 cents per page. Louisiana law prohibits public officials from charging more than the actual cost of copying a public document (Shintech controversy timeline, 1998, p. 4).

Refusal to Talk with the Community. In August 1998, a state judge noted the "obvious bias" in the actions of an official of DEQ who was charged with oversight of the Shintech permit, in ordering his staff not to meet with the citizens' groups and to regard the citizens as "adversaries" of the Department. No such restrictions were placed on meetings between DEQ and Shintech or its supporters (Shintech Controversy Timeline, 1998, p. 8).

Restrictions on Public Testimony. The amended Title VI complaint further alleged that the state Department of Environmental Quality "conducted the public hearing on December 6, 1996, on the air permit applications in a discriminatory manner, favoring the Shintech proponents and impeding African American residents from fully participating in the hearing process" (1997, p. 7). This occurred in the order in which residents were assigned to speak and in the time each speaker was allowed to speak during the hearing.

The manipulation of the hearing procedure appeared evident even before the hearings began. Pat Melancon, president of the St. James Citizens for Jobs and the Environment, testified that she had "arrived two hours early to an empty meeting to find 45 names of people signed up by Shintech who [weren't] there yet." She testified that she had asked the Louisiana Department of Environmental Quality (LDEQ) official who was handling the sign-in procedures "if opponents and proponents [of Shintech] couldn't alternate because many residents had to go to work the next day in addition to having restless small children with them." The DEQ official, she reported, replied, "absolutely not." (Shintech controversy timeline, 1998, p. 4). The Amended Complaint explained:

> The LDEQ has a policy of allowing people to speak in the order in which they arrive and register at the hearing. . . . Before the citizens had an opportunity to reach the site, . . . the vice-president of Shintech, submitted a stack of sign-in sheets for many of Shintech's paid employees and contractors that Shintech flew in from [their plant in] Texas for the occasion. These sheets were accepted by. . . the LDEQ's assistant administrator for permits, who then proceeded to transfer all of the names on the sheets to the speaking list. (1997, p. 7)

This arrangement, the complaint alleged, "resulted in Shintech's paid consultants, officers, employees, and Texas residents monopolizing the first hour of the hearing" (TELC, *Amended Complaint,* 1997, p. 7). Of the thirty-four citizens who were signed up to speak, the majority were called on to speak "well after 11:15 p.m. and had already left the hearing because of jobs, family obligations, etc. [the hearing ran until 1:00pm]" (TELC, *Amended Complaint,* 1997, p. 7).

Second, the citizens' complaint alleged that, although the DEQ imposed a five-minute time limit for all public comments at the hearing, the presiding officer "selectively enforced this limit" (1997, p. 7). The complaint detailed the sequence of events for the hearing: "The time limit was ignored for the first hour of the hearing when predominantly Shintech proponents were speaking. No speaker was interrupted or stopped, despite the fact that many went over the time limit. The DEQ chose to enforce the five minute time limit for the first time on a citizen speaker" (1997, p. 7).

Finally, when residents complained about the state's conduct of the hearing, the DEQ refused to grant another opportunity for oral comments, suggesting instead that Convent residents submit written testimony.[v] The TELC's Amended Complaint ob-

jected that this had the effect of dismissing the views of those opposed to the plant:

> A majority of the community has a high school education or lower. For many of these people written comments are not an option. Even those having the ability to write comments often do not feel comfortable expressing themselves that way. The only opportunity that they had to be heard was during the public hearing. (1997, p. 8)

Information from Shintech itself apparently substantiates citizens' allegations of unfair treatment during the public hearing process. In an investigation of charges of bias in the Shintech case, the Commission for Racial Justice of the United Church of Christ reported finding a "disturbing" memorandum in the files of a St. James Parish official from representatives of Shintech to employees and consultants. In the memo, the UCC Commission reports, "Shintech representatives congratulate each other for successfully frustrating citizen input at the December 9 [sic], 1996 hearing. The memorandum makes clear that the company planned to dominate the hearing with Texas-based [employees and contractors] and stifle the voices of Louisiana citizens" (United Church, 1998, p. 30).

Consultative versus Determinative Public Participation.

The Shintech case, unfortunately, is not unusual nor an aberration of the assumptions that have long-defined the nature of public participation in environmental decision-making. Traditionally, regulatory authorities have tended to define "public participation" as a tool for one-way communication and framing of decisions for the public. Lynn (1990) notes that, in response to growing public demand to be involved in such decisions by the 1970s, "decision-makers adopted a right-to-hear-what-has-already-been-decided approach" (pp. 95-96). Public hearings were typically held at the end of a decision process "after the parameters of a problem had been defined" and after "technically sophisticated, although certainly not value-free, analyses" had been conducted (Lynn, 1990, p. 96).

Both at the front end—when the siting of a facility is made—and after an environmental incident has occurred, procedures for public involvement traditionally have been severely and structurally limited. In an early study of state experiences with public input involving twenty-one cases, the U.S. Environmental Protection Agency found that states defined three discrete functions for public participation. Such participation can: (1) "inform the public of government actions;" (2) "allow for technical input by the public of government actions;" and (3) "allow the public to provide substantive input to technical and non-technical aspects of decision-making" (U.S. EPA, 1979, p. 23). The majority of the states, the EPA study found, engaged only in the first two functions. The third function—a much more determinative role—the study found, was not common (p. 23).

This pattern seems not to have changed significantly in the two decades since the EPA study. More recently, Foreman (1998) notes, "the most serious limitation of community involvement efforts [particularly in decision-making on issues of facility siting and contamination] is that they are almost entirely consultative, not authoritative, in nature" (p. 35). Citizens are invited to advise, Foreman explains, but rarely is their counsel binding or taken into consideration in determining a policy or practice. Steelman and Ascher (1997) observe very similar problems in their study of natural resources decision-making. They note that public testimony and participation can serve both an advisory function and as part of "the process of the authoritative selection of policies: their prescription, invocation, and application." The problem, they explained, arises "when public input is solicited by bureaucrats without much regard for the function it is to play in developing policy" (p. 74).

Even where more substantive public participation exists, it is sometimes challenged. In 1999, state officials in Maryland and Texas introduced legislation to roll back or eliminate the right of citizens to appear in what are called "contested case hearings." These are hearings before a board, commission, or an agency that allow citizens to take depositions, introduce evidence, present (and cross examine) witnesses, and appeal a decision to the courts for judicial review. (See Ivins, 1999; No standing, 1999). As a result of the community's opposition to Shintech, the state of Louisiana has begun to restrict opportunities for the legal representation of low-income constituents. When Tulane University's Environmental Law Clinic took up the concerns of Convent residents, Governor Mike Foster publicly questioned the University's tax exempt status and asked supporters to "reconsider their financial contributions because of the clinic's activities" (Shuler, 1997, p. 1). And, in a letter to the Louisiana Supreme Court, the New Orleans Business Council requested that the Supreme Court investigate law students and professors at the law clinic because they "had taken positions contrary to those of business interests" (Shintech controversy timeline, 1998, p. 6).[vi] In June 1998, the Court granted a request from the state and imposed new restrictions on the state's law clinics, limiting their ability to represent poor citizens or advocacy groups working with local communities. Robert Kreiser, associate secretary of the American Association of University Professors, reported that the Gover-

nor's threats, in his judgment, "could have a chilling effect" on the advocacy of law clinics (Shuler, 1997, p. 2).

Even when community members do gain legal standing and the right to speak in forums that regulate hazardous facilities, they still face other, more subtle forms of dismissal. In particular, low-income citizens often find their testimony itself devalued. I want to turn, then, to a second source of the construction of the "indecorous" voice, a denial of citizens' *epistemic* standing.

"Epistemic" Standing and the Indecorous Voice

With the threat of exposure to chemical contamination, and official denial or resistance, affected residents often become frustrated, disillusioned with authority, and angry. Such responses can be prompted, ironically, by interaction with the very agencies whose official mandate is to help those who perceive themselves to be at risk. Residents who become involved with such agencies often find themselves in an baffling complex of overlapping institutional jurisdictions, technical forums, and a language of risk assessment and "parts per million." These are unfamiliar life worlds for most people. "What is lost," Edelstein (1988) argued, "is their ability to participate directly in understanding and determining courses of action important to their lives" (p. 118). They are, in a sense, he observed, "captured by [the] agencies upon which they become dependent for clarification and assistance" (p. 118).

This "capture" is itself enabled by regulatory authority's almost inevitable tendency to frame the participation of the public within restricted parameters of agency procedures and norms. Often officials will restrict the testimony of lay witnesses to technical criteria in order not to immobilize the agency's decision-making in the face of what they fear may be "an aroused and possibly ignorant public" (Rosenblum, 1983, cited in Lynn, 1987, p. 359). Such criteria for epistemic relevance, I am suggesting, erect a sense of the "normal" (or legitimate) in the conduct of agency affairs. They normalize the agency's construction of reason and decorum for the non-technical public to participate in forums and hearings relating to environmental grievances.

It is disturbing to note that in recent research on "Preferred Strategies for Responding to Hostile Questions in Environmental Public Meetings," Campbell, Follender, and Shane (1998), for example, failed to recommend a "strategy" that complies with a citizen's request for information. They observed, "the emotional nature of issues discussed in environmental public meetings can result in communication challenges, such as hostile questions from those in the audience" (p. 401). The authors then define a "hostile" question as one that contains a proposition that is "*undesirable and erroneous*" [italics added] (p. 401). Campbell, Follender, and Shane's strategies for response to such questions included these (arguably cynical) options: "Deny that an item referred to in the [citizen's] request exists" and "Cite reasons for your inability to comply with the request" (p. 405).

Under the assumptions of its unreasonableness, the public appears in the realm of regulatory authority as a rhetorical gesture, that is, as the appearance, rather than the substance of "standing" to speak in one's interest. In such a context, to speak is to confront a powerful dilemma. On the one hand, for citizens to enter the disciplinary conversations of epidemiology, toxicology, or the technical aspects of regulatory compliance is tacitly to accept discursive boundaries within which residents' concerns for family health and for acting with caution are seen as private or emotional matters. On the other hand, for citizens to resist such proprietary boundaries is to transgress very powerful norms of established decorum, "reason," and political efficacy.

Epistemic Standing in Columbia, Mississippi: "The evidence is in my body!"

Charlotte Keyes transgressed such a boundary. Keyes is a young African American woman in the small southern Mississippi town of Columbia with whom I've had the chance to work and whose story continues to motivate my inquiry into the efficacy of citizen involvement in environmental decision-making. Keyes and her neighbors had been living next to an abandoned chemical plant owned by Reichhold Chemical which had exploded years earlier. The fire spewed toxic fumes throughout the neighborhood. Later, residents also suspected that chemicals from abandoned barrels had leached into the yards of nearby homes and into tributaries of Columbia's drinking water reservoir. Many began to complain of unusual skin rashes and illnesses. Both officials from EPA and the mayor of Columbia dismissed residents' complaints as unsubstantiated. No health assessment was conducted. Reichhold spokesperson Alec Van Ryan later acknowledged to the local media, "I think everyone from the EPA on down will admit the initial communications with the community were nonexistent" (in Pender, 1993, p. 1).

Ultimately, Keyes organized her neighbors to speak at a meeting with officials from the federal Agency for Toxic Substances and Disease Registry (ATSDR) who had traveled to Columbia to propose a health study of residents. The agency officials, however, had proposed a simple urine sample to test for recent, acute exposure to toxins. The Columbia residents objected. Their exposure, they said, had oc-

curred years earlier, when the plant exploded, and had lasted over a period of years. The appropriate protocol, they believed, should be one that tested blood and fatty tissues for long-term or chronic exposure. "The evidence is in my body," Keyes told impatient ATSDR officials. The federal officials refused her request and insisted, instead, on the protocol that their agency in Atlanta had already authorized. Residents felt stymied in their attempt to introduce personal (corporal) evidence of long-term exposure to chemicals that they believed was evident in their bodies. The meeting with ATSDR degenerated into angry exchanges and ended with an indefinite deferral of the plans for a health-study (C. Keyes, personal correspondence, September 12, 1995).

The tension between ATSDR and residents in Columbia, unfortunately, is not unusual. Too often agency officials, believing that those facing risk of chemical exposure from low-income communities are emotional, unreliable, and irrational, dismiss their complaints and recommendations. As I argued earlier, an agency's mission and criteria for significance normalize the constraints the agency places on the performance of reason and decorum in public participation. More specifically, regulatory agents tend to frame the reports of such individuals within a highly normative discourse of bi-polar pairs: public *versus* private, rational *versus* emotional, objective *versus* self-interested, expertise *versus* ignorance, and professional interest *versus* "political agenda."

In such stylized settings, citizens who object to the siting of a facility or who attribute ill health effects to a polluting plant are often constructed as "NIMBYS" or "Not in My Backyard" critics—as provincial, unable to generalize their interests to a larger "public interest." The NIMBY syndrome, Edelstein (1988) wrote, is viewed as "something of a social disease, a rabid and irrational rejection of sound technological progress" (p. 171). After all, the official rationale assures us, "It has to go somewhere," a seemingly self-evident observation that reasonable individuals would accept.

In short, the construction of an "indecorous" voice functions to dismiss the epistemic standing of citizens and thus their ability to critique corporate or institutional claims. This is William Greider's argument as well, in *Who Will Tell the People* (1992). Technical forums, he proposes, too often exclude a wider public by narrow assumptions about what constitutes legitimate "evidence" in debates about environment and community health. Nowhere is this more evident than in the very framing of the discourse that surrounds the category of "acceptable risk." The constructs of "risk" and its close-relation "acceptable risk" often stand at the center of a discursive struggle between aggrieved communities and (some) regulatory authorities. As Lynn (1992) noted, "public concerns may have as much to do with issues of equity, justice, and social responsibility as with a 10^{-6} possibility of contracting cancer" (p. 96). As long as regulatory authorities construe the controversy over citizen testimony on matters of risk in the bi-polar terms of expertise *versus* ignorance, they obscure the critical differences in disciplinary and *community* interests. Couto (1986) makes this distinction clear:

> The evidence which epidemiologists require to achieve scientific statements of probability exceeds the evidence required to state that probably something should be done to eliminate or minimize a threat to health. . . . The important political test is not the finding of non-randomness of an incident of illness, but the likelihood that a reasonable person. . . would take up residence with the community at risk. (In Lynn, 1990, pp. 99-100. Cf. Brown and Mikkelsen, 1990, p. 134).

I am not suggesting that the indecorous voice is the result of the rhetorical incompetence of so-called marginal groups, that is, a failure to find the right words with which to articulate a grievance or to envision redress. I am arguing, rather, that the arrangements and procedures of power may determine rhetorical and epistemic "standing" for political voice. Through both the structural and more subtle modes of dismissal that I have noted here, regulatory authority and professional norms may sustain relations of inequity in public participation as "normal," and thereby abandon prospects for a more robust democratic and participatory culture. The result is that citizens face what sociologist Michael Reich called a kind of "toxic politics" (1991). This is a dismissal of a community's moral presence, the right of residents to matter within the discursive boundaries in which decisions affecting their fate are deliberated.

If this normalizing pattern has been rhetorically disabling, as I have argued, it has not been immune to critical questioning and challenge. An attempt to reclaim the indecorous voice, then, requires us to examine proposals that would alter the terms and conditions for an expanded public involvement in decisions about public health and the environment.

Public Participation and Norms of Democratic Accountability

The National Environmental Justice Advisory Council (NEJAC), an advisory council to EPA, recently spoke of such a systemic reform of the norms for democratic involvement in environmental decision-making. The new grassroots movement for "environ-

mental justice," the report noted, "represents a new vision borne out of a community-driven process whose essential core is *a transformative public discourse over what are truly healthy, sustainable, and vital communities"* (Waste and Facility Siting Subcommittee, 1996, p. 17). At the core of this vision is an elaboration of the terms for an "informed and empowered community involvement" in the decisions affecting a community's overall well being (p. 21).

In this final section, I draw on the NEJAC and similar reports, as well as grassroots citizens' organizations to summarize recent (and some not-so-recent) proposals for more inclusive norms of public, democratic participation in environmental policy.

Generally, advocates for public participation identify at least four conditions that make possible a more substantive model of citizen involvement in environmental decisions. These conditions include four "rights" of meaningful public participation: The right to know (more), the right to "authoritative" participation, the right to independent expertise, and the right to "act."

The Right to Know (More)

The "Right to Know" is the traditional, preliminary condition for meaningful inclusion of the residents of a community in decisions about facility siting, enforcement of permits, and the prevention and/or clean-up of chemical contamination. The right to know *more* is a demand to information not currently mandated under federal law, particularly under the limited terms of the Emergency Planning and Community Right-to-Know Act (EPCRA).[vii] It is the right of residents to be informed not only about chemicals being released into a community's air and water, but about the terms for licensing a potentially hazardous facility and the arrangements for inspection, for emergency response, and for broader accountability of its operations to a community.

The Right to "Authoritative" Participation

Enabling a more "authoritative" role (Foreman, 1999) are certain logistical and pragmatic terms for involving non-traditional publics. These terms seek to assure notice of, and accessibility to, public meetings, as well as translation of materials and reports into the native languages of non-English speaking communities. Two of the three principles defining the EPA's 1995 environmental justice "strategy," for example, include many of these steps to ensure community involvement, particularly in enabling citizens to attend public hearings at reasonable times and at locations within reach of their communities (see U.S. EPA, 1995). The National Environmental Justice Advisory Council has also developed a *Model Plan for Public Participation* (NEJAC, 1994) that addresses these, as well as other, related concerns. The plan, developed in cooperation with other federal agencies, includes a (non-binding) "Environmental Justice Public Participation Checklist for Government Agencies," a 35-item inventory to "assure active participation of affected communities in the decision-making process" (p. 9). Criteria include provisions for effective outreach and involvement of residents; access to information, education and training, and sensitivity to the linguistic and physical conditions for inclusion in public meetings (translations of materials into a community's predominant language, an "open microphone," etc.). Although non-binding, the *Model Plan* is intended to be normative in agencies' on-going development of strategies for implementing Executive Order 12898 on environmental justice.

More authoritatively, the NEJAC report notes, "early, ongoing, and meaningful public participation is a hallmark of sound public policy and decision-making" (Waste and Facility Siting Subcommittee, 1996, p. 21). Key to such involvement of a community is that their participation must take place "up front," at the beginning, as well as throughout the decision process (p. 21). Too often, the report found, "government response to community questions results in [its] operating in a 'decide, adopt, and defend' mode" (p. 21). Citizens who participated in a series of "Public Dialogues" held by the Waste and Facilities Siting Subcommittee of NEJAC in 1996 stressed that the meaningful involvement of the public differs from the requirement simply to hold a public meeting. Meaningful participation, they insisted, involves the "good faith effort [by public officials] to succeed in securing public input" and a "sustained and structured public dialogue" with the interested members of the community (pp. 21-22).

Several models have emerged in the last decade which attempt to ensure a more structured dialogue. Lynn (1990) notes that "new mechanisms have emerged which. . . rely on more direct negotiations and ongoing interactions between those who generate the hazards and those who experience the risks" (p. 100). Certain corporations, for example, have moved to the use of "Citizen Advisory Committees" (CACs) to achieve a more structured and sustained communication with affected communities.[viii] Indeed, the Chemical Manufacturers Association has begun recommending that its member companies themselves establish citizen advisory panels at local plant sites (as Reichhold has now done in Columbia, Mississippi), as part of the industry's recent "Responsible Care" program (Lynn and Busenberg, 1995).

Still, the form which CACs assume often remain consultative (and not authoritative) in influencing state or corporate environmental practices. As a result of increasing concerns over the risks of chemical expo-

sure, some communities are therefore demanding that more be done to involve the public in decisions. Lynn (1990), for example, proposes: "The next steps [of reform of public participation processes] entail assuring that the public is involved in defining the parameters of the problem, framing questions to be answered, deciding what information needs to be generated, interpreting the information and choosing among the policy options and means of implementation" (p. 96).

The Right to Independent Expertise

One essential component of a more determinative involvement is a disciplinary competence in making knowledge-claims. The right to independent sources of expertise, by this view, is a plea simply to "level the knowledge playing field" for the public. In a regulatory culture in which the epistemic decorum of participants is determined by their access to technical information, it is important that citizens are able to stand on equal footing with state agencies and corporate applicants. In 1986, for example, the state of North Carolina established a matching grants program (no longer in existence) for this purpose. The grant gave communities access to impartial technical expertise in order that "the concerns of the community can be addressed without having to depend on the developers of the facility for technical information. . . (and in order to) . . . increase the ability of the community to participate in the debate regarding the suitability of the facility" (North Carolina Governor's Waste Management Board, 1986, in Lynn, 1987, p. 352).

The Right to Act

One innovative mode to emerge has been a so-called "Right to Act" in which community monitoring committees or non-profit groups are authorized to inspect directly a facility or monitor its compliance with the conditions of relevant permits (Lynn, 1990). In January 1999, New Jersey enacted this concept in the nation's first "right to act" law. The statute gives the residents of Passaic County "the right to establish neighborhood committees to conduct on-site surveys of facilities they suspect may pose environmental health threats;" furthermore, if the company refuses to cooperate, the county has the right to sue on behalf of the citizens (Engler, 1999, p. 13).

Ultimately, the expansion of such rights and opportunities for low-income communities (and the public generally) to participate in governmental forums alters the conditions for the construction of the "indecorous" voice. The ability both to appear (and to speak) and to have one's interests entered into consideration in situations affecting one's interests are arguably the *sine qua non* of propriety or "fit" of the rhetorical subject and occasion.

By fore-grounding the political implications of decorum (and its opposite), therefore, I have tried to re-think the terms for participation of low-income communities in environmental policy forums. My concern has been to investigate both the structural and epistemic conditions for enabling such democratic practices and norms of accountability and, ultimately, to reclaim the "decorum" of disenfranchised voices. It is this capacity of interested publics continually to renew the terms for participating in the decisions that affect their well-being that affirms anew the impulse for the ancient art of rhetoric, the ability to speak in the agora, in the public places of a democracy.

Notes

i. Decorum *(τὸ πρεπ ου)*, "propriety" or what is "fitting," was one of the virtues of style in the classical Greek rhetorical handbooks. Aristotle's third book of the Rhetoric makes clear good style should be appropriate, neither mean nor above the dignity of the subject (1991). Similarly, Cicero spoke of the "rare judgment" required for the wise speaker, one who is "able to speak in any way which the case requires" or in ways that are most "appropriate;" following the Greeks, he proposed, "let us call [this quality] *decorum* or 'propriety'" (XX.69).

ii. Section *1503.1 Inviting Comments* requires: "(a) After preparing a draft environmental impact statement and before preparing. . . a final environmental impact statement the agency shall: . . . (4) Request the comments from those persons or organizations who may be interested or affected" (Regulations, 1978).

iii. One of the six sections of Executive Order 12898 is devoted to "Public Participation and Access to Information" (Sec. 5-5) and directs each federal agency to develop "an agency wide environmental justice strategy" that includes processes for public participation (Clinton, 1994).

iv. On September 18, 1998, Shintech withdrew its plan for the PVC complex at the Convent site. It announced it would build a much smaller plant across the Mississippi River, in Plaquemine Parish, Louisiana.

v. "Most disturbingly," the Title VI complaint alleged that, despite very clear public notices of when the comment period would end, "LDEQ

secretly continued to accept comments until the date of its decision. . . . The vast majority of the comments submitted months after the end of the comment period were from Shintech and from a group of individuals supporting Shintech" (TELC, Amended Complaint, 1997, p. 6). "Many of the late comments also specifically addressed issues raised only by the Complainants. . . . It was in this manner that LDEQ allowed Shintech to build up the record . . . free from any response or rebuttal by the Complainants" (p. 6).

vi. The Louisiana Association for Business and Industry sent a similar letter, alleging the Clinic "has been bad for business in Louisiana" (quoted in Shintech controversy timeline, 1997, p. 7).

vii. EPCRA was enacted as part of the Superfund Reauthorization Amendments (SARA) of 1986 and is the only nationwide "right-to-know" statute. The Act, however, has important limitations in the categories and levels of risk of chemical substances whose storage and release must be reported to local authorities, and to the EPA, under the Toxic Release Inventory. (See Andrews, 1999, p. 273.)

viii. See Lynn and Busenberg (1995) for the differing values that some communities report in using CACs.

Works Cited

Andrews, R. N. L. (1999). *Managing the environment, managing ourselves*. New Haven and London: Yale UP.

Aristotle on rhetoric: A theory of political discourse. (1991). G. Kennedy (Trans.). New York and Oxford: Oxford UP.

Augustine, R. M. (Panel Member). (1993). *Environmental justice: Continuing the dialogue*. Cassette recording. Durham, NC: Society of Environmental Journalists.

Berger, P., & R. Neuhaus. (1977). *To empower people: The role of mediating structures in public policy*. Washington, D.C.: American Enterprise Institute for Public Policy.

Brown, P., & E. J. Mikkelsen. (1992). *No safe place: Toxic waste, leukemia, and community action*. Berkeley: U of California P.

Campbell, K. S., S. I. Follender, & G. Shane. (1998, February). Preferred strategies for responding to hostile questions in environmental public meetings. *Management Communication Quarterly, 11*(3), 401-421.

Cicero. (1962). *Orator*. (Rev. ed.). (H. M. Hubbell, Trans.). Cambridge, MA: Harvard UP.

Clinton, W. J. (1994, February 16). Federal actions to address environmental justice in minority populations and low-income communities. Executive Order 12898 of February 14, 1994. *Federal Register 59*, 7629.

Edelstein, M. R. (1988). *Contaminated communities: The social and psychological impacts of residential toxic exposure*. Boulder, CO: Westview.

Engler, R. (1999, March). Policing corporate polluters. *Progressive*, 13.

Environmental Protection Agency. (1998, April 30). *Federal Register 63*(83), 23785-23786.

Ferstel, V. (1997, September 11). EPA reopens Shintech permit hearing. *The* [Baton Rouge], *Advocate*, p. 1.

Foreman, C. H. (1998). *The promise and perils of environmental justice*. Washington D.C.: Brookings Institution Press.

Greider, W. (1992). *Who will tell the people: The betrayal of American democracy*. New York: Simon & Schuster.

Hayes, S. (1987). *Beauty, health, and permanence: Environmental policy in the United States, 1955-1985*. Cambridge, England: Cambridge UP.

Ivins, M. (1999, February 17). Beware lobbyists who advocate "enhanced public participation." [Austin, Texas] *Statesman*, p. 22.

Leff, M. (1990). Decorum and rhetorical interpretation: The Latin humanistic tradition and contemporary critical theory. *Vichiana, 3a*(1), 107-126.

Louisiana toxics release inventory 1995. (1997, February). (8th An. ed.). Baton Rouge, LA: Louisiana Department of Environmental Quality.

Lynn, F. M. (1987). Citizen involvement in hazardous waste sites: Two North Carolina success

stories." *Environmental Impact Assessment Review, 7*, 347-361.

Lynn, F. M. (1990, Spring). Public participation in risk management decisions: The right to define, the right to know, and the right to act. *Issues in Health and Safety,* 95, 95-101.

Lynn, F. M., & G. J. Busenberg. (1995). Citizen advisory committees and environmental policy: What we know, what's left to discover. *Risk Analysis, 15*(2), 147-162.

National Environmental Justice Advisory Council. (1994). *Model plan for public participation.* Washington, DC: U.S. EPA, Office of Environmental Justice [On-line]. Available: environmental-justice-epa@epamail.gov.

No standing: How state government and the courts undermine our right to protect the environment." (1999, March/April). *Chesapeake: The Sierra Club Maryland Chapter Newsletter Online* [On-line]. Available: www.sierraclub.org/chapters/md/archive/1999/marapr/addiction.html.

Pender, G. (1993, June 1). Residents still not satisfied: Plant cleanup fails to ease Columbia fears. *Hattiesburg [MS] American,* p. 1.

Regulations for implementing the procedural provisions of the National Environmental Policy Act. (1979). Council on Environmental Quality, Office of the President. *Federal Register, 43*, 55978-56007.

Reich, M. R. (1991). *Toxic politics: Responding to chemical disasters.* Ithaca, NY: Cornell UP.

Rosenblum, W. (1983). The politics of public participation in hazardous waste management. In J. P. Lester & A. O. M. Bowman (Eds.), *The politics of hazardous waste management.* Durham, NC: Duke UP.

Shintech controversy timeline. [1998]. In Tulane Environmental Law Clinic, *Amended complaint under title VI of the Civil Rights Act, before the Administrator, the United States Environmental Protection Agency. Washington, D.C.* New Orleans: Tulane U.

Shuler, M. Governor's threats on aid criticized. (1997, July 22). *[Baton Rouge] Advocate,* p. 1.

Steelman, T. A. and W. Ascher. (1997, May). Public involvement methods in natural resource policy making: Advantages, disadvantages and trade-offs. *Policy Sciences, 30* (2): 71-90.

Tulane Environmental Law Clinic. [1997, July 16]. *Amended complaint under Title VI of the Civil Rights Act, before the Administrator, the United States Environmental Protection Agency, Washington, D.C.* New Orleans: Tulane U.

Tulane Environmental Law Clinic. (1997, September-October). Louisiana citizens declare partial victory in PVC plastics fight. *The Delta Sierran* [On-line]. Available: www.sierraclub.org/chapters/DS9705a.html.

United Church of Christ Commission for Racial Justice. (Sponsor). (1991). *Documentary highlights of the first national people of color environmental leadership summit.* [Videotape]. Available from United Church of Christ, 1-800-325-7061.

United Church of Christ Commission for Racial Justice. (1998, September 15). *From plantations to plants: Report of the emergency National commission on environmental and economic justice in St. James Parish, Louisiana.* Unpublished report. Cleveland: United Church of Christ Commission for Racial Justice.

U.S. Environmental Protection Agency. (1979). *Siting of hazardous waste management facilities and public opposition.* Washington, D.C.: U.S. EPA.

U.S. Environmental Protection Agency. (1995). *Environmental Justice Strategy: Executive Order 12898.* Washington, D.C.: GPO.

Waste and Facility Siting Subcommittee of the National Environmental Justice Advisory Council. (1996). *Environmental justice, urban revitalization, and brownfields: The search for authentic signs of hope.* Washington, D.C.: U.S. EPA Report Number EPA 500-R-96-002.

Waste is still with us. (1991, June 13). [Raleigh, NC] *News and Observer*, p. 22A.

Re-Invigorating the Public Sphere, Reviving Democratic Praxis: Environmental Justice and the Demand for Public Participation

John W. Delicath
Department of Communication, Center for Environmental Communication Studies
University of Cincinnati—Cincinnati, OH

Abstract

Novel approaches to participation and democratic models for deliberation can both account for and replace the shortcomings of traditional approaches to public participation in environmental decision making. This essay identifies the assumptions of democratic approaches to participation and outlines the principles of the "participatory ideal." To contextualize the discussion the author assesses the capacity of the National Environmental Justice Advisory Council's (NEJAC) Model Plan for Public Participation (MPPP) to promote informed and empowered participation in the context of brownfields. Changes in the procedural mechanisms for formal public participation combined with the spirit of sustained public dialogue about the questions of environmental justice and brownfields constitute a political opportunity to revitalize democratic practices.

This essay identifies the movement for environmental justice and the demand for greater public participation in environmental decision-making, specifically within the context of Brownfields policy, as a potential opportunity to create formal and informal mechanisms for building what Benjamin Barber (1984) calls "strong democracy." The discussion here is situated within the larger conversations about the crisis of democracy, the uneven playing field of the public sphere, and the possibilities for renewed democratic praxis.

In this essay, I first describe the centrality of the demand for public participation in the movement for environmental justice taking note of the movement's efforts to participate as equal partners in the formulation of environmental policy. Second, I explore possibilities for more democratic public participation by advancing an alternative set of assumptions upon which public participation should operate and identifying several principles upon which to evaluate and develop mechanisms and processes for meaningful public participation. Third, I analyze the possibilities for greater public participation outlined in environmental justice legislation and specifically the recommendations of the National Environmental Justice Advisory Council (NEJAC) with regards to brownfields initiatives. I argue that the Model Plan for Public Participation (MPPP) and NEJAC recommendations for informed and empowered public participation constitute important strides toward the participatory ideals of democratic participation. Finally, I briefly discuss the possibilities that the movement for environmental justice holds for the future of democracy. Once again I turn to brownfields as the context in which the movement for environmental justice may not only re-vitalize the public sphere, but in reinvigorating civic discourse and public participation, may revitalize democracy itself. I argue that the democratic ethos manifest in a sustained public dialogue about brownfields and urban revitalization can be cultivated into a force capable of building strong democracy.

Before exploring the shortcomings in contemporary strategies and mechanisms for public participation in environmental decision-making, I need to offer some brief definitions of the terms that constitute the context for this discussion; that is, with regards to environmental justice, brownfields, NEJAC, and urban revitalization. This essay is culled from a larger work that follows the development of the Clinton Administration's Environmental Justice and brownfields initiatives, and particularly the establishment of the National Environmental Justice Advisory Council (NEJAC). NEJAC is a federal advisory committee established to provide independent advice, consultation, and recommendations to the Administrator of the U.S. EPA on matters related to environmental justice.

While I am sure many of you are aware of the issue of environmental justice, let me nevertheless offer a definition. Environmental justice concerns the right to safe, healthy, productive, and sustainable environment for all, where "environment" is considered holistically to include the ecological, physical (natural and built), social, political, aesthetic, and economic environments. The term inherently acknowledges the concept of "environmental injustice" as the past and present state of affairs whereby low-income and communities of color bear the disproportionate effects of environmental pollution and deterioration and articulates the socio-political objectives needed to address them.

Brownfields are defined by the EPA as "abandoned, idled, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived contamination" (NEJAC, 1996, p. 5).[1] In essence, brownfields are the run-down, abandoned, and often polluted environments that dot the landscape (or particular sections of it) in America's urban areas.[2]

The connections between environmental justice and brownfields are readily apparent. As advocates for environmental justice have made clear, environmental injustice is a complex phenomenon related to a host of larger issues concerning economic, housing, municipal service delivery, and transportation policy. Charles Lee (1996), a member of National Environmental Justice Advisory Council, argues that "environmental justice and Brownfields are inextricably linked; the inescapable context for discussion of the Brownfields issue is environmental justice and urban revitalization" (see, NEJAC, p. ii). Brownfields are not only an environmental justice issue—they are tied to much larger political and economic questions and thus provide a context for linking environmental justice to fundamental issues concerning urban revitalization and democracy.

Environmental Justice and Public Participation

Central to the environmental justice frame, and inherent in the movement's articulation of justice and equality, is the demand for more meaningful public participation in environmental decision-making. As declared in the Principles of Environmental Justice: "Environmental justice demands the right to participate as equal partners at every level of decision-making including needs assessment, planning, implementation, enforcement and evaluation." Dowie (1995) has described this as the most significant feature of the movement arguing that "at the heart of the grassroots movement—and what to this day distinguishes it from the mainstream movement—is its strong belief in the right of citizens to participate in environmental decision-making" (p. 135). Environmental justice advocates' attempts to open the doors to more effective and meaningful participation in environmental and brownfields policy, however, face significant obstacles.[3] While assisted by effective articulations of the need for greater citizen participation, and the development of a model for public participation (MPPP) by NEJAC (the effectiveness of which I will discuss shortly), environmental justice advocates confront a policy making regime that is more than simply stacked against them. Contemporary mechanisms and processes of public participation rely on technocratic assumptions about communication, knowledge, and participation all of which reinforce a conception of the public that leaves officials and experts with very little incentive to invite, assist, take seriously, respond to, or otherwise use, the input of the citizens.[4] Katz and Miller (1996) argue that public policy making employs a "closed rhetoric of authority, control, precision, associated with the power of science and technology and the cultural belief that these are the only valid ways of knowing and doing" (p. 134), leaving few assurances that the public will be informed, empowered to participate in meaningful dialogue with decision-makers, or that community input will influence decisions. However, novel approaches to participation and democratic models for deliberation can both account for and replace the shortcomings of traditional technocratic approaches to participation.[5] The development of such approaches begins with articulating the assumptions of democratic participation and identifying the participatory ideals capable of promoting informed and empowered public participation.

My first task here is to develop a vision of democratic participation. I seek to outline the assumptions underlying democratic approaches to participation and the principles upon which democratic participation can be exercised, institutionalized, and actualized. The vision I articulate here is by no means my own. Rather, I have drawn from the growing literature of participation theory to sketch out a composite of democratic participation.[6] More specifically, I seek to elaborate and extend Fiorino's "participatory ideal" by synthesizing it with The International Association of Public Participation Practitioners "core values for the practice of public participation," and Walker et al.'s (1996) ideal of "civic discovery."

Assumptions and Values Underlying Democratic Approaches to Public Participation

Assumptions regarding at least three elements are critical to developing effective models and mechanisms for public participation. These values and assumptions not only underlie the models of participation, they infuse the very life of participation practices. Democratic approaches to public participation must outline underlying values and assumptions regarding: the public, public participation, and communication.

The Public. Democratic approaches to public participation rest on a number of assumptions about the public. First, there is a recognition that there are multiple "publics" and that public participation must therefore include the voices of a diverse range of stakeholders. Second, democratic approaches to public participation recognize that "forums are doomed to failure unless participants come to discussion with mutual respect for each other as persons, not as objects

of rational administration" (Mayhew, 1997, p. 261). This being the case, democratic approaches to public participation assume that the public is inherently qualified to participate in decisions affecting their communities, and believe in the "inherent competence and improvability of citizens" (Fiorino, 1996, p. 199). Third, democratic approaches to public participation recognize and respect the right of the public to speak for itself and the legitimacy of the public's voice and opinion. They also respect the relevance of community knowledge including language, culture, and experience as well as recognize that emotional discourses may be reasonable responses to particular situations (see Katz & Miller, 1996).

Public Participation. Democratic approaches to participation start with the assumption that people should have a say in decisions about actions which affect their lives. A public invested with the responsibility for shaping their collective futures is central to a democratic society and fundamental to notions of citizenship. Public participation is therefore vital to a democratic society and integral to sound policy. Strong democracy "exists to the degree that citizens are organized to discuss questions of public relevance, to form public judgments on issues of public policy, and to express these judgments in politically effective forums" (Mayhew, 1997, p. 260). Strong models of democracy therefore require public participation in the formulation of public policy (Barber, 1984). Indeed, meaningful public participation is the "hallmark of sound public policy and decision making" (NEJAC, 1996, es-iii).

Communication. Assumptions about communication are not peripheral to the democratic character of public participation. First, assumptions about communication and the communicative processes fostered by particular modes of public participation profoundly influence the dynamics of participation. Second, a "richer understanding of communication opens up the possibility for enhanced engagement between the government and the public in the environmental arena" (Graham, 1997, p. 229).

Democratic approaches to participation rest on an important set of assumptions about communication. First, communication must be bilateral.[7] There must be systematic engagement and genuine dialogue among stakeholders in environmental decision-making. Second, democratic approaches to participation foster mechanisms and processes that promote deliberative rhetorics "through which citizens test and create social knowledge in order to uncover, assess, and resolve shared problems" (Goodnight, 1982, p. 214). Third, democratic approaches to participation must be driven by an "open-ended rhetoric of participation, engagement, [and] ambiguity, associated with the ideals of democracy and the cultural belief that a plurality of perspectives and methods is probably necessary to arrive at the best decisions" (Katz & Miller, 1996, p. 134).[8]

Having established the assumptions upon which democratic approaches to participation rest—we can proceed to identifying the principles that will assist us in not only evaluating the adequacy of public participation, but in developing innovative mechanisms and processes for informed and empowered public participation.

Principles of the Participatory Ideal

Following Fiorino's (1990, 1996) lead, I seek to establish a set of principles that might constitute a participatory ideal for democratic participation. Taking Fiorino's initial formulation as a starting point, I elaborate on the principles of democratic participation by supplementing his criteria with the "core values for public participation" established by the International Association of Public Participation Practitioners, and Walker et al.'s (1996) ideal of "civic discovery." The participatory ideal is best achieved when public participation practices allow for the direct participation of the public, enable citizens to participate on a more equal basis, promote civic discovery, create mechanisms for face-to-face interaction among stakeholders over time, and invest citizens with a role in decision-making.

(1) A mechanism or process promotes democratic participation when it allows for the direct participation of the public. The direct participation of the public involves engaging administrative officials, technical experts, and other stakeholders in open forums that emphasize dialogue and deliberation. It also involves a commitment to advocacy and the airing of concerns and complaints as well as the articulation of community vision. As Mayhew (1997) reminds us "deliberation requires a voice for all who have a stake in the outcome, for without fully representative discussion, collective decisions neither incorporate the range of pertinent information on which workable decisions must be taken nor garner the support of those who must live with them" (p. 255).

While Fiorino (1996) stresses the importance of participation of amateurs, I would like to turn the discussion toward identifying key publics whose voices must be sought and whose opinions must be heard. First, democratic public participation processes must facilitate the involvement of those most directly or potentially affected by the decision. Second, public participation should involve citizens who represent

diverse perspectives. Third, agencies responsible for public participation should identify a broad range of stakeholders capable of contributing to an open and sustained dialogue on agenda issues and policy choices.

(2) A mechanism or process promotes democratic participation when it enables citizens to participate on a more equal basis. Effective, democratic participation rests on the ability to overcome or eliminate the significant power differential that structures all forms of public participation (Graham, 1997). The first step in enabling citizens to participate on a more equal basis requires that citizens help determine the mechanisms through which they will participate. Democratic participation processes involve "participants defining how they participate" (MPPP, p. 5).[9]

At a minimum, public participation processes must provide the public with the information that they need to participate in meaningful ways. This requires new information and education strategies that are sensitive to community needs and which are geared toward community capacity building. Additionally, those responsible for public participation should communicate to the public "how their input was, or was not, utilized" (MPPP, p. 5).

A third step in creating a more equitable basis for public participation requires sensitivity to the modes of deliberation and dialogue that are employed. "Perhaps more than any other single factor the question of whose language is used determines whether or not the process is truly community-driven" (NEJAC, 1996, p. 2). Equitable participation requires recognizing and respecting local community knowledge, language, experience, and culture.

Perhaps the most difficult, yet most crucial task for achieving more equitable participation is the development of models where "the views of the citizens are seen to be as valid of those of the technical experts and agency officials" (Fiorino, 1996, p. 195; Fiorino, 1990). However, it is possible that satisfying other elements of the participatory ideal like shared responsibility and a means to influence decision making can contribute to more equitable participation on the part of the public.

(3) A mechanism or process promotes democratic participation when it promotes civic discovery. Civic discovery is a participatory ideal that can radically transform the nature of public participation in policy making. Civic discovery, a concept first employed by Walker, et al. (1996), is grounded in dialectical interactions that promote systematic engagement among stakeholders through collaborative learning and decision building. Here again, rather than simply employ a concept, I seek to elaborate and extend on its original meaning. I see civic discovery as uniquely transformative because it crystallizes a number of characteristics identified by participation theorists as central to effective and meaningful interactions among the public and administrative officials and technical experts. Public participation in the mode of civic discovery advances several democratic ideals. The key features of civic discovery—openness, shared responsibility, collaboration, dialectical engagement, dialogue, constructive argument, deliberation, and negotiation—are fundamentally democratic (Walker, et al., 1996; Graham, 1997; Depoe, 1997). To the extent that mechanisms or processes emphasize these features of participation, they are likely to promote democratic ideals.

As defined by Walker, et al. (1996), a key component of civic discovery is collaborative learning. I employ Walker's and Daniels' (1996, 1997) notion of collaborative learning more metaphorically than literally. I elaborate on the commonalties of five methods of collaboration discussed by these authors rather than treating them as separate mechanisms with different procedures and assumptions.[10] I see collaborative learning as a metaphor that captures the systematic and dialectical nature of the processes required for meaningful public participation. The notion of collaborative learning is consistent with the idea of decision building. As Shannon (1991) explains, decision-building "involves both citizens and agency staff in creating knowledge and developing shared commitment toward a mutually defined course of action" (p. 27, quoted in Graham, 1997, p. 228). In such a process, openness and shared responsibility are crucial to establishing an atmosphere of cooperation necessary for mutually defined and shared commitment. Openness requires the public be given a voice and that the process is structured so as to allow and encourage meaningful public input. Openness also requires respect for the public's voice, its language, its visions, and its modes of deliberation. Shared responsibility for the agenda, modes of participation, and decision-making are necessary if the public is to participate on a more equal basis and if that participation is going to influence decision-making.

Additionally, collaborative learning and decision building require dialectical engagement, bilateral communication, and dialogue. Such ideals will encourage the use of exploratory and open-ended forums for public participation. More specifically, civic discovery relies on constructive argument and deliberation. As a principle of democratic participation it recognizes the need for deliberative rhetorics of the kind that explore problems, solutions, values, identities, and visions. Civic discovery recognizes that public participation must include opportunities for

discussion and debate—the constitutive forces of democracy. The dialectical give-and-take of debate creates new knowledge as policy makers and the public learn from the interplay of competing ideas. As Fiorino (1996) argues, debate and deliberation "allow citizens to understand different points of view, search for shared interest and transform conflict into agreement" (p. 201). Finally, Mayhew (1997) adds that "only when issues are addressed from opposing platforms, can we speak of public *forums*" (p. 256), suggesting that only deliberative debate affords the opportunity to engage decision-makers and other stakeholders in ways that require them to adequately explain and defend positions.

(4) A mechanism or process promotes democratic participation when it creates mechanisms for face-to-face interaction among stakeholders over time. This principle is best discussed by breaking it down into its key components.

Mechanisms. Here, as we so often do, we confront the question of what concrete mechanisms or procedures are capable of supporting the kinds of public participation and communicative practices necessary for democratic decision-making. Satisfying this participatory ideal will require the establishment of novel forums for participation and the developing and testing of ideas. While a full-blown discussion of each is necessary, I have only time to mention a few potentially promising forums.

Broad-based community and stakeholder roundtables offer excellent opportunities for public input, partnership building, and agenda setting by the public. Community visioning processes seem uniquely adept levers for exploring shared values upon which to develop policy. Public dialogue projects provide an excellent forum in which citizens can systematically provide input on policy issues. Held at the outset of policy decisions they can play particularly useful roles in providing a context and agenda for future discussion. Public debates may be employed as both formal and informal mechanisms for public participation and would afford community groups and affected individuals the opportunity to gather information, participate in public dialogue, engage decision-makers, and build partnerships with other stakeholders.[11] National summit meetings can bring diverse stakeholders together and provide contact with federal decision makers. Summits can be used to build new partnerships, learn from common experiences, assess progress, uncover blind spots, and explore directions for future policy.

Face-to-face Interaction. The public, stakeholders, and certainly affected individuals must have contact with those administrators who make final decisions. Democratic participation requires developing ways for communities to systematically engage those administrative officials and technical experts ultimately responsible for decisions that will affect their community. Such interaction is necessary for truly democratic participation on the part of the public and for developing relationships of respect and trust. Face-to-face interaction with stakeholder publics is essential for satisfying the participatory ideals of openness, shared responsibility, and honoring the democratic ethos that regards the public as inherently qualified to participate.

At this point it is useful to turn to Graham's recognition of the importance (if not centrality) of interpersonal relationships in public and policy maker interactions. For Graham (1997), interpersonal relations constitute the "basic unit for a collaborative program of agency/public involvement" (p. 231). Interpersonal relationships serve as a "place to engage people in dialog about their objectives, their concerns, and their knowledge for the purpose of democratic deliberation and decision-making" (Graham, 1997, p. 231). They are the starting point for collaboration, shared responsibility, and openness. As Graham (1997) argues, "placing relationship development at the center of the public participation process also creates the capacity for on-going and cumulative joint activity" (p. 231). Having come to similar conclusions NEJAC (1996) has called for developing "policies and performance measures which encourage program personnel and policy makers to spend substantive time in neighborhoods as a regular part of their work so that there is understanding of real problems, concerns, and aspirations, of community residents" (p. es-iv). These and other initiatives must be undertaken to encourage accountability and respect. Public participation mechanisms and procedures that foster relationship building will go a long way toward satisfying participatory ideals.

Over Time. The call for participation to take place over time is consistent with many participatory ideals. Sustained public participation over time takes seriously the need for systematic and engaged interaction among stakeholders. It also embraces the ideal that ongoing public participation is the hallmark of sound policy making.

The call for participation to occur over time also raises an important question about what stage in the public participation and policy making processes are certain mechanisms and formats required, and when are particular mechanisms most effective/appropriate. Public participation must be appropriately timed. And, as odd as it sounds, there needs to be public

participation about how to satisfy requirements for public participation in particular environmental disputes. Public participation must be sought with regards to deliberation about how public participation will be exercised and how it will influence decision-making processes. This is, of course, consistent with the participatory ideal of the public defining how it will participate. It also requires a commitment to "up-front community involvement in planning, preparation, and definition of issues" (NEJAC, 1996, p. 2). Integrating democratic participation mechanisms into "the design of environmental programmes from the outset would improve the prospects for more effective democratic participation in policy decisions" (Fiorino, 1996, p. 209). Such efforts would recognize the "creative role citizens would be called to play in the design of a process" and make possible the development of "a sense of collective purpose and ownership" as the driving force behind a process of decision-building (Graham, 1997, p. 27). While it is clear that early and up-front participation is required, there is nevertheless a need to explore at what stages in the policy making process specific types of public participation are most necessary and effective.

Fiorino (1996) identifies the three broad stages at which different mechanisms for public participation should be considered: setting the policy agenda, developing the frameworks used to make policy choices, and making policy choices. Walker and Daniels (1997) offer a more narrowly focused discussion of the timing of public participation procedures by noting that collaborative learning and civic discovery require different mechanisms and formats at different stages in the policy making process (see p. 282). Public participation must occur at multiple points in the policy making process and different mechanisms for public participation must be employed at different stages to accomplish specific tasks (information acquisition, relationship/partnership building, issue identification/agenda setting, constructive argument and deliberation). Of course, a final form of participation must come at the time reserved for decision making.

(5) A mechanism or process promotes democratic participation when it invests citizens with a role in decision-making. One of the core values for the practice of public participation "includes the promise that the public's contribution will influence the decision" (MPPP, p. 5). As NEJAC (1996) reminds us, "[i]t is not enough to provide access to information or opportunities to provide comment. Decision-makers must make an effort to truly consider the advice offered by the community. It is important that these decision-makers not only provide opportunities for affected communities to provide advice, but demonstrate that they are 'hearing' the advice offered" (p. 22). Indeed, Fiorino (1996) argues "the goal in a democracy should be participation that is more than therapeutic, but in which citizens share in governing. This occurs when citizens have a defined role or codetermine policy with administrative officials" (p. 201).

While there have been efforts to promote organized discussion capable of nourishing public life "efforts to connect deliberative discussions to governmental officials and public institutions have had little impact to date" (Mayhew, 1997, p. 263). How to construct forms of democratic participation that allows citizens some influence over the decisions that affect their communities remains a fundamental challenge to the achievement of the participatory ideal.

Analysis and Evaluation of NEJAC's Model Plan for Public Participation (MPPP)

The federal government and the EPA have responded to the concerns raised about the lack of meaningful public participation in environmental decision-making and have talked a good deal about making changes. Increased "public participation" seems to be the latest buzzword in the environmental policy making arena. Indeed, Executive Order 12898, Clinton's environmental justice initiative, identifies ensuring greater public participation as one of the five key concerns for federal agencies to consider as they make achieving environmental justice part of their mission. NEJAC has declared that "early, ongoing, and meaningful public participation is a hallmark of sound public policy and decision making" (1996, p. 18). In order to create opportunities to make public participation more meaningful, NEJAC has discussed issues running the gamut of concerns about participation ranging from up-front and on-going participation, structured mechanisms for communities to engage the EPA, and various models and forums of participation, to strategies for informing the public, respecting the language and voice of participants, and even more general efforts to increasing participation by holding meetings at convenient times and locations. In this section I want to assess the capacity of NEJAC's Model Plan for Public Participation (MPPP) to promote participatory ideals and to establish more democratic mechanisms for public participation. In doing so, I also explore an additional, and significant, feature of the EPA's commitment to public participation: the use of formal and informal mechanisms to promote "systematic and sustained dialogue on Brownfields and environmental justice" (NEJAC, 1996, p. 19).

The Model Plan for Public Participation (MPPP), developed by the Public Participation and Accountability Subcommittee of NEJAC, consists of

two guiding principles and four critical elements —accompanied by a statement of core values for the practice of public participation developed by the International Association of Public Participation Practitioners, and a checklist developed by the Interagency Working Group on Environmental Justice for use by Federal and State agencies. The model is a "living document." It is intended to be reviewed and revised as necessary. Officials, stakeholders, and other readers of the document are encouraged to consider "the model plan as a tool that will guide the public participation process" (MPPP, p. i).

The Guiding Principles of the NEJAC Model Plan for Public Participation are to (1) encourage public participation in all aspects of environmental decision-making where communities, including all types of stakeholders, and agencies are seen as equal partners in dialogue; and (2), "maintain honesty and integrity in the process and articulate goals, expectations, and limitations" (MPPP, p. 2). The first guiding principle regarding public participation recognizes that to be successful, interactions must "encourage active community participation, institutionalize public participation, recognize community knowledge, and utilize cross-cultural formats and exchanges" (MPPP, p. 2). The second guiding principle recognizes the need for information and education strategies to allow for more equal participation and to "provide a means to influence decision making" (MPPP, p. 2).

The four critical elements of the MPPP consist of preparation, participants, logistics, and mechanisms. Preparation concerns developing, co-sponsoring, and co-planning activities that will help prepare communities for participation in public forums. At one level this involves early and meaningful participation in planning and coordination efforts so that communities are involved in the development of the agenda, the establishment of clear goals, and outreach and leadership activities. At a second level, preparation concerns information and education efforts required to promote informed and empowered participation by citizens.

Participants are defined as a critical element concerning the need to identify and encourage active participation by a broad range of actual and potential stakeholders. The NEJAC (1996) model has already identified a range of communities that should be involved including religious and educational institutions (p. 3, p. 6). Educational institutions are identified as a "key" stakeholder.

Logistics are critical elements that involve very practical concerns regarding the scheduling and location of meetings and public events. Crucial to this is the recognition that meetings and other events should be proceeded by community planning and education. The model also encourages planners to explore ways of creating an atmosphere of equal participation, logistically, by avoiding the use of head tables and panels.

Mechanics are critical elements, unfortunately, which are left under-discussed in this document. The issues discussed in this context are limited to maintaining clear goals, incorporating cross cultural exchanges, providing a timeline, a professional facilitator, and coordinating follow-up activities. While all of the items listed here are important—the document lacks an emphasis on concrete mechanisms capable of encouraging public participation, ensuring more equitable participation, and providing the means for participation to influence decision-making.

While the "Core Values for the Practice of Public Participation" that accompany the MPPP articulate key elements of the participatory ideal, it is not clear how such values have specifically informed the development of this model. Indeed, there is no discussion of the core values; the list is simply inserted as page five of the document.

Equally troubling is the fact that the Environmental Justice Public Participation checklist for government agencies sits as a 35 point laundry-list of tasks and goals for promoting effective participation. The checklist, while identifying crucial requirements for democratic participation, is poorly organized and articulated. Common concerns are not grouped and discussed in tandem. There is little distinction between goals and mechanisms, and there is little attempt to prioritize what dynamics are most important for achieving meaningful and effective participation. Finally, there is too little emphasis on both the concrete mechanisms for enhancing public participation and the philosophical ideals and assumptions about communication on which to develop models for participation.

In the next section I categorize the items on the checklist and assess the degree to which they are concerned with assumptions/values, goals, and processes/mechanisms. I also analyze the extent to which the MPPP advances participatory ideals and thus the extent to which it creates possibilities for more democratic public participation. Throughout the discussion, I return to recommendations made in NEJAC's (1996) report on environmental justice, urban revitalization, and brownfields to reiterate particular concerns and to identify additional ways to achieve more informed and empowered public participation.

Education and Information. Interestingly enough, the primary emphasis in the MPPP is on education and information in ways quite consistent with the technocratic model of participation. Items 5, 8, 9, 10, 15, 26, and 27 are concerned with effective out-

reach, education, and communication. Together they describe the need to make information readily accessible: to regionalize materials, translate documents into appropriate language, deliver them in a timely manner, store them in centralized and accessible repositories, and establish a central contact for the release of information, to be available for questions, and to be a visible, accessible, and capable advocate for the public. While it should be noted that these are productive changes that make important strides toward a mode of education and information that promotes empowered participation, practitioners, officials responsible for public participation, and activists must nevertheless guard against the tendency for information and education to be a one-way street. It should also be noted that the only explicit articulation of the need to "provide a means to influence decision making" comes under the discussion of "preparation" and at the end of a sentence discussing education.

Expand the Range of Participants. Here the checklist, as well as other NEJAC documents, performs a valuable service by identifying a broad range of relevant stakeholders and encouraging communication and outreach efforts capable of bringing such groups into the deliberative process. First, item 14 encourages agencies to utilize novel vehicles for outreach and notification so as to widen the range of, and increase the participation by, relevant stakeholders. Second, the impetus is there to cultivate and sustain dialogue by fostering meaningful interaction among the various stakeholders. Item 25 encourages agencies to hold workshops, seminars, and other meetings to develop partnerships between agencies, workers, and community groups. However, it is not until item 28 that the MPPP articulates the need to "assure active participation of affected communities in the decision-making process" (p. 9).

Encourage Early and On-going Participation. Despite NEJAC's emphasis on early and on-going public participation as the hallmark of democratic policy making, it is not until item 34 that we find the suggestion that prior to conducting the first meeting, agencies should form an agenda established by the community and the agency. Earlier, in item 17, the checklist addresses the need for ongoing participation by suggesting that "after holding a public forum in a community" practitioners should "establish a procedure to follow up with concrete action to address community concerns" (p. 8). Such efforts may help move toward more sustained engagement with the public and help satisfy the participatory ideal of informing the public of how its input was, and was not, used in the decision-making process.

Encourage More Equitable Participation among Administrative Officials, Technical Experts, and the Public. The discussion of the guiding principle of public participation speaks explicitly to the fact that "communities, including all types of stakeholders, and agencies should be seen as equal partners in dialogue on environmental justice issues" (MPPP, p. 2). Of course, actualizing this commitment is a difficult task. Even if successful in developing shared responsibility and a role in decision-making the public will remain unequal partners. The best we can hope for is to ground public participation efforts in commitments to participatory principles and democratic values, and develop concrete mechanisms for innovate ways in which the public can participate in ways that are informed and empowered.[12] Clearly, strategies for developing more equitable means of public participation remain necessary.

Develop Mechanisms for Informed and Empowered Public Participation. While NEJAC stresses the need to develop novel and innovative forms of public participation, the MPPP checklist briefly mentions only the need to establish "site-specific community advisory boards" (item 12, p. 7). While the recommendations to "ensure that representation includes all aspects and diversity of the population" and to "organize a member selection panel" are consistent with democratic ideals there is little description of the functions of advisory boards, and specifically their role in the decision-making process (MPPP, p. 7).

Secondly, in item 35 is the somewhat random recommendation to provide an open microphone format for public meetings so as to allow the public to ask questions and articulate concerns of the community. Unfortunately, this recommendation presupposes the ineffectual format of public hearings and leaves unexplored crucial questions regarding how the open microphone period is employed. What should be the time allotted for questions? When will the open microphone period be "open?" That is, are comments and questions heard before, during, or after agency presentations? Should the format for participation be limited to question-and-answer and comment periods? Can this format avoid the tendency for it to produce unilateral communication? A format where agency officials make presentations followed by an open-microphone question-and-answer period does not constitute bilateral communication.

Greater emphasis on mechanisms and processes that employ different formats to establish a more dialogic and processual manner of systematic engagement among publics, agencies, experts, and other stakeholders is needed. Democratic mechanisms for participation require the means for more constructive en-

gagement between stakeholders, and room for a more open articulation of community concerns and visions. This should include NEJAC's (1996) specific recommendation to "implement mechanisms and structures through which the public can take part in reviewing and evaluating progress" (p. 24)—a suggestion that also promotes on-going and engaged participation as well as affords the public some specific role in participation—the possibility to analyze and criticize perceived shortcomings in the process.

Develop Mechanisms for Public Participation to Affect Decision-making and Influence Policy. Noticeably absent from the public participation checklist are recommendations for mechanisms through which public input can affect the process of policy formulation and implementation. Nor is there an explicit recognition of the need to develop mechanisms that establish ways in which participation can shape decisions. Unfortunately, there is not even a commitment to the right of the public to voice its opinion on decisions affecting their lives, and to have that participation matter articulated in the document. While the guiding principles of public participation recognize it is necessary to institutionalize public participation—there are but a few concrete mechanisms for achieving more meaningful and effective public participation discussed in the MPPP and accompanying documents.

I recognize that the MPPP falls short of achieving the participatory ideal. I realize that additional efforts are required to ensure equitable participation, shared responsibility, and sustained dialectical engagement. As well, the real issue of how public participation can be given an institutionalized role in shaping policy decisions remains a serious challenge. However, despite the many significant obstacles that confront attempts to democratize the policy making process, I remain optimistic about the environmental justice movement's ability to affect change in the way environmental policy decisions are made.

Reasons for Optimism

The first source of optimism lies with the attempt to create concrete mechanisms to enhance both effective access to, and meaningful participation in, the public sphere. I am inspired by the desire to search for alternative mechanisms and processes for public participation and the possibility that novel forums for the exchange of ideas are being theorized and put into practice. It is essential that we find ways to establish "concrete material mechanisms that create the public space to draw on the ideas of many more people" (O'Connor, 1993, p. 54). Alternative means of public participation that encourage early, on-going, inclusive, and open participation centered around dialogue, constructive argument, and deliberation are being developed.

Attempts to move beyond public hearings and discover novel forums for the exchange of ideas and articulation of community vision are promising. Citizen advisory boards and citizen review panels, despite potential shortcomings, constitute concrete mechanisms through which the public can be invested with decision-making power. Elsewhere I have argued that communication scholars can play important roles in developing new forms of, and novel forums for, public participation in environmental decision-making.[13] Here I would recognize Gregg Walker and his colleague, Steve Daniels' attempts to employ collaborative learning and promote civic discovery in natural resource controversies as work that is vital to establishing new mechanisms for citizen participation in environmental issues. I think the public dialogue project of W. Barnett Pearce (1998) and his colleagues represents an innovative means of developing mechanisms for systematic engagement between brownfields stakeholders and the public in ways that are grounded in dialogue and deliberation. In my own work, I have explored issues of community capacity building and concentrated on developing ways in which advocacy and debate can be employed to test ideas, develop appreciation for different points of view, and search for common solutions. I have attempted to outline how public debate may serve as both a formal and informal mechanism for public participation and with my colleague Gordon Mitchell, have sought funding for a grant project to promote a series of national public debates on environmental justice/brownfields on college and university campuses.

I am also encouraged by efforts to develop mechanisms for more informed and empowered participation on the part of the public. Measures designed to ensure more equal and effective participation on the part of the public will also play a role in making environmental policy making more democratic. Education and information strategies are being re-designed so as to enable citizens to be more able advocates. I agree with Fiorino (1996) that efforts to invite publics to participate in policy decisions and to share decision making responsibility "can supplement and maybe replace the current adversarial form of participation that is characteristic of environmental policy making in the United States" (p. 209).

A second source for optimism rests in the democratic ethos of a sustained public dialogue about environmental justice. Through both formal and informal vehicles NEJAC (1996) has encouraged the "commitment to systematic and sustained dialogue on Brownfields and environment justice" (p. 22). We must

explore ways in which systemic and sustained dialogue, combined with formal mechanisms for public participation, can be cultivated into a force capable of counteracting the general malaise surrounding civic life and the possibilities of affecting political change. In a democracy, citizens have expectations about participation and the ability of individuals to make a difference. As Fiorino (1996) reminds us, "when these expectations about participation and influence are not met, the result is a sense of alienation and powerlessness, weakening of democratic values and less confidence in political institutions" (p. 210). There are, however, reasons to believe that such conditions can be reversed. Citing a Harwood Group survey, Mayhew (1997) argues that "people are hungry to connect themselves with public issues, ready to draw upon these connections to discover areas of common concern and opportunities to work together, and eager to find community with others through such work" (p. 261). The potential exists to unite citizens in common dialogue and inspire renewed civic engagement. In this context, efforts directed toward a "systematic attempt to stimulate a new and vigorous public discourse about developing strategies, partnerships, models, and prospects for ensuring healthy and sustainable communities in America's urban centers and their importance to the nation's environmental and economic future" (NEJAC, 1996, p. 2) may provide the spark necessary for revitalizing the public sphere and reviving democratic practices.

The third source of my optimism has to do with the unique context of environmental justice, brownfields, and urban revitalization. At the close of the twentieth century, the movement for environmental justice confronts a unique political opportunity created by the issue of brownfields and a larger public dialogue about urban revitalization and the future of America's cities. I want to suggest that brownfields creates the conceptual, practical, and institutional space for the crystallization of environmental issues—as they are articulated as inseparable from concerns of employment, investment, infrastructure, health, and transportation. Brownfields could be the epicenter at which the movement for environmental justice fundamentally transforms society, throwing open the doors to a dialogue on the ecological design of our cities and the possibilities for urban revitalization that may clean up the environment, create jobs, and save green spaces.[14] The discourse of environmental justice is itself transformative. "Environmental justice represents a new vision borne out of a community-driven process whose essential core is a transformative discourse over what are truly healthy, sustainable, and vital communities" (NEJAC, 1996, p. 17). As the issues of environmental racism, equity, and justice make their way across the landscape opportunities will/are be[ing] created for new visions of America's urban environmental future. The hope is to "engage a process which ultimately will coalesce a new type of environmental and social policy capable of meeting the challenges of revitalizing urban America and restoring ecological balance to the nation" (NEJAC, 1996, p. es-viii).

Conclusion

Bob Edwards (1995) argues that the movement for environmental justice "has assimilated environmental issues into a comprehensive vision of democratic process, civil rights, and social justice" (p. 36). As such, environmental justice groups may be the vanguards of democratic revitalization itself. Demanding the right to information, access to public forums, and a voice in the decision-making process may re-invigorate participatory politics. Furthermore, the protocols for public participation sought by environmental justice advocates may create the political opportunity to re-vitalize democratic practices. I have argued that changes in the procedural mechanisms for formal public participation combined with the spirit of sustained public dialogue about the questions of environmental justice and brownfields constitute a political opportunity to revitalize democratic practices.

Needless to say, re-invigorating the project of democracy is a task of monumental proportions. However, I argue that optimism rests both in the ethos of a sustained dialogue about environmental justice and the structural transformations in the policy making process. Indeed, perhaps the greatest source of optimism about the movement for environmental justice and the demand for greater public participation is that they are creating both formal and informal mechanisms for revitalizing democratic practices of the sort associated with strong democracy. Like Katz and Miller (1996), I recognize that the participatory ideal is just that, an ideal. However, it is "not merely figment of democratic idealism" as evidenced by instances of innovative forms of public participation and examples of dialogic and interactive decision making. Like Waddell (1996), I firmly believe that the cultivation of concrete mechanisms for informed and empowered participation infused with the democratic values and participatory ideals outlined here can "have significant implications for the expansion of democratic governance and the decentralization of political power" (p. 158).

Notes

1. All references attributed to NEJAC, the National Environmental Justice Advisory Council, are from the Report, *The search for authentic signs for hope*, EPA Publication No. (EPA 500-R-96-002). The full citation listed on the reference page is as follows: United States Environmental Protection Agency (1996), *Environmental justice, urban revitalization, and brownfields: The search for authentic signs for hope.* A report on the "Public Dialogues on Urban Revitalization and Brownfields: Envisioning Healthy and Sustainable Communities." National Environmental Justice Advisory Council Waste and Facility Siting Subcommittee. Charles Lee, Chair.

2. There are rural (and even suburban) brownfields issues. However, the vast majority of brownfields are found in urban areas.

3. Very troubling is the fact that traditional assumptions and practices of public participation still not only undermine, but work directly against, meaningful citizen participation. Robert Cox's discussion about public participation procedures in the Shintech permit decisions in Convent, Louisiana is an especially stark reminder of the obstacles advocates may face in their attempt to meaningfully participate in environmental decision-making. That such unfair and unjust decisions governed the participation process despite the fact that the EPA has committed itself to the principles of environmental justice and to promoting more effective and substantive public participation is genuinely disconcerting. See Cox, this volume.

4. Traditional approaches to public participation rest on what are variously titled elitist, engineering, or technocratic models. I have chosen to refer to them as technocratic models.

5. While in my presentation at the conference I highlighted the flawed assumptions and practices of technocratic approaches to public participation I have chosen here to focus on the assumptions and principles of democratic participation and assess the extent to which NEJAC's MPPP moves us towards achieving participatory ideals. The change comes as an attempt to shorted the essay. I chose to eliminate the literature review and summary critique of somewhat familiar criticisms of traditional approaches to public participation. I thought it was more important to articulate the participatory ideals of democratic participation, and more consistent with the utopian spirit running through the discussion of the transformative potential of the movement for environmental justice, to discuss solutions rather than problems.

6. Vital to this literature and my summary here is the work of environmental communication scholars (see Belsten, 1996; Depoe, 1997; Graham, 1997; Katz & Miller, 1996; Waddell, 1996).

7. For a more detailed discussion of bilateral communication, including its democratic qualities, see Hauser, 1986.

8. A much more detailed discussion of communication and its role in public participation is required here. Theorizing the assumptions upon which democratic approaches should rest and identifying the types of communicative practices fostered by particular mechanisms is crucial for the development of democratic participation. In a more extended treatment of the issue, I follow the lead of Katz & Miller (1996), Graham (1997), and Waddell (1996), to develop a rhetorical approach to public participation. Katz's and Miller's (1996) rhetorical model of risk communication is grounded in particular assumptions about communication, knowledge, and democracy, and highlights values like openness, process, engagement, and ambiguity. Waddell's (1996) social constructionist model emphasizes the "interactive exchange of information during which *all participants* also communicate, appeal to, and engage values beliefs and emotions" (p. 142). In Graham's (1997) social communication approach "the contingent nature of knowledge, the decentralization of responsibility, and the centrality of interpersonal relationships become defining aspects of public participation processes" (p. 230). The difficulty with these efforts lies in the ability to translate theoretical assumptions about communication into concrete mechanisms capable of grounding and driving public participation processes.

9. See "Core Values for the Practice of Public Participation" on page five of The Model Plan for Public Participation (MPPP). *Interact* is published by the International Association of Public Participation Practitioners; see *Interact: The Journal of Public Participation, 2, no. 1.*

10. I do so for practical and theoretical reasons. Practically, it is beyond the scope of this essay to treat each method in isolation and offer an explanation and justification of its specific mechanisms and assumptions. Theoretically, I think it is feasible to divorce the term "collaborative learning" and the terms for various methods like "participative design workshops" and "constructive confrontation" from a broader range of commitments to systems theory, soft systems methodology, and alternative dispute resolution. This is particularly true in this instance. First, because methods like participative design workshops and constructive confrontation are consistent with larger more general assumptions about effective public participation. Second, because as Walker and Daniels (1997) make clear, approaches to collaborative learning offers "a set of principles and techniques that must be customized to meet the needs of the situation at hand" (p. 282).

11. See Delicath, 1998. I am currently revising an essay that specifically examines public debate as a potential mechanism for both formal and informal public participation in U.S. EPA decision-making processes.

12. The model also encourages planners to explore ways of creating an atmosphere of equal participation, logistically, by avoiding the use of head tables and panels.

13. See Delicath, 1998. Of equal importance here are efforts to theorize the communicative practices consistent with participatory ideals and to develop models for participation based upon a rhetorical approach to public policy. This is the dynamic of Graham's (1997), Katz's and Miller's (1996), and Waddell's (1996) work that I have, for the sake of space, bracketed for another discussion.

14. I developed this argument in a paper delivered at the National Communication Association annual meeting in Chicago in November 1999. The paper is titled, *Brownfields of Dreams: Environmental Justice, Urban Revitalization, and 'Environment' in the Inner City.*

References

Barber, B. (1984). *Strong democracy: Participatory politics for a new age.* Berkeley, CA: U of California P.

Belsten, L. A. (1996). Environmental risk communication and community collaboration. In S. A. Muir & T. L. Veenendall (Eds.), *Earthtalk: Communication empowerment for environmental action.* Westport, CT: Praeger.

Cox, R. J. (1999, July). *'Indecorous' rhetoric and structures of public participation by low income communities in environmental decision-making.* Paper presented at the Fifth Biennial Conference on Communication and Environment, Flagstaff, AZ.

Delicath, J. W. (1998, November). *Environmental justice, brownfields, and public participation: Contributions from the field of communication studies.* Paper presented at the Annual Convention of the National Communication Association, New York.

Depoe, S. P. (1997). Public involvement, civic discovery, and the formation of environmental policy: A comparative analysis of the Fernald Citizen Task Force and the Fernald Health Effects Subcommittee. In S. L. Senecah (Ed.), *Proceedings of the Fourth Biennial Conference on Communication and Environment.* State U of New York College of Environmental Forestry's Environmental Studies Department, Syracuse, NY.

Dowie, M. (1995). *Losing ground: American environmentalism at the close of the twentieth century.* Cambridge, MA: MIT P.

Edwards, B. (1995). With liberty for all: The emergence of grassroots environmentalism in the United States. In B. R. Taylor (Ed.), *Ecological resistance movements: The global emergence of radical and popular environmentalism.* Albany, NY: State U of New York P.

Fiorino, D. J. (1990). Citizen participation and environmental risk: A survey of institutional mechanisms. *Science, Technology, and Human Values, 15,* 226-243.

Fiorino, D. J. (1996). Environmental policy and the participation gap. In W. M. Lafferty & J. Meadowcroft (Eds.), *Democracy and the environment: Problems and prospects.* Brookfield, VT: Edward Elgar Publishing Co.

Goodnight, G. T. (1982). The personal, technical, and public spheres of argument: A speculative inquiry into the art of public deliberation. *Journal of the American Forensic Association, 18,* 214-227.

Graham, A. C. (1997). A social communication analysis of public participation: The case of the Cispus Adaptive Management Area. In S. L. Senecah (Ed.), *Proceedings of the Fourth Biennial Conference on Communication and Environment.* State U of New York College of Environmental Forestry's Environmental Studies Department, Syracuse, NY.

Hauser, G. (1986). *Introduction to rhetorical theory.* Prospect Heights, IL: Waveland Press.

Katz, S. B. & Miller, C. R. (1996). The low-level radioactive waste siting controversy in North Carolina: Toward a rhetorical model of risk communication. In C. G. Herndl & S. C. Brown, (Eds.), *Green culture: Environmental rhetoric in contemporary America.* Madison, WI: U of Wisconsin P.

Mayhew, L. (1997). *The new public: Professional communication and the means of social influence.* NY: Cambridge UP.

MPPP. Model Plan for Public Participation. (1996). Public Participation and Accountability Subcommittee of the National Environmental Justice Advisory Council. Document avaliable at http://www.es.epa.gov/oeca/oej/nejac/public.html

O'Connor, J. (1993). The promise of environmental democracy. In R. Hofrichter (Ed.), *Toxic struggles: The theory and practice of environmental justice.* Philadelphia: New Society Publishers.

Pearce, W. B. (1998). On putting social justice in the discipline and putting enriched concepts of communication in social justice research and practice. *Journal of Applied Communication Research, 26,* 272-278.

Shannon, M. A. (1991). *Building public decisions, learning through planning: An evaluation of the NFMA forest planning process.* Report for the Office of Technology Assessment's Evaluation of the Renewable Resources Planning Technologies for the National Forests.

United States Environmental Protection Agency. (1996). *Environmental justice, urban revitalization, and brownfields: The search for authentic signs for hope.* A report on the "Public Dialogues on Urban Revitalization and Brownfields: Envisioning Healthy and Sustainable Communities." National Environmental Justice Advisory Council Waste and Facility Siting Subcommittee. Charles Lee, Chair. (EPA Publication No. EPA 500-R-96-002).

Waddell, C. (1996). Saving the Great Lakes: Public participation in environmental policy. In C. G. Herndl & S. C. Brown, (Eds.), *Green culture: Environmental rhetoric in contemporary America.* Madison: U of Wisconsin P.

Walker, G. B., & Daniels, S. E. (1997). Collaborative public participation in environmental conflict management: An introduction to five approaches. In S. L. Senecah (Ed.), *Proceedings of the Fourth Biennial Conference on Communication and Environment.* State U of New York College of Environmental Forestry's Environmental Studies Department, Syracuse, NY.

Walker, G. B., Daniels, S. E., Blatner, K. A., & M. S. Carroll. (1996). *Civic discovery and ecosystem based management: Collaborative learning in fire recovery planning.* Paper presented at the annual convention of the Speech Communication Association, San Diego, CA.

Negotiating Messages and Building on Experience: Wildland Fire in Florida's Interface

Martha C. Monroe
School of Forest Resources and Conservation
and
Susan K. Jacobson
Department of Wildlife Resources and Conservation
University of Florida–Gainesville, FL

Abstract

Florida's devastating wildfires in the summer of 1998 spawned a variety of educational messages and programs about wildfire preparedness, wildfire prevention, and prescribed fire. Our program, funded by a grant from the Advisory Council for Environmental Education of the Florida Fish and Wildlife Conservation Commission, will ultimately develop a resource kit for County Extension Agents and Division of Forestry representatives to use in conducting local programs. The program development process has raised and answered several key questions: What should the public do to protect their homes from wildfire? What does the public already know and believe about wildland fire? What impact does experience with wildland fire have on knowledge and attitudes about fire?

The Background

Florida is a subtropical peninsula between the Gulf of Mexico and the Atlantic Ocean. The geology and climate have shaped native ecosystems that thrive in seasons of high temperatures, high humidity, and frequent fire. Most of Florida's ecosystems are characterized by plants and animals adapted to periodic (sometimes every 2-5 years), low-intensity, wildland fire. Daily summer thunderstorms, the product of clashing air masses that rise and move inland from the water, generate more cloud-to-ground lightning strikes than in any other location in the United States. Prior to human occupation, lightning started fires every year. In the last fifty years, however, a growing forest industry and increasing human population sponsored a policy of fire suppression. The inevitable build-up of vegetation has created natural areas across the state that will burn when the weather conditions are right.

In the summer of 1998, a severe drought and unusual wind patterns created the right conditions for fire. In less than two months, wildfires burned nearly 500,000 acres and damaged or destroyed 330 homes and businesses in Florida. Losses totaled over $800 million dollars. This catastrophe was an excellent opportunity for agencies to launch information, education, and communication campaigns to send a variety of messages: what citizens should do to manage their yard and landscape to reduce the threat of wildfire; why fires are "normal" in Florida; and how a more aggressive regime of prescribed fire could protect their homes.

The Cooperative Extension Service at the University of Florida is one of these agencies working to develop appropriate messages for the citizenry. Because this is a topic of complexity, uncertainty, and risk, our first question was "what should that message be?" The more typical program development questions, such as, "what does the audience know and believe?" and "how does the audience vary?" followed. This essay will outline the process we used to get answers and the answers we discovered.

Defining the Message

It is our observation that when multiple agencies are involved with a complex, uncertain, and risky environmental issue, each agency tends to retreat to its home turf and provide a message that is at the core of its mission, whether or not it contributes to the solution. So in the case of Florida's wildland fires, the Division of Forestry and other fire protection services used the traditional "defensible space" message that has been developed for the western wildland-urban interface:

- clear trees, brush, and flammable items from a 30 to 50' radius around homes; within this region, flames could be more easily stalled or stopped, thus protecting the house;
- lawns and shrubbery are to be well watered during the fire season, as green vegetation is less

likely to burn;
- beyond the defensible space, thin trees based on slopes and plant less-flammable species.

Other state agencies and organizations, however, have very different guidelines and recommendations for the Florida homeowner. The Water Management Districts, for example, encourage people to plant xeric species and reduce the irrigation regime for their lawn in the summer. The Florida Solar Energy Center encourages homeowners to plant trees near their homes for shade. The Fish and Wildlife Conservation Commission instructs people to plant continuous layers of shrubs to bring birds and other wildlife into their backyard. The Native Plant Society prefers that residents landscape with palmettos and wax myrtle—native plants that burn readily when ignited. All of these recommendations conflict with defensible space guidelines.

This confusion was particularly real for the County Extension Agents, who at various times, wear all these hats. This one agency has horticulture, water conservation, wildlife, energy conservation, and forestry specialists. For some individuals, however, the issue was not confusion but refusal and defiance. Faculty were heard to say, "if we tell people to clear trees from around their house, we'll destroy all the hard work we've done to help them create environmentally appropriate landscapes." The conflicting values and priorities raised with fire made the development of communication materials difficult yet vitally important. Citizens who feel strongly about one environmental value may ignore all information about defensible space, putting their homes and neighborhoods at risk should a wildfire approach.

Under the assumption that a defensible space message in Florida might be different from the western states' version, the Cooperative Extension Service launched a process to bring together representatives of all agencies and organizations that have landscaping messages for Florida homeowners. Participants were asked to work together to create a common message about home landscaping to help homeowners protect their landscape from wildfire. All participants were encouraged to use portions of this message in their relevant literature.

The Process

The key to the working meeting was getting a commitment from the right people in each organization. Knowing that they are all busy people, we developed the invitation letter to emphasize the importance of their input, the value of the project, and the problems with the traditional defensible space message. The following strategies were used to make this workshop a success:

- Personal phone calls to schedule the date;
- The Director's letterhead to get their attention;
- An engaging, interactive agenda that allowed everyone to speak to the full assembly and work in small groups to craft messages;
- Free parking and free lunch in a beautiful wooded retreat center;
- Quick replies to their comments and several sets of drafts of the publication.

A total of 24 individuals from seventeen different agencies and organizations attended the working meeting. After a presentation about the 1998 fires, general discussion followed to better understand what fire fighters need from the public and what else the public should know or do to wisely manage their landscape. Unexpectedly, the group generated information about what developers, landscape architects, and planners should do to protect communities from wildland fire.

The discussion made clear that not everyone is at risk of wildfire, and only those at risk should landscape for defensible space. Rather than clearing defensible space, we were able to agree that homeowners should make sure fire trucks could get to and turn around at their home, remove ladder fuels, and keep certain native plants that explode during combustion from their home. It became clear to everyone that it is important to balance the risks of wildfire with the costs to the environment, recognizing that for those in a fire-prone area who are at substantial risk, some landscaping changes would be the prudent choice. A brochure for the public about landscaping tips and a fact sheet for planners and developers are in production.

Assessing the Audience

A telephone survey of 675 rural and suburban residents of North and Central Florida was conducted to provide direction for the development of the fire education program. The survey was created, reviewed, revised, and pilot-tested by a team representing several agencies. The final survey included a total of 60 questions covering knowledge, attitude, intention, and demographics. The Bureau of Economic and Business Research (BEBR) at the University of Florida administered the survey in April 1999 with a trained telephone survey research crew by randomly dialing Florida households. The sampling frame excluded Type I and Type II Metropolitan Statistical Areas (MSAs) and south Florida counties because the target audience for the grant-funded program was rural and suburban

residents in north and central Florida. We over-sampled residents of high-fire counties (more than 10,000 acres burned in 1998) to have more respondents with fire experience. These responses were backweighted to enable us to generalize to the population. Data were analyzed with Statistica package for Windows (StatSoft, Inc., 1995).

Demographic Summary

The respondents in our sample were 43% male and 57% female and ranged in age from 18 to 90 years, for an average of 48 years. Although the sampling procedure focused on rural and suburban residents of Florida, 45% of respondents believe they live in a rural area, 36% in a suburban area, and 16% in an urban area. Regarding education, 31% of the respondents have only a high school degree, 32% have some college and 16% have a four-year degree. Only 12% of the sample have attended graduate school. Regarding ethnicity, 86% are white, 6% are black, and 2% are Hispanic. Nearly a quarter (24%) of the respondents worked in agricultural or natural resource professions at some time in their life.

The respondents have various degrees of experience with wildland fire. They live an average of 7.2 miles from a natural area; 78% say their natural area has pine trees. When asked if this natural area has burned since they have lived at this location, 30% said yes. More than half the sample (58%) smelled smoke at their homes during the 1998 fires for an average of eight days. Only 3% were evacuated due to the wildfires, but 38.5% of the respondents say the fire was near their home (on average, 10 miles away). Despite this proximity and potential risk, 45% of the respondents were unconcerned about wildfire during the 1998 fire season, though 28% were very concerned.

Knowledge and Awareness Summary

A majority of the respondents had an accurate understanding of fire in Florida. Table 1 summarizes the results of the knowledge-based questions. Over 70% of the respondents know that fire plays a natural part in renewing and maintaining Florida's natural areas and that human carelessness now causes more fires than lightning. Fewer respondents knew the definition of prescribed fire, only 63% of the sample. In studies of the entire population of Florida, only 40% answered correctly. Only 67% of the respondents believe that fire also helps restore and maintain wildlife habitat.

TABLE 1
Percentage of respondents answering fire knowledge questions (n=662)

Question	Correct	Incorrect	DK*	NA**
Fire helps to renew forests.	79	16	5	<1
Periodic fire is a natural process in Florida.	76	19	5	<1
Human carelessness causes more fires in Florida than lightning.	75	16	8	1
Florida's natural areas will remain the same without fire.	70	24	6	<1
Natural areas that are burned every few years are useless as wildlife habitat.	67	27	6	<1
Prescribed fire is when land managers purposefully set a fire.	63	24	12	1

* Don't Know
** Not Available

Attitude Summary

Respondents shared somewhat mixed views about wildland fire in Florida. A majority of respondents believe that it is beneficial (60%), and a slim majority (56%) think that local wildlands should be periodically burned. Although just over half of the respondents (53%) favor protecting air quality more than burning natural areas, a large majority (79%) believe residents who live near natural areas should tolerate more smoke (see Table 2).

TABLE 2
Percentage of respondents agreeing with fire statements (n=662)

Question	Agree	Disagree	Neutral	DK	NA
People who live near natural areas may have to tolerate some smoke from fires.	79	17	3	1	<1
Fire is beneficial to Florida's native plants.	60	28	6	5	1
The natural areas in my county should be burned periodically.	56	31	8	4	1
Protecting air quality is more important than burning natural areas.	53	31	10	5	1

A variety of questions asked respondents to consider the risks and benefits of prescribed fire (Tables 3 and 4). Residents' greatest concerns are for harm to wild animals and the spread of prescribed fires to neighboring property. They believe the greatest benefits of prescribed fire are wildfire prevention and improving land for forestry and grazing.

TABLE 3
Percentage of respondents rating the risks of prescribed fire (n=662)

Question	Large	Medium	Small	DK	NA
Harm to wild animals	47	24	27	1	0
Spread of fire to nearby property	44	25	28	3	<1
Unattractive landscape right after	39	26	32	2	1
Health problems from smoke and ash	33	29	35	3	<1
More regulations for landowners	29	32	26	12	1
Car accidents due to smoke	19	28	49	2	1

TABLE 4
Percentage of respondents rating the benefits of prescribed fire (n=662)

Question	Large	Medium	Small	DK	NA
Prevention of wildfires	73	18	5	3	<1
Improved forestry and grazing land	59	25	12.5	3	<1
Better wildlife habitat	48	32	14	5	<1
Fewer insect pests	49	26	19	6	<1
Maintenance of natural landscape	46	35	15	2	<1

Likelihood of Taking Actions

A surprisingly high number of respondents claim to have already taken some actions to protect their homes from wildfire. Of the four actions mentioned, over 42% of the respondents say they have already trimmed shrubs and branches and moved flammable materials away from their homes. Nearly half of the respondents claim to be likely to replace flammable building materials (47%) and use less flammable landscape plants (48%) (see Table 5).

TABLE 5
Percentage of respondents stating the likelihood of taking actions to protect their home from wildfire by... (n=662)

Question	Likely	Unlikely	Already	DK	NA
Removing shrubs and branches near your home	31	20	44	1	4
Moving flammable materials such as wood piles away from the home.	40	10	42	<1	7
Using landscape plants less likely to burn.	48	21	19	6	6
Replacing flammable building materials.	47	29	17	3	5

Discussion

There is a somewhat schizophrenic perspective on fire in Florida. People know it is good for natural areas, they think nearby residents should tolerate smoke, and they know prescribed fire is "better" than wildfire for a variety of reasons, but they want stricter controls on burning and they value air quality more than burning. Thus, future programs should recognize what most people already know and emphasize the importance of more novel benefits. Air quality concerns should be acknowledged as well as the efforts that are being taken to mitigate problems.

There may be some confusion about wildfire and prescribed fire, as only 63% of the population correctly identified the definition of prescribed fire, 25% answered incorrectly, and the remainder didn't know the answer. Although 37% (those who answered incorrectly or didn't know) is less than half the population, this is a large minority that doesn't know the definition of prescribed fire. There is clearly a need for program materials to emphasize the distinctions between wildfire and prescribed fire.

More residents are unconcerned (45%) or moderately concerned (27%) about the 1998 wildfires than are very concerned (28%), despite the barrage of news coverage. They believe the greatest benefit of prescribed fire is to prevent wildfires, and maintaining natural landscapes is the least important benefit of the four choices we provided. Respondents believe that prescribed fire involves large risks to wildlife and of the fire spreading to nearby land. Risks of car accidents, health concerns, and more regulations are perceived to be less important, though they exist. Thus, how wildlife responds to fire should be clarified and home landscaping measures could be introduced as a way to protect property from the risk of any kind of fire.

The Role of Experience

Experience is a powerful learning opportunity. Many educators strive to engage learners in an experience in order to make information more memorable. Consequently, effective communicators try to share information about experiences in messages in case the reality is not widely available or worth duplicating (e.g., war, famine, global warming). In the case of prescribed burning, a recent masters thesis indicated that locally-held burns, accompanied with educational materials, can positively influence knowledge and attitude (Heuberger, 1998). Our data set enabled us to ask if the experience of being near wildfire made a significant difference in the knowledge or attitudes of the respondents.

To make more generalizable statements about the power of experience, we created four scales of independent variables. The Knowledge Scale collapsed the true/false questions on fire, the definition of

prescribed fire, and two ranking questions about the impact of wildfire and prescribed fire. The Air Quality Scale combined four attitudinal questions about air quality and smoke. The Natural Role of Fire Scale collapsed five attitudinal items covering natural ecosystems, forests, wildlife habitat, and fire. The Intention Scale combined the "likely" and "unlikely" responses to four questions about fire protection activities.

On these four scales, there were no significant differences between the 373 respondents from counties with more than 10,000 acres burned and the 290 respondents from counties that had less fire. In closer examination, it appears that Florida's counties are large enough to have people who lived near a wildfire (53% in high fire counties; 36% in low fire counties) and people who didn't (47% in high fire counties; 64% in low fire counties). Although county geography does make a significant difference regarding nearness to fire ($p<.01$), it evidently isn't enough to affect knowledge, attitudes, and intention.

The survey gathered data on a variety of other variables that establish experience with wildland fire: a burned nearby natural area, personal experience with prescribed fire, smoke at home during the 1998 fires, evacuation during 1998 fires, and natural resource or agriculture profession. Indeed, those respondents with some of these experiences were more likely to know more about fire and hold pro-fire attitudes than those without experience (see Table 6).

TABLE 6
Significant correlations (Kendall tau) at $p < .05$ between Fire Experience and Knowledge, Attitude, and Intention Scales (n=662)

Fire Experience	Knowledge Scale	Air Quality Attitude Scale	Natural Role of Fire Attitude Scale	Intention Scale
Nearby natural area burned	.07	.09	.10	
Defined prescribed burning	---	.17	.18	-.10
Personal experience with prescribed burning	.08	.12	.20	
Wildfire near residence	.13			-.07
Smoke at residence	.16	.14	.10	
Evacuated from residence		.08		-.09
Level of concern		.07		
Nat resource/ag employment	.09	.09	.12	-.05

Although these experience variables are not tremendously strong predictors of knowledge, attitude, or intention, they do point to a relationship that may be worth cultivating. It is interesting that all experiences are not equally effective. Smoke, perhaps because it can be a gentle reminder without generating great fear, may be an effective proxy for direct experience in strengthening memory and interest in learning more. The only experience variable that generated a significant correlation with each of the scales is natural resource or agriculture employment. Certainly this variable combines years of interests, coursework, and experience that would be difficult to duplicate in the general population. All of the significant correlations with intention are negative: the more experience people have with fire, the less likely they say they are to take these four actions to protect their homes. This may be because they have already taken these precautions, because less-informed fear contributes to the desire to take such actions, or because experience builds a fearlessness about the risks of fire.

Building Experience into Extension Programs

Because experiences with fire can affect knowledge and attitude toward wildland fire, our program will include experience substitutes. Demonstration areas, typically used in agricultural extension projects to teach skills and diffuse innovations, will be created to show the effects of a prescribed burn. Roadside signs will be erected where prescribed burns are visible from the road to remind people over time that the area was burned. Fears about whether the forest will recover could be mitigated by these gentle reminders. Similarly, the program will include press releases to announce an appropriate prescribed burns so the local media can cover the event. More information in the

local news should be helpful in reminding people of the benefits and techniques of mimicking frequent low-intensity natural fires.

There is no doubt that Florida will experience more wildland fire. With helpful information and good communication, people should be able to react appropriately and experience minimal loss.

References

Heuberger, Kimberly. (1998). *Fire in the suburbs: Ecological, social and legal implications of prescribed fire in remnant longleaf pine sandhill.* Unpublished masters thesis, University of Florida.

Using an Ecological Index to Explain Environmental Attitudes About Idaho's Department of Energy Site

Donny Roush, Natural Heritage Project
Idaho Museum of Natural History, Idaho State University—Pocatello, ID
and
Joanna Burger, Consortium for Risk Evaluation with Stakeholder Participation
Environmental and Occupational Health Sciences Institute, Rutgers University—Piscataway, NJ

Abstract

After compiling the opinions of 1,690 Idahoans about future land uses for the Idaho National Engineering and Environmental Laboratory, a 2,308 km^2 U.S. Department of Energy (DOE) site, we applied an ecological statistic to explore an apparent lack of attitudinal diversity throughout the state. People attending five summer festivals during 1997 were surveyed using an 85-question structured interview. Using the land as a National Environmental Research Park was the preferred land use option, whereas increasing nuclear waste storage was the least preferred of 13 options. A novel use of the Simplified Morisita Index of Similarity demonstrated that opinions were reliably stable across samples—lacking in diversity at the community level to use ecological terminology. Such information about stakeholders' preferences can assist DOE in making land use decisions that are both plausible and popular.

Introduction and Rationale

Between World War II and the end of the Cold War, the U.S. Department of Energy (DOE) came to own and manage nearly one million hectares of land (DOE, 1996). This complex was devoted to research and development of weapons, nuclear energy, and high-energy physics. Since missions involved issues of national security, substantial buffer areas and restricted access were included as features of many DOE sites. Cessation of the Cold War, with its focus on U.S.-Soviet tensions and weapons stockpiling, has necessarily forced a re-evaluation of the DOE's mission. An integral part of this process involves deciding future uses of large parcels of land (DOE, 1996).

In Idaho, the DOE owns and operates the Idaho National Engineering and Environmental Laboratory (INEEL). Located on 2,308 km^2 of federal land on the upper Snake River Plain, the INEEL was established in 1949 as an isolated facility at which to build, test, and perfect nuclear reactors. As the INEEL's roads and facilities occupy only about 6 % of the land area, the remainder of the site represents an important example of the sagebrush-steppe biome (DOE, 1994). The ecological importance of the site was recognized by the DOE when the INEEL was declared a National Environmental Research Park in 1975. About 8,000 people are employed at the INEEL. Lands immediately beyond the boundaries of the INEEL are desert, foothill, or agricultural fields (Evans, et al., 1998). Livestock grazing is allowed on the peripheral 60% of the INEEL, away from the major facilities that are centrally located (Figure 1). Most nearby farming is concentrated northeast of the INEEL. Larger areas of agricultural land are farmed adjacent to the Snake River, but these regions are more distant from the INEEL (Evans, et al., 1998).

The INEEL was one of 16 DOE sites included in "Charting the Course: The Future Use Report" (DOE, 1996). Future use planning for the INEEL included in this report was developed by an internal working group at the INEEL with some input from a "participation forum comprised of regional stakeholders, including professional planners; representatives of local, regional, state, and federal agencies; and members of the Shoshone-Bannock Tribes" as well as the INEEL Citizens Advisory Board. Building on the ideas contained in the Future Use Report, a more substantial, site-specific document, "Idaho National Engineering and Environmental Laboratory Comprehensive Facility and Land Use Plan," was compiled to guide the site's land management. This plan includes land use scenarios as far out as 100 years, while assuming "land use plans are. . . likely to change" (DOE, 1997, p. 3). In this plan, the INEEL's central portions—those lands without current livestock grazing—are targeted for future industrial development (Figure 1). New transportation corridors are planned to link this development with existing roads and railways. Decontamination and decommissioning of outmoded facilities is envisioned to continue throughout the next century. Locations of most, but not all, of these anticipated projects are outside ecologically sensitive areas (DOE, 1997, p. 75).

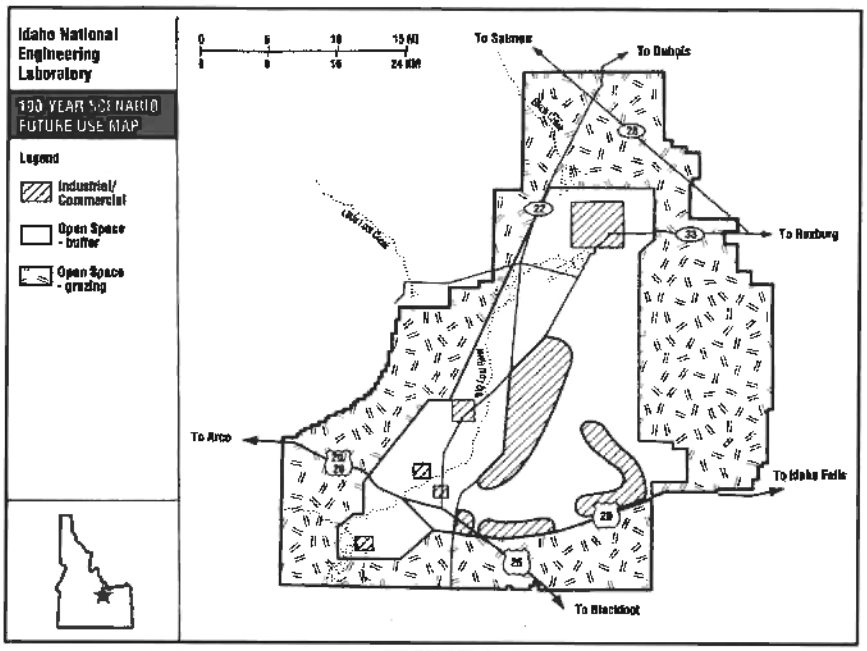


FIGURE 1

Idaho National Engineering and Environmental Laboratory, showing 100-year future use scenario (adapted from "Charting the Course: The Future Use Report" [DOE, 1996])

To assist in land use planning, the use of broader and more systematic methods of public input, primarily surveys, is recognized by the DOE (DOE, 1996, p. 4). If better land use decisions result from the inclusion of opinions from a variety of affected groups, the land use planning process at the INEEL could benefit from empirical support generated by surveys. In particular, face-to-face interview surveys offer a "much heralded" method of collecting data (Dillman, 1978, p. 1). Frey and Oishi (1995) regard intercept interviews, in which potential respondents are approached while they take part in some activity outside their homes, as one of the best ways to obtain detailed information on salient issues.

Our study used systematic intercept interviews to measure the attitudes and perceptions of people in Idaho toward the INEEL. Samples were collected at five locations throughout the state as a means of representing statewide sentiments and allowing comparisons among intrastate regions. After compiling descriptive statistics from our samples, we saw an opportunity to draw better explanations from our data. To accomplish this, we turned to inferential statistics borrowed from ecological science (Krebs 1989). These statistical tools helped to explain the similarities in our measures of land use preferences. This work was meant to add empirical evidence to the important questions of what are the best uses for the 2,300 km^2 of Idaho's land now under control of DOE. Our primary objective was to inform, in a helpful and meaningful way, the decision-making process about land use currently going on at the INEEL, as well as throughout the DOE complex.

Study Locations and Methods

Surveying was conducted at five popular festivals in Idaho during the summer of 1997. On May 23, we attended the Free Fishermen's Breakfast in St. Anthony; at this celebration of the opening of fishing season, we collected data during 263 interviews. At the Idaho Falls Street Festival, on June 21, we completed 262 interviews. The Boise River Festival, in Idaho's largest and capital city, took place June 26-29; we gathered data from 490 interviewees there. The Shoshone-Bannock Indian Festival, a pow wow attended mostly by American Indians, was held August 7-10 at the Ft. Hall Indian Reservation town site; we conducted 324 interviews at this event. Finally, the Lewiston Roundup, a rodeo and accompanying parades and street fair, took place on September 5-7; 351 people were surveyed there. Attendance at these events ranged from approximately 6,000 at St. Anthony to more than 100,000 at Boise. Idaho Falls, in the eastern portion of the state, is the most proximate to the INEEL of these cities. It is economically dependent on the INEEL as home to many of the site's laboratories, administrative offices, and employees. Ft. Hall and St. Anthony are also in eastern Idaho.

Boise is in western Idaho; Lewiston is in northern Idaho.

Our survey design was inspired by the Total Design Method (Dillman, 1978) and followed Frey and Oishi (1995). Interviews were structured using an instrument of 85 questions and were administered by interviewers trained to employ a neutral yet friendly and motivating manner. The questionnaire consisted of five sections dealing with recreational activities, views of how INEEL land should be used in the future, use of federal funds on selected environmental problems, and demography. An open-ended question asked the respondent's perception of what was the most important impact of the INEEL. Following suggestions for lessening fatigue effect (Frey and Oishi, 1995), a flash card was used for the 47 Likert scale items, for which there were five possible responses to each. Those being interviewed were handed a card listing possible responses and told they could refer to it during this portion of the interview. For each of thirteen (13) possible future land uses, respondents offered their assessments of each use on a scale of 1 (= never) to 5 (= definitely). Respondents arrived at their own definitions of what length of time henceforth constituted the "future." Adults were approached while they waited and watched events, ate meals, and visited in small groups. Interviews took place throughout the days and evenings. A typical interview required 15-30 minutes to complete. The questionnaire, except for exchange of locational information, was the same as that used at four events in South Carolina near the Savannah River Site (SRS) (Burger, et al., 1997).

Though this study is based on convenience samples, we have no reasons to believe those interviewed were not representative of those attending the five festivals. Still, caution should be used in generalizing our findings to larger populations of Idaho residents. Other reports of this overall study can be found in Burger, et al. (1999), Burger, et al. (2000), and Burger, et al. (Submitted).

Data were analyzed using SPSS, release 6.0 (SPSS Inc., 1993). For each of the possible future land uses, a mean with standard error was calculated. The resultant ratings were then compared using a Kendall's W Test (SPSS Inc. 1993), a nonparametric test for differences among related samples. Each of the 10 two-location pairs were further examined using the Simplified Morisita Index of Similarity (Horn, 1966), an inferential statistic that provides a coefficient of community-level similarity from any available measure of importance, usually some species-abundance parameter. In our case, these measures were the ratings of future land uses at the INEEL.

Survey Results

A grand total of 1,690 interviews were completed at the five festivals. Refusal rates were between 10 and 20 percent for each event. Demographically, interviewees averaged 39 years of age (mean = 39.08 ± 0.38 years) and had some college education (mean = 13.74 ± 0.07 years of education). Overall, our samples included a few more females than males, 50.2 % versus 49.8%. Ethnicity was largely white (71.5%), with these other racial groups represented: American Indian (17.9%), mixed or refused (7.5%), Hispanic/Latino (2.7%), and Asian/Pacific islander (0.4%).

Land use preferences for each location are presented in Table 1. Favorable uses are those with means above 3.00, though any rating between 2.50 and 3.50 could be considered noncommittal. In St. Anthony, keeping the INEEL as a National Environmental Research Park (NERP) was the favored land use (mean = 3.83). Continued nuclear materials reprocessing (mean = 3.64) and hunting (mean = 3.54) were also favored. In Idaho Falls, continued nuclear materials reprocessing (mean = 4.01), NERP (mean = 3.87), and hiking (mean = 3.84) were seen as the best future uses for the INEEL. These were the strongest favorable opinions expressed, except for one from the Ft. Hall sample. The Ft. Hall sample held returning the INEEL lands to Indian tribes as a strongly favored option (mean = 4.53); this was the highest rating in our study. This group also approved of hunting (mean = 3.80), fishing (mean = 3.59), camping (mean = 3.66), hiking (mean = 3.62), and using the land as a NERP (mean = 3.69) and a preserve (mean = 3.53). Among those interviewed in Boise, NERP (mean = 3.73) was the only land use rating above 3.50. The sample from Lewiston produced no strong preferences.

A non-preferred land use is indicated by a mean of less than 2.50. In St. Anthony, the least attractive uses were building houses (mean = 1.58), increased storage of nuclear waste (mean = 1.81), preserve (mean = 2.05), and returning to American Indians (mean = 2.15). Idaho Falls' respondents viewed building houses (mean = 2.10), returning to Indian tribes (mean = 2.35), increased waste storage (mean = 2.38), and preserve (mean = 2.42) with dis-favor. People in Boise disliked the ideas of increasing waste storage (mean = 1.48), building houses (mean= 1.81), growing crops (mean = 2.08), grazing livestock (mean = 2.20), and building factories (mean = 2.41). At Ft. Hall, increased nuclear waste storage had the

strongest measure of disfavor in our study (mean = 1.18). Also not considered preferred land uses by those at Ft. Hall were continued nuclear materials processing (mean = 1.49), building factories (mean = 1.85), and building houses (mean = 2.11). People in Lewiston did not wish to see increased nuclear waste storage at the INEEL (mean = 1.60), and looked with disfavor on building houses (mean = 2.23), continuing nuclear materials work (mean = 2.40), building factories (mean = 2.45), and growing crops (mean = 2.47).

TABLE 1

Idaho festival attendees' preferences for future land use of the Idaho National Engineering and Environmental Laboratory

(mean ± SE, where 1=never, 2= probably not, 3=maybe, 4=probably and 5=definitely)
(adapted from Burger, et al., Submitted)

	St. Anthony	Idaho Falls	Boise	Fort Hall	Lewiston
	n = 263	n = 262	n = 490	n = 324	n = 351
Hunting	3.54 ± 0.09	3.43 ± 0.08	3.10 ± 0.06	3.80 ± 0.09	3.36 ± 0.08
Fishing	3.23 ± 0.10	3.60 ± 0.08	3.14 ± 0.06	3.59 ± 0.09	3.27 ± 0.08
Camping	3.17 ± 0.10	3.44 ± 0.08	3.32 ± 0.06	3.66 ± 0.08	3.34 ± 0.08
Hiking	3.31 ± 0.10	3.84 ± 0.08	3.61 ± 0.06	3.62 ± 0.08	3.45 ± 0.08
Building Houses	1.58 ± 0.06	2.10 ± 0.07	1.81 ± 0.05	2.11 ± 0.08	2.23 ± 0.08
Building Factories	2.56 ± 0.10	2.97 ± 0.09	2.41 ± 0.06	1.85 ± 0.07	2.45 ± 0.08
Grazing Livestock	3.20 ± 0.10	3.18 ± 0.09	2.20 ± 0.06	2.85 ± 0.09	2.59 ± 0.09
Growing Crops	2.52 ± 0.09	2.94 ± 0.09	2.08 ± 0.06	2.73 ± 0.09	2.47 ± 0.09
Return to Indian Tribes	2.15 ± 0.09	2.35 ± 0.08	3.12 ± 0.06	4.53 ± 0.06	2.50 ± 0.09
Nuclear Reproccessing	3.64 ± 0.10	4.01 ± 0.08	2.63 ± 0.07	1.49 ± 0.06	2.40 ± 0.09
Nat'l Env'l Research Park	3.83 ± 0.09	3.87 ± 0.08	3.73 ± 0.05	3.69 ± 0.08	3.38 ± 0.08
Preserve	2.05 ± 0.08	2.42 ± 0.08	2.76 ± 0.06	3.53 ± 0.08	2.62 ± 0.08
Increased Waste Storage	1.81 ± 0.08	2.38 ± 0.08	1.48 ± 0.04	1.18 ± 0.04	1.60 ± 0.06

Land use preference measures for the entire study are shown in Table 2. Keeping the INEEL as a NERP rated the highest (mean = 3.70). Only hiking (mean = 3.57) also rated above 3.50. Of the four land uses with measures less than 2.50, increased storage of nuclear waste had the lowest rating (mean = 1.65). Other disliked uses were building houses (mean = 1.95), building factories (mean = 2.43), and growing crops (mean = 2.49).

An Ecological Statistic

To draw more explanatory power from the five sets of 13 land use preferences, we attempted to an swer two related questions. First, did the opinions differ significantly among the five communities? And, to what extent were the sets of ratings similar?

The question of whether the measured opinions were statistically different among the five communities was examined with Kendall's W Test (SPSS Inc. 1993). Significant differences were demonstrated (X^2 = 42.620 [$p < 0.001$], Kendall's Coefficient of Concordance = 0.710).

TABLE 2

Idahoans' preferences for future land use at the Idaho National Engineering and Environmental Laboratory

(ranked by grand mean ± SE, where 1=never, 2= probably not, 3=maybe, 4=probably and 5=definitely)
(adapted from Burger, et al., Submitted)

	All Idahoans Surveyed
	n = 1,690
Nat'l Env'l Research Park	**3.70 ± 0.03**
Hiking	**3.57 ± 0.04**
Hunting	**3.41 ± 0.04**
Camping	**3.39 ± 0.04**
Fishing	**3.34 ± 0.04**
Returning to Indian Tribes	**3.00 ± 0.04**
Cont. Nuclear Reprocessing	**2.76 ± 0.04**
Preserve only	**2.72 ± 0.04**
Grazing Livestock	**2.64 ± 0.04**
Growing Crops	**2.49 ± 0.04**
Building Factories	**2.43 ± 0.04**
Building Houses	**1.95 ± 0 .03**
Increased Nuclear Waste Storage	**1.65 ± 0.03**

Even with demonstrable differences among the communities, many of our measurements appeared to be similar. So, we turned to an ecological statistic, the Simplified Morisita Index of Similarity, to help determine the extent of this appearance. This formula was put forth by Horn (1966), as a reworking of the formula of Morisita (1959), which itself required the use of Simpson's index of diversity (1949).

The formula for the Simplified Morisita Index of Similarity (Horn 1966) is:

$$C_H = \frac{2\Sigma X_{ij}X_{ik}}{[(\Sigma X^2ij/N^2_j) + (\Sigma X^2ik/N^2_k)]N_jN_k}$$

where

C_H = Simplified Morisita Index of Similarity between samples *j* and *k*

X_{ij}, X_{ik} = number of individuals of species *i* in sample *j* and sample *k*

$N_j = \Sigma X_{ij}$ = total number of individuals in sample *j*

$N_k = \Sigma X_{ik}$ = total number of individuals in sample *k*

Krebs (1989) explains the resulting coefficient as being the probability of drawing individuals of the same species from two different communities' samples over the probability of drawing two individuals of the same species from either of two different communities' samples. This coefficient ranges between 0 (no similarity) and 1 (perfect similarity), and has no corresponding confidence interval. For our purposes, this translates to the probability of two individuals answering with the same land use rating from two different Idaho communities' samples over the probability of two individuals answering with the same land use rating from either of two Idaho communities' samples.

Of the two dozen or so indices of similarity used by ecologists, the Simiplified Moristia Index of Similarity has been called the preferred statistic for measuring community overlap. Krebs (1989, p. 324) recommended the Morisita index for use with community-level quantitative data. He also noted that a reasonable sample would be 200-500 individuals; our samples fall in this range. In addition to Krebs, Wolda (1981) claimed the Morisita index to be the best measure of ecological similarity.

The resulting index coefficients are in Table 3. Of the 10 comparisons, the coefficient for St. Anthony and Ft. Hall (C_H = 0.9394) was the lowest, whereas

that for Boise and Lewiston (C_H = 0.9942) was the highest. All the similarity index readings indicated similarities of greater than 93%.

TABLE 3

Similarity between pairs of Idaho communities for opinions on future land uses at the Idaho National Engineering and Environmental Laboratory (C_H = Simplified Morisita Index of Similarity)

Location	C_H
St. Anthony vs. Boise	0.9804
St. Anthony vs. Ft. Hall	0.9394
St. Anthony vs. Idaho Falls	0.9927
St. Anthony vs. Lewiston	0.9852
Boise vs. Ft. Hall	0.9737
Boise vs. Idaho Falls	0.9746
Boise vs. Lewiston	0.9942
Ft. Hall vs. Idaho Falls	0.9403
Ft. Hall vs. Lewiston	0.9695
Idaho Falls vs. Lewiston	0.9801

Discussion and Conclusions

Coefficients from the Simplified Morisita Index of Similarity (Horn, 1966) demonstrate a lack of attitudinal diversity on the issue of future land use at the INEEL. Our exercise of using an ecological statistic on opinion poll data produced a compressed range of statistics (0.9394–0.9942) that strongly suggests the attitudes we measured in Idaho are relatively stable across our five samples. It also shows that there was little diversity of opinions among the communities.

But, this interpretation must be tempered because the coefficients produced by the similarity index are inflated by some unmeasurable degree since the 13 ratings we fed into the formula are all present in all locations. This is unlike a species-based measure where the presence of a species is unknown before data collection. In gathering our data, we knew that opinions would be elicited by merely asking our questions; such is not the case in abundance surveys for organisms in ecosystems.

During interviews, we were able to form some professional opinions on the reasoning of respondents as they decided whether land use options were viewed favorably or not. This is, perhaps, most important in considering the option of keeping the INEEL as a NERP. We observed that awareness of the Idaho site's status as a NERP is far from universal and, further, many people have little, if any, understanding of what such a designation means. "National Environmental Research Park" is a DOE designation that serves as a conceptual umbrella for ecological research and environmental education on the seven sites that are part of this program (DOE, 1994). In the case of the INEEL, being a NERP generates no supplementary regulatory protection and has no funds for research and education programs connected directly to it. We hypothesize that, although many respondents may have heard of the Idaho site's NERP activities, others were perhaps reacting favorably to an important-sounding and pleasing term. Additionally, the low ratings for building houses may be an aesthetic reaction to the barren volcanic landscape of the interior Snake River Plain.

The generally favorable reactions to recreational options of hunting, fishing, camping and hiking bode well for the conversion of DOE lands into other types of public lands after cleanup is completed. These uses, which require less development and more open space, were generally preferred over agricultural and industrial uses, except by those in Idaho Falls and St. Anthony, where economic ties to the INEEL are many.

Our survey of public opinion in Idaho about DOE lands can inform land use decisions of the federal government agency at the INEEL. Indeed, DOE has clearly stated the need to continually input new and better information into its land use decision-making process (DOE, 1996, 1997). Their process is expected to be iterative and dynamic.

To date, the land use planning process at the INEEL has been the bailiwick of an internal working group (DOE, 1996, 1997). Public participation has been encouraged, but not actively and broadly sought outside of the INEEL's routine spheres of operation. Thus, the planning has been focused on plausibility, as determined by criteria that mostly assume mission continuation and expansion. It should not be surprising, then, that the resulting land use scenarios expand industrial areas, establish new transportation corridors, call for the reuse of decontaminated and decommissioned facilities, and maintain the current buffer zones (DOE, 1997). To date, recreational, agricultural, and tribal options have not been given significant credence within the INEEL planning process. Our findings show that many Idahoans are able to foresee such alternative land uses as they weigh options for the 2,300 km^2 now under DOE control.

As a government agency ultimately beholden to the American public, the DOE needs to take the popularity of land use options into account more fully. Survey research can contribute to this requirement. When the opinions of external, affected groups are incorporated into institutional processes, conflicts are more likely to be avoided, or at least dampened. Such integration makes for better decisions and stronger policy.

Acknowledgments

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References

Burger, J., Roush, Jr., D. E., Wartenberg, D., & Gochfeld, D. (Submitted). Land use, recreation, and the Idaho National Engineering and Environmental Laboratory: Attitudes of different stakeholders. *Risk Analysis*.

Burger, J., Roush, Jr., D. E., Sanchez, J. Ondrof, J., Ramos, R., McMahon, M. J., & Gochfeld, M. (2000). Attitudes and perceptions about ecological resources, hazards, and future land use of people living near the Idaho National Engineering and Environmental Laboratory. *Environmental Monitoring and Assessment, 60,* 145-161.

Burger, J., Roush, D., Wartenberg, D., & Gochfeld, M. (1999). Future land use and concerns about the Idaho National Engineering and Environmental Laboratory: A survey of urban dwellers. *Environmental Management, 24*, 532-542.

Burger, J., Sanchez, J., Gibbons, J. W., & M. Gochfeld, M. (1997). Risk perception, federal spending, and the Savannah River Site: Attitudes of hunters and fishermen. *Risk Analysis, 17*, 313-320.

Dillman, D. A. (1978). *Mail and telephone surveys: The total design method.* New York: John Wiley & Sons.

DOE. (1997). *Idaho National Engineering and Environmental Laboratory comprehensive facility and land use plan.* DOE Idaho Operations Office, Idaho Falls. DOE/ID-10514. 287 pp.

DOE. (1996). *Charting the course: The future use report.* DOE Office of Environmental Management, Office of Field Management, Washington, D.C. DOE/EM-0283. 120 pp.

DOE. (1994). *Department of Energy national environmental research parks.* DOE Office of Energy Research. DOE/ER-0615P. 53 pp.

Evans, R. B., Brooks, R. W., Roush, D., Martin, D. B., & Lantz, B. S. (1998). *Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.* Environmental Science and Research Foundation, Idaho Falls, ID. ESRF-030 and DOE/ID-12082(97). 184 pp.

Frey, J. H., & Oishi, S. M. (1995). *How to conduct interviews by telephone and in person,* Vol. 4 of The Survey Kit. Thousand Oaks, CA: Sage.

Horn, H. S. (1966). Measurement of "overlap" in comparative ecological studies. *American Naturalist, 100*, 419-424.

Krebs, C. J. (1989). *Ecological methodology.* New York: Harper & Row.

Morisita, M. (1959). Measuring of interspecific association and similarity between communities. *Members of the Faculty of Kyushu University, Series E (Biology), 3*, 65-80.

Simpson, E. H. (1949). Measurement of diversity. *Nature, 163*, 688.

SPSS Inc. (1993). *SPSS for Windows base system user's guide release 6.0.* Chicago: SPSS Inc.

Wolda, H. (1981). Similarity indices, sample size and diversity. *Oecologia, 50*, 296-302.

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The Farmers' Dialogue: Developing Guidelines for a Sustainable Agriculture

Magnus Ljung
Department of Landscape Planning Ultuna
Swedish University of Agricultural Sciences, SLU—Uppsala, Sweden

Abstract

A sustainable agriculture in Sweden can only be developed if all stakeholders within the agricultural sector take responsibility for the transition. Perhaps the most important actor is the farmer. Farmers are the ones who will develop and put new knowledge and technologies into practice. Today we witness a growing awareness that farmers can and should have a central role in the development of the policies and guidelines that will define a sustainable agriculture. This paper present a case study—the Farmers' Dialogue—which is a policy process characterised by participation and collaborative learning and decision making. As such it is an example of a strategy in environmental communication.

1. *Introduction*

There is a growing awareness in society, both within the scientific community and among the public, that if a sustainable development is to be achieved all parts and sectors of society have to contribute and take responsibility. The role of agriculture and forestry in this transition of society is often put forward as crucial, not least because the strong relationship between these activities and the global life supporting systems (see for instance LRF, 1999a). Agriculture and forestry are perceived as important mainly in two ways: the negative social and ecological effects of industrialized and intensive production systems must be minimized, while at the same time meet a growing demand for food, renewable resources and cultural and biological diversity.

The practitioners, i.e., the farmers and foresters, are the core in this process of change. They are the ones who are responsible for converting this growing awareness and knowledge into everyday practices. Thus they will probably experience great changes in their everyday life and in their work and business objectives. The challenges are many, and it is only through a participatory and truly democratic approach that the management of natural resources in society will be sustainable. As a response to this situation, social learning, collaboration, and local decision-making have been put forward as necessary (Wood & Gray, 1991; Röling et al, 1997; Meppem & Gill, 1998; Prugh et al, 1999).

This paper starts by outlining the theoretical platform from which the concept of Farmers' Dialogues is built. Sustainable agriculture as a social construction, collaborative learning as a response to complexity and conflict, and the institutional support and existing learning environment within the farming community frames the presentation of the case study.

2. *The Social Construction of Sustainable Agriculture*

Sustainability is today established on the political agenda. Even though there doesn't seem to exist any commonly agreed-upon definition of sustainable development (Mebratu, 1998), and probably never will, most applications of the concept try to integrate the relationship between long and short term development (a perception of time), local and global development (a perception of space), and also a perception of the self in relation to the environment (i.e., independence, autonomy and individualism versus interdependence, community and collectivism). Every public discourse about sustainable development carries basic assumptions in all three areas.

As Gould (1993) argues, sustainability is the guiding concept behind the ecological modernization of society (see also Lash, et al, 1996; and Hajer, 1997). In Sweden sustainability is part of the public discourse. As such it has strong political-economic dimensions as well as ecological ones. One popular way to describe the complex situation of conflicting interests which have arisen is by arguing that sustainable development has to be both (Bawden, 1996):

- Aesthetically agreeable and socially desirable
- Ethically defensible and economically viable
- Ecologically compatible and technically feasible
- Culturally suitable and practically manageable

Our common challenge is to foster and facilitate a public judgment where reasonable trade-offs are made. Thus the focus of our inquiry is what can and will be sustained in a particular historical context.

Different scientific disciplines make claims of what the most important aspects of sustainability are (Hannigan, 1995). One emerging, claim-making approach to sustainability has its origin in soft and critical systems thinking (Checkland, 1981; Flood, 1990a). With such a systems approach sustainability is perceived as something both local and global, both short and long term, and where the integrated elements are being both independent (with unique features) and interdependent (with shared features). But more so, because with a soft systems approach all aspects of the social and natural systems are related, they transform each other through feed-back processes, and in these processes of change emergent properties arise, many of which we can never predict (see for instance Checkland, 1981).

Applied to natural resource management, for instance agriculture, such a perspective on sustainability and sustainable development put forward the need for adaptive management and a continuous integration of ecological, social, and economical factors in decision-making processes. The end result, i.e., how we approach sustainability in agriculture, will always be the outcome of negotiation. Nitsch (1999) argues that sustainable solutions to agricultural problems therefore should be seen as emergent properties of the interaction between human activity systems and ecosystems (see also Woodhill & Röling, 1998).

Thus the implementation and operationalization of general guidelines on local and regional levels is time and site specific. Communication and negotiation between the involved actors and stakeholders are central features of the process (Bawden & Ison, 1990; Pretty, 1994; Röling & Wagemakers, 1998), and why Pretty (1998) concludes that, "Sustainable agriculture is not a simple model or package to be imposed. It is more a process for learning" (p.26).

To summarize: Our possibility to create a sustainable agriculture is related first of all to our ability to manage the complexity of both natural and social systems and of being able to do so on different systems level, and secondly to our ability to manage conflicts between different actors and stakeholders. Nitsch (1999) argues that our perception of environmental problems as complex and controversial, puts forward not only the need for new technical and economical measures, but also the need for new approaches in environmental communication. In short, it's about putting more emphasis on participation and collaborative learning and decision-making (Daniels & Walker, 1999; Röling & Wagemakers, 1998).

3. *Collaborative Learning as Environmental Communication*

Within the emerging collaborative and ecological discourse new methodologies and methods are being developed which encourage systems thinking, learning and flexibility in regard to change (Dukes, 1996; Ison, 1996). Collaborative learning and decision-making processes includes a broad spectrum of potential designs and methods (Walker & Daniels, 1997). But as an explicit approach in environmental communication it has not yet been thoroughly investigated or elaborated. There seems to be a need for further studies within this field.

The traditional view on knowledge and knowledge development in agriculture has been that it is researchers who research, develop, and spread new information. Universities could be seen as having knowledge processes on instrumental or strategic rationality. But within the new framework the challenge to universities is to develop knowledge processes based on communicative rationality (Röling & Wagemakers, 1998). Increasing participation means democratizing the knowledge process (Stoecker & Bonacich, 1992) through a "cogenerative dialogue" (Fear & Edwards, 1995). A truly participatory approach demands the researcher to appreciate different perspectives and the local, often tacit, knowledge that the participants bring into the process (Gaventa, 1993). Nitsch (1997) calls for "an *extended problem perspective*, the application of *interactive research methods* and a scientist who is willing to take on the role of *co-developer of knowledge*" (p. 198, emphasis in original).

Our ability to achieve sustainability obviously presumes a new perspective on and new forms for knowledge development in agriculture. Röling and Jiggins (1998) refer to this as an ecological knowledge system, which we are in the process of potentially constructing. As a matter of fact, we probably all take part in this process. One important question which Röling and Jiggins raise is how we are to manage this change towards ecological and soft knowledge systems. But by reflexively asking the question it becomes clear that "the social learning of sustainable agriculture seems to be part of the larger human challenge" (p. 307), a challenge of global, sustainable development and risk management.

4. *Existing Learning Traditions Within Swedish Agriculture*

One obvious basic assumption is that farmers have unique and invaluable knowledge about the requirements, possibilities and difficulties in how to manage our natural resources sustainably and how to create a sustainable agriculture. Whether or not to-

day's decision- and policy-maker wants or allows farmers to be co-developers of a sustainable agriculture is not evident. To be honest, not every farmer is interested in participating. The reason is both individual and cultural.

The potential for establishment of new collaborative approaches to decision making in society depends partly on the existing culture. There are important differences between cultures, for instance, in how the social systems are perceived and the degree of individualism versus collectivism (see for instance Triandis, 1995), but also the relationship between and how culture shapes landscapes and vice versa (Tuan, 1974; Nassauer, 1995). Different cultures having different democratic traditions and relationships to nature will respond differently to new collaborative ideas in natural resource management. Thus it is of interest to characterize the context and culture within the Swedish farming community before the design of the Farmers' Dialogue is presented. This will help us understand the potential of a broad implementation of this approach.

Scoones and Thompson (1994) present a framework which could be used when we are trying to understand the potential for participatory approaches. The following criteria have to be fulfilled if a participatory and collaborative approach is to be successfully implemented:

- An institutional support and context
- An existing interactive learning environment
- Access to collaborative and participatory learning methodologies and techniques

Let me use this framework when describing Swedish agriculture. First of all, there is a tradition of democratic fostering and awareness within Swedish agriculture. Swedish agriculture is in its core based on co-operative principles. The Federation of Swedish Farmers, LRF, is the interest and industry organization for Swedish farmers, forest owners, and the agricultural co-operative movement. LRF consists of some 122,000 individual members, along with the 50 incorporated associations that make up the agricultural co-operative movement and 16 industry organizations (LRF, 1999c). Thus, LRF has a key role when Sweden is to develop systems for sustainable food production. The co-operative movement in Sweden has its historical roots within the social and popular movements which were established early in the 20th century. As the founder and one of the member organizations of the Adult Educational Association, the Federation of Swedish Farmers support the use of popular, non-formal education. To emphasize the importance of the study circles in Sweden, the fact that over 340,000 study circles were arranged, with approximately 1.5 million participants (approximately 18% of the Swedish inhabitants), during the year 1994/95 could be illustrative (Swedish National Federation of Study Associations, 1995). Almost every farmer has participated at least once in a study circle, and many do so every year. Thus there seems to exist an institutional support and a relevant context for the implementation of collaborative approaches in Swedish agriculture.

Second, it is the tradition of study circles which is at the core of the Swedish system of non-formal adult education (Oliver, 1987). Within the farming community the study circles have traditionally been used as a means for life-long learning, as well as implementation of new policies and technologies. The common form of study circle is a small group of people, normally five to twelve, who meet regularly and carry out planned studies or cultural activities. The studies are facilitated either by someone in the study group or by a trained facilitator. The entire group decides the goal for the group's studies, which literature to read, who to invite, and the pace at which they will work. A good study circle is thus based on the synergy of participant and facilitator knowledge and experience. During past years this existing tradition and interactive learning environment has been used for implementation of environmental management and quality assurance systems, diffusion of new policies and guidelines in pest management and conservation of bio-diversity, as well as the work with environmental audit schemes at the farm level (Ljung, 1999). The study circle tradition in Sweden could thus be seen as an existing interactive learning environment.

Finally, Swedish farmers are knowledgeable and aware of the contemporary environmental issues and debates. We see a growing interest for organic farming, as well as the implementation of environmental management systems, and adoption of techniques usually referred to as precision agriculture (Ljung, 1999). But, as in many cases, we still see a gap between what many farmers say and what they actually do.

It is in this context that the Farmers' Dialogue was initiated, developed and implemented. The Farmers' Dialogue should thus be seen as a 'new' collaborative learning approach.

5. *The Farmers' Dialogue*

In May 1996 a core group of environmental coordinators and educators within the Federation of Swedish Farmers, LRF, met to discuss how to develop a stronger environmental policy and commitment. They were dissatisfied with the accomplishments regarding the Swedish farming community's contribu-

tion to national goals regarding the environmental impact and the transition to a more sustainable agriculture. The need to develop a shared vision and a common strategy within the whole organization had been put forward earlier, but a tangible strategy had never been developed or applied.

The main arguments for a participatory approach when developing common guidelines were that:

1. There is a need for a shared vision and common guidelines in strategic areas, not least in environmental issues, animal welfare, and quality assurance, when acting in a global market.

2. The whole farming community has to be involved in this process for two main reasons; successful implementation and a democratic decision-making process (based on co-operative principles).

3. Due to economical and social constraints, a sustainable agriculture can only be achieved through a learning-oriented and long-term step-by-step approach.

At the annual meeting of the Federation of Swedish Farmers in 1997 the following decision were made (my translation): "to make our program entitled 'Heading for the World's Cleanest Agriculture' more tangible. . . by a broad and thorough process where many of the strategic and difficult issues are studied and discussed on all levels and parts of the organization" (LRF, 1997). The initial outcome was a development project entitled "The Farmers' Dialogue: Guidelines for a sustainable agriculture."

The overall aim of this effort was to develop guidelines for a sustainable agriculture in Sweden on both a regional and a national level. And by initiating a dialogue and a collaborative process among farmers and employees within LRF, we hoped the overall aim could be achieved.

The project started in 1997 and was formally closed in March 1999 in order to be evaluated and integrated into existing and long term development strategies. The project were reconstructed several times. A steering committee consisting of elected farmers and middle management executives, a management team with mainly environmental co-ordinators and policymakers, and several working groups were established. In close connection to the project there was also a reference group composed of external parties, for instance, environmental and consumer NGOs (non-government organizations), the food processing industry, and even McDonalds Sweden.

6. *Participatory Action Research—Advocating a Sustainable Agriculture*

The ongoing research is an example of participatory action research. Since 1996 I have had several and changing roles within the Farmers' Dialogue. Between 1994 and 1997 I was working as environmental co-ordinator in one of the incorporated associations within the Federation of Swedish Farmers. In that role I was one of the initiators of the Farmers' Dialogue and participated in the first meeting in the summer of 1996 as well as the subsequent lobbying activities within the organization. One year later, when I left the position as environmental co-ordinator to become a doctoral student at the Swedish University of Agricultural Science I was asked to continue being a member of the management team; the reason being my experience from working with environmental issues within the association and the need to strengthen the links between the project and ongoing research and researchers at the Swedish University of Agricultural Sciences.

With my focus on new methods for farmer participation it was obvious that my position in the management team gave me an opportunity to put forward the need for a more collaborative and inclusive process than the ones which were used within LRF. Instead of using the study circles as a means of implementing a policy developed among experts (a top-down approach), the idea that the existing venues could be used as a way of letting the farmers themselves develop the policy was put forward (a bottom-up approach).

During the summer of 1998, a colleague at the Department of Landscape Planning and I got the opportunity to develop and present how a dialogue- oriented approach could be used. We developed the Farmers' Dialogue as it is described in this case study. My colleague and I were later also responsible for the training of the facilitators who were to facilitate the dialogues in the test-dialogues during the winter of 1998-99.

My role has thus been that of an advocate. My goal has been to contribute to a sustainable agriculture in Sweden through the development and implementation of collaborative learning and decision-making processes. This of course strongly influences and colours my presentation of the Farmers' Dialogue and my interpretation of the outcomes and results of the process.

7. *A Systemic 'Future Search' Approach*

As suggested earlier the concept and a detailed design were developed in 1998 at the Department of Landscape Planning, Swedish University of Agricultural Sciences. It was important that the design was

applicable to the specific demands and restrictions within the Federation of Swedish Farmers. The inspiration came mainly from the Future Search-methodology as described by Weisbord and Janoff (1995), soft system methodology (Checkland & Scholes, 1990; Wilson & Morren, 1990), and critical systems thinking (Flood, 1990a; Flood, 1990b). This was because the processes were to contain phases of development of shared perspectives, envisioning, critical systems analysis, and value-based action-planing. We also built on the concept of study circles which, as shown earlier, is very familiar to Swedish farmers (Ljung, Gibbon, & Richert, 1998).

It is especially important to emphasize the role of critical systems thinking in the Farmers' Dialogue. Working for a sustainable agriculture implies a critique toward existing practices and systems conditions. This is of course controversial among many actors within the agricultural sector, but necessary if we are to get 'out of our box.'

In December 1998 twelve facilitators were trained and in January 1999 the first ten dialogues were conducted with altogether approximately 100 participating farmers. When the test dialogues were conducted researchers and/or representatives from the Federation of Swedish Farmers were participating as observers. The final design is described briefly in figure one below and in the following text. Keep in mind that what is described is the ideal process the facilitators were trained to utilize.

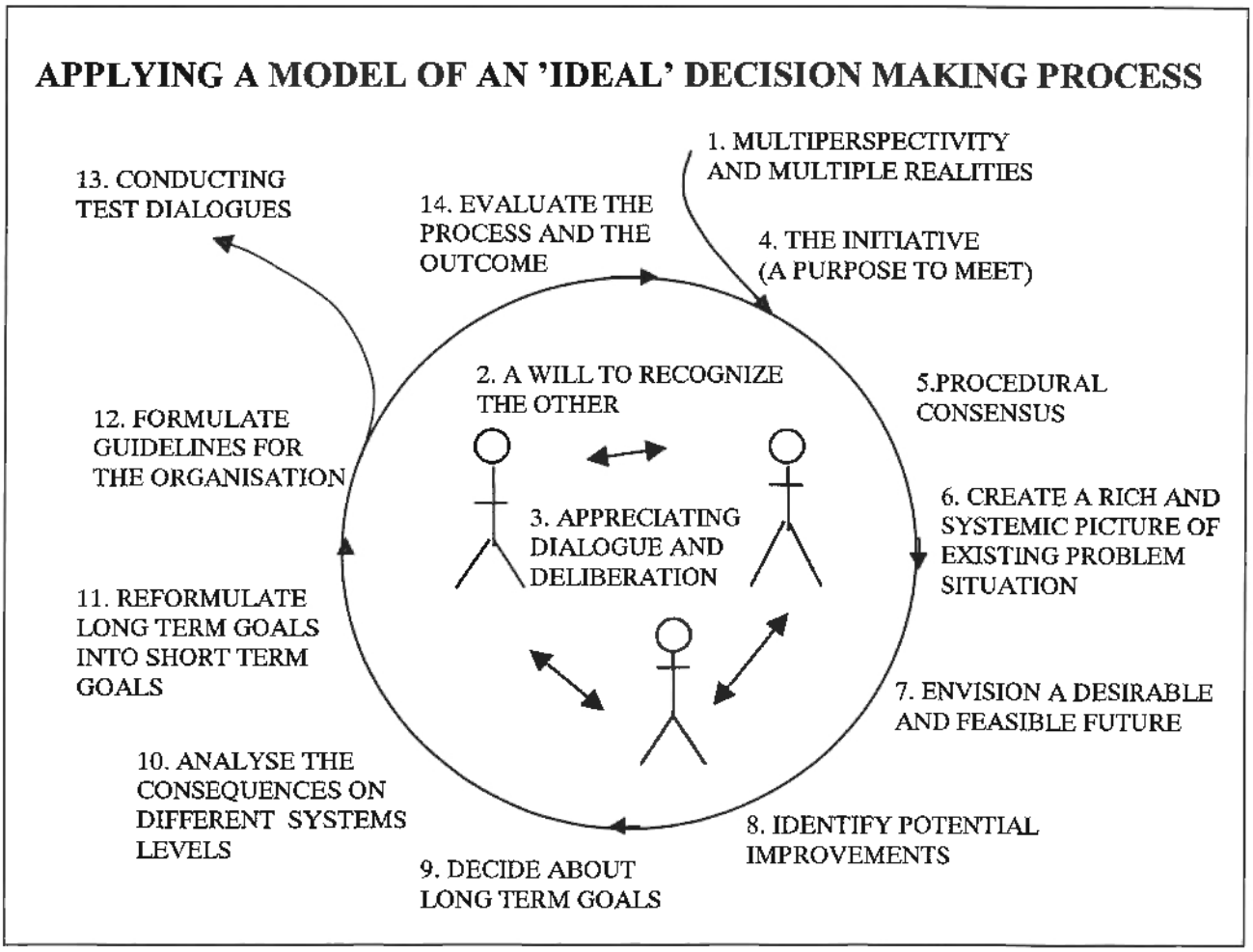

FIGURE 1

An illustration of the (ideal) collaborative learning and decision-making process applied to manage complex and controversial issues elaborated in the Farmers' Dialogue *(adapted from Wilson & Morren, 1990; and Weisbord & Janoff, 1995). Note the three basic assumptions which enable a constructive learning process (no. 1-3).*

The Farmers' Dialogue starts, as with most collaborative learning approaches, by establishing a procedural consensus, creating a safe environment, discussing expectations and the importance of values. By using a time-line when the farmers presented themselves, we could identify similarities and differences in people's backgrounds which contributed to a stronger group identity.

Phase One. The first phase of the process, and an important and time-consuming part, is to identify and describe today's problem situation. By focusing on one specific area (nutrient management, pest management, or animal welfare) we created a rich picture of the situation. The only input was a sketch or visualization of a landscape with farmland. From this picture the participating farmer could describe the ecological framework—what is sustainable and what isn't sustainable in today's situation. The next step was to do a stakeholder analysis. The farmers are fully aware of which actors and stakeholders influence their decision-making and decision space, which is why we, by using simple facilitation tools, could create a rich picture in this respect also. Finally, we made a general analysis of internal and external factors which give rise to both short and long term viability in their businesses. At the end of this phase we combined and tried to synthesize all parts into a 'holistic' systems model. The ambition wasn't to make this rich, systemic picture perfect; instead the goal was to use it in order to create an awareness of how the ecological, social and economical factors were interconnected and related. All sketches and drawings made during this phase were displayed on the wall, which enabled us to use them continuously during the whole dialogue.

Phase Two. The next phase aimed to create visions about a desirable and feasible future. We used an individual envisioning technique, which resulted in a possibility for the farmers to share their visions with each other. By doing so we could identify similarities and differences and reflect upon them. What became obvious, but not surprising, was that the visions farmers held, even if they came from different parts of Sweden and had different production systems, were very similar. Thus the vision becomes a driving force for a mutual effort to change today's situation.

Phases Three and Four. The next step was to identify potential improvements. By comparing the rich, systemic picture with the individual visions, a dialogue could take place focusing on desirable and feasible changes. This led to a long list of potential improvements. Before this phase ended the farmers had made an initial prioritization among the different suggestions. Having agreed upon their focus, it was now time to discuss the long-term goals. The fourth phase aimed at making a preliminary group decision about the long-term goal(s). This was achieved by focusing the discussion on one of the three areas around which the test-dialogues centered (nutrient management, pest management or animal welfare). Many processes end at this stage, but in the Farmers' Dialogue this is where the 'real' learning process starts.

Phase Five. The fifth phase started by analyzing the practical consequences of the decision made. This was done on different systems levels, starting on the farm and moving up to national level. The ecological, social, and economical consequences were also separated in order to simplify the analysis. When doing this reflection, it also became obvious that the decision and priorities made earlier were based on information that didn't exist or had bad qualities. This phase thus also involved a process of analyzing the quality of the information and knowledge behind the decision made. The outcome was an opportunity to reformulate the decision based on new information that the farmers could find between the meetings.

Phase Six. The sixth phase started by reformulating the (new) long-term goal(s) into short-term goals. These decisions were also analyzed in relation to their practical consequences. The dialogue was then opened up by focusing on how to implement these goals. This was made before the formulation of guidelines, which was the next phase.

Phase Seven. Formulations of guidelines for a sustainable agriculture in Sweden were made in one or two of the three specific areas mentioned earlier. These guidelines focused on the national or regional level because different guidelines from different groups were to be integrated into general guidelines applicable for the whole organization. When the participating farmers had formulated guidelines, they had reached the overall objectives of the Farmers' Dialogue—to develop guidelines for a sustainable agriculture in Sweden.

Phase Eight. Before the process ended there was an internal evaluation where the farmers had an opportunity to express their opinions about the outcomes, the process, and whether or not they thought the approach worked and should be implemented in other strategic areas.

8. *Conclusions—Learning to Learn to be Sustainable*

On average, ten farmers participated in each dialogue. They met for at least eight to ten hours divided into two to four occasions. Each dialogue continued for one to one and a half months. Regarding the different phases mentioned above a typical dialogue worked through the first phase at the first meeting, phases two to five the second time, and phases six to eight the last meeting. Some dialogue-groups did not manage to develop short-term goals. This can be explained mainly by the facilitators' ability to manage the process and the complex issues. We did not use professional facilitators. The reason for this was that if the project was to be implemented on a broader scale within the whole Federation of Swedish Farmers, there was no possibility that this could be done with the help of professional facilitators. Facilitation was something that had to be dealt with within the organization itself.

The preliminary results from the evaluation show that the Farmers' Dialogue is appreciated by the participants and that the process resulted in suggestions of tangible guidelines in the deliberated strategic areas (i.e., nutrient management, pest management and animal welfare) (Emmelin and Ljung, 1999). We found that there seems to be certain key phases if one is to reach tangible, but at the same time critical and radical, guidelines. The development of a rich picture of today's situation and individually envisioned future situations are two important parts. We have also found that facilitation of systems thinking, combining social, ecological and economical aspects, is a hard and demanding skill. If facilitation is going to be achieved in accordance to the study circle tradition—i.e., that one of the participants, a farmer, will facilitate the process—it is crucial that they get enough training and access to the right tools. Finally, time is another important aspect. It takes time to build trust and a safe environment. It takes time to develop shared systems perspectives.

But overall it's clear that a collaborative learning and decision-making process were achieved. In the internal evaluation the participants expressed that the design was creative and activating, that it generated new perspectives and stimulated different learning styles, and thus was perceived as something different and new. The majority of the participants recommended the approach to be used in the future (LRF, 1999b). The Farmers' Dialogue could also be seen as a first step in a much bigger process, where the farmers within LRF learn how to learn to be sustainable. If sustainable agriculture is a learning process, a core competence among farmers is their ability to learn. By providing them with an opportunity to learn, we have also showed them how learning could be achieved in the future. Even within a farmers' co-operative and among its members it ought to be possible to create learning teams (Senge, 1990).

Finally, using the common principles Pretty and Chambers (1994) claim underpin most 'new' participatory approaches and methods I find that the Farmers' Dialogue fulfils them more than well:

- *A defined methodology and systemic learning process.* Within the Farmers' Dialogue all participants are as important and responsible for the outcome of the mutual effort, and the process builds on self-directed learning.

- *Multiple perspectives.* The creation of rich systemic pictures of today's situation and the interdisciplinary approach implies the importance of appreciating multiple perspectives.

- *Group inquiry process.* The Farmers' Dialogue is characterized by collective learning and a dependence on the totality of the group if the participants are to be able to reach their goal. The development of thoughtful and well analyzed guidelines for a sustainable agriculture is strongly related to the ability to use the groups total competence.

- *Context specific.* The design of the process depends on the target group, the objectives and the specific restrictions (mainly economical, geographical and time).

- *Facilitating experts and stakeholders.* In the Farmers' Dialogue we use nonprofessional facilitators. The focus is on improvement of unsatisfying problem situations, not final solutions (see also Daniels and Walker, 1999). Experts are invited in the dialogue, but only when the participants agree upon it, and often then with a specific purpose. We also developed a background material, written by experts and policy-makers in the different fields, which could be used as a dictionary for the participants.

- *Leading to sustained action.* Within the Farmers' Dialogue the objectives were not directed toward sustained action by the participants themselves. Instead it was to create guidelines on a regional and national level.

I conclude that with the existence of an interactive learning environment and an institutional support there seems to be a positive future for the initiative

taken in Swedish agriculture. At this date it is hard to be sure of the efficacy and efficiency of the project. As often is true, the problem is the efficacy. With a broad systems perspective it is evident that the embeddedness of the agricultural sector within society limits the action space. Power-relations and established structures often hinder the implementation and fulfilment of ideas developed in the collaborative learning and decision-making process. Thus there is a need for collaborative learning and decision-making processes on all levels—from the national policy level to the local market. A sustainable agriculture can only be achieved in a sustainable society.

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References

Bawden, R. (1996, July 28). *Ethical rural development– The role of academy*. Mimeo from a seminar held at KVL, Copenhagen, Denmark.

Bawden, R., & Ison, R. (1990). The purpose of field-crop ecosystems–Social and economic aspects. In J. Pearson (Ed.), *Field crop ecosystems of the world*. New York: Elsevier.

Checkland, P. (1981). *Systems theory, systems practice*. New York: John Wiley & Sons.

Checkland, P., & Scholes, J. (1990). *Soft systems methodology in action*. New York: John Wiley & Sons.

Daniels, S., & Walker, G. (2001). *Working through environmental conflict: The collaborative learning approach*. Westport, CT: Praeger.

Dukes, E. F. (1996). *Resolving public conflict: Transforming community and governance*. Manchester, England: Manchester UP.

Emmelin, A., & Ljung, M. (1999). *Evaluation of the farmers' dialogue*. Internal material for the Federation of Swedish Farmers. In Swedish.

Fear, K., & Edwards, P. (1995). Building a democratic learning community within a PDS. *Teaching Education, 7*(2).

Flood, R K. (1990a). *Liberating systems theory*. New York: Plenum Press.

Flood, R. K. (1990b). Liberating Systems Theory: Toward Critical Systems Thinking. *Human Relations, 43*, 49-75.

Gaventa, J. (1993). The powerful, the powerless, and the experts: Knowledge struggles in an information age. In P. Park, et al. (Eds.), *Voices of change: Participatory research in the United States and Canada*. Westport, CT: Bergin and Garvey.

Hannigan, J. (1995). *Environmental sociology: A social constructionist perspective*. New York: Routledge.

Hajer, M. (1997). *The politics of environmental discourse: Ecological modernisation and the policy process*. London: Oxford UP.

Ison, R. L. (1996). Designing learning systems. In CIRAD *Systems-oriented research in agriculture and rural development: Lectures and debates*. Montpellier: CIRAD-SAR, pp. 369-394.

Lash, S., Szerszynski, B., & Wynne, B. (1996). *Risk, environment and modernity: Towards a new ecology*. Thousand Oak, CA: Sage.

Ljung, M. (1999). *Farmer participation in development of environmental management and quality assurance systems in Swedish agriculture*. Uppsala: Department of Landscape Planning, Ultuna. Mimeo. Forthcoming.

Ljung, M., Gibbon, D., & Richert, A. (1998). *Extended study circles as a means of facilitating change towards sustainable management of ecosystems: Is there a new role for agricultural universities?*. Paper presented at the 3rd European AFSRE Meeting, Hohenheim, Germany.

LRF. (1997). *Protocol from the annual meeting of the Federation of Swedish Farmers*. LRF: Stockholm. In Swedish.

LRF. (1999a). *Environmental report of Swedish agriculture 1997/98*. Stockholm: LRF. In Swedish.

LRF. (1999b). *Notes from evaluation of the Farmers' Dialogue the 3rd of February 1999*. Stockholm: LRF. Internal working material. In Swedish.

LRF. (1999c, August 1). *The Federation of Swedish Farmers official homepage*. http://www.lrf.se/lrfenglish.htm.

Mebratu, D. (1998). Sustainability and sustainable development: Historical and conceptual review. *Environmental Impact Assessment Review, 18*, 493-520.

Meppem, T., & Gill, R. (1998). Planning for sustainability as a learning concept. *Ecological Economics, 26*, 121-137.

Nassauer, J. I. (1995). Culture and changing landscape structures. *Landscape Ecology, 10*, 229-237.

Nitsch, U. (1997). The reluctant scientist: Some reflections on scientists' commitment to sustainability research. In A. Nordgren (Ed.), *Science, Ethics, Sustainability: The responsibility of science in attaining sustainable development*. Acta Universitas Upsaliensis, Studies in Bioethics and Research Ethics no 2. Uppsala: Uppsala University.

Nitsch, U. (1999). The art of environmental communication. In L. Lundgren (Ed.), *To know and to do* (pp. 193-225). Stockholm: Naturvårdsverkets Förlag.

Oliver, L. (1987). *Study circles: Coming together for personal growth and social change*. Washington, D.C.: Seven Locks Press.

Pretty, J. (1994). Alternative systems of inquiry for sustainable agriculture. *IDS Bulletin, 25*(2), 37-49.

Pretty, J. (1998). Supportive policies and practice for scaling up sustainable agriculture. In N. Röling & M. A. E. Wagemakers (Eds.), *Facilitating sustainable agriculture*. Cambridge, England: Cambridge UP.

Pretty, J., & Chambers, R. (1994). Towards a learning paradigm: New professionalism and institutions for agriculture. In I. Scoones and J. Thompson (Eds.), *Beyond farmer first*. London: IT Publications.

Prugh, T., Costanza, R., & Daly, H. (1999). *The local politics of global sustainability*. Washington, D.C.: Island Press.

Röling, N., et al. (1997). *Social learning for collective natural resource management: Facilitation, institutions, and policies*. Proposal for the second phase of the environment and climate research and development programme within the European Union. Wageningen: Department of Communication and Innovation Studies, University of Wageningen.

Röling, N., & Jiggins, J. (1998). The ecological knowledge systems. In N. Röling & M. A. E. Wagemakers (Eds.), *Facilitating sustainable agriculture*. Cambridge, England: Cambridge UP.

Röling, N., & Wagemakers, M. A. E. (1998). A new practice: Facilitating sustainable agriculture. In N. Röling & M. A. E. Wagemakers (Eds.), *Facilitating sustainable agriculture*. Cambridge, England: Cambridge UP.

Scoones, I., & Thompson, J. (1994). Knowledge, power and agriculture–Towards a theoretical understanding. In I. Scoones & J. Thompson (Eds.), *Beyond farmer first*. London: IT Publications.

Senge, P. (1990). *The fifth discipline: The art and practice of the learning organization*. New York: Doubleday Dell Publishing Group.

Stoecker, R., & Bonacich, E. (1992). Why participatory research? *American Sociologist, 23*, 5-14.

Swedish National Federation of Study Associations. (1995). *Non-formal adult education in Sweden 1995*. Stockholm: Folkbildningsrådet.

Triandis, A. C. (1995). *Individualism and collectivism*. Boulder, CO: Westview Press.

Tuan, Y. (1974). *Topophilia: A study of environmental perception, attitudes and values*. Englewood Cliffs, NJ: Prentice Hall.

Walker, G., & Daniels, S. (1997).*Collaborative public participation in environmental conflict management: An introduction to five approaches*. In S Senecah (Ed.), Proceedings from the 4th Biennial Conference on Communication and Environment, Cazenovia, NY.

Weisbord, M., & Janoff, S. (1995). *Future search*. San Francisco, CA: Berrett-Koehler.

Wilson, K., & Morren, G. (1990). *Systems approaches for improvements in agriculture and resource management*. New York: Macmillan.

Wood, D., & Gray, B. (1991). Toward a comprehensive theory of collaboration. *Journal of Applied Behavioral Science, 27*, 139-162.

Woodhill, J., & Röling, N. (1998). The second wing of the eagle: The human dimension in learning our way to more sustainable futures. In N. Röling & M. A. E. Wagemakers (Eds.), *Facilitating sustainable agriculture*. Cambridge, England: Cambridge UP.

Incorporating Technology into the Creation of a Regional Land Ethic: The Possibilities of Group Decision Support Systems (GDSS)

Mark Meister
Department of Communication
North Dakota State University—Fargo, ND

Abstract

This study incorporates Group Decision Support System (GDSS) computer software in the formulation of a regional "land ethic." Recently, the benefits of computer-mediated decision software packages in aiding small groups to prioritize, vote, and formulate future strategic outcomes, has received much attention. In this study, I hypothesize and theorize about two related issues: 1) the relevance of GDSS in the creation of meaningful dialogue concerning land use issues, and 2) the possibility of creating a regional "land ethic" that accounts for the variety of seemingly diverse perspectives concerning land use issues using GDSS.

Introduction

Recently, North Dakota's State Data Center released information forecasting a bleak future for the state and the Northern Great Plains (South Dakota, Nebraska, western Minnesota) region. Study after study indicates that North Dakota, in particular, must presently take measures insuring the "quality of life" for future North Dakota generations. Of specific concern is that North Dakota's farm, ranch, energy, and mining economies are reaching pre-Depression era levels. Population losses are accelerating; young people in particular are leaving the family farm for greater economic opportunities elsewhere. Soil erosion is approaching Dust Bowl-era rates. In sum, the most rural parts of North Dakota face long-standing problems—droughts, disappearing topsoil, de-population, declines in the traditional agricultural and energy economies, and further dependence on federal largesse (evidenced historically from the Homestead Act to defense spending to countless farm support programs) (Popper & Popper, 1998). State leaders and politicians, as well as rural citizens of North Dakota, fear the worst: that the land and its "natural resources" are depleting and that the land's carrying capacity is unable to guarantee future quality of life standards in North Dakota.

In order to address this concern, many North Dakotans are taking a second look at the controversial "Buffalo Commons" metaphor first discussed in 1988 by Rutgers University professor and land use planner Frank Popper and his spouse-colleague Deborah Popper, a professor of geography at the College of Staten Island, City University of New York. According to the Poppers (1998), the "Buffalo Commons" metaphor initially "offered a metaphor for a change to new uses of land that fell between intensive cultivation and pure wilderness, with less emphasis on agriculture and extraction and more on preservation and ecotourism (p. 15). Public response to the "Buffalo Commons" idea in 1988 was negative. The Poppers were vilified as "Easterners" and "outsiders" whose ideas threatened a way of life ("Buffalo Commons metaphor," 1999). Despite initial skepticism, the Poppers returned to North Dakota ten years after the publication of their "Buffalo Commons" idea and received a polite reception from North Dakotans. According to the February 7, 1999 *Fargo Forum* editorial, the Poppers' "willingness to defend it [the "Buffalo Commons" idea] to audiences in Great Plains communities [has] stimulated a necessary discussion. In the process the people of the plains are asking the right questions about the future—about what this land and its communities must do to adapt to demographic, social, and economic changes" (p. E4).

The significance of the "Buffalo Commons" idea is that it prompts debate and discussion in North Dakota around a central and salient environmental, and arguably sustainable development, issue: "How should we best proceed in caring for the land so that it will continue to care for us?"

Simply put, the time is right for a meaningful and imaginative discussion about land use in North Dakota to take place. The type of discussion I envision involves those who most closely work with the land; those who study it, care for it, preserve it, create public policy about it, recreate with it, and certainly, those who work it. The commonality among all these land use constituencies is the land itself. The type of discussion I envision focuses on the land and its politics, certainly, but not to the extent that politics deters meaningful discussion about the land. I am of the opinion that this type of discussion is possible and it is

my purpose in this prospectus to profile this type of discussion and lay the groundwork for its implementation.

Envisioning a Regional Land Ethic

The notion of "land ethic" was first described by naturalist Aldo Leopold in his book *A Sand County Almanac* (1949) and has since been discussed primarily by academics (Attfield, 1991; Bruner & Oelschlaeger, 1994; Callicott, 1989, 1994; Ferre & Hartel, 1994; Katz, 1997; McCloskey, 1983; Thompson, 1995; Sylvan & Bennett, 1994). Because Leopold's land ethic idea has been the focus primarily of the academic community, little knowledge and understanding of it as a concept emphasizing such values as "community," "stewardship," and "moral responsibility" exists outside the auspice of academia. Granted, Leopold's land ethic is a philosophical concept, open to debate within the halls of the "Ivory Tower," but it is also a very practical and pragmatic concept. This side of the land ethic debate is overshadowed by stereotypical perceptions of academics as "liberal," and "radical." These attacks are often directed at academics engaged in land ethic debates, intent not on emphasizing its practicality, but rather its ontology. In short, as Callicott (1989) states, Leopold's land ethic is "from a philosophical point of view, abbreviated, unfamiliar, and radical" (p. 76). Certainly serious and insightful discussions can occur based not only on the theoretical and ontological issues surrounding Leopold's land ethic, but also on its practicality and realism. It is this type of land ethic discussion that this study implements.

Before presenting the methodological procedures of this practical land ethic discussion, two areas need profiling. First, I discuss the practical land ethic themes of "community," "moral responsibility," and "stewardship" that are attractive concepts to rural North Dakotans. As people "Rooted in the Soil" (Peterson & Horton, 1995), many rural North Dakotans feel threatened by land use and ethic discussions because many do not allow for their participation.

Human society, Leopold argues, is founded, in part, upon mutual security and economic interdependency and preserved only by limitations on freedom of action in the struggle for existence—that is, by ethical constraints (Callicott, 1989). In basic terms, Leopold's land ethic calls for what Kenneth Goodpaster calls "moral considerability" for the biotic *community*:

> In short, a land ethic changes the role [of] *Homo sapiens* from conqueror of the land-community to plain member and citizen of it. It implies respect for his [sic] own fellow-members, and also respect for the community as such. (1978, p. 204)

Leopold emphasizes a "community" theme in his notion of land ethic because it includes holistic as well as individualistic connotations. Thompson (1995) discusses holism in relation to Leopold's land ethic and modern agriculture. Accordingly, Thompson reinforces the "community" theme of Leopold's land ethic, particularly when addressing agriculture. Notes Thompson (1995):

> A holistic approach to agriculture should see agriculture as both part of the larger human biotic community and as an ecosystem in itself. Agriculture is crucial to our self-knowledge because it is the system by which humanity has survived, for good or ill, through a period of civilization, urbanization, and ultimately, industrialization. (p. 119)

Thus, agriculturists and agricultural activities, in this vein, function as a part of a larger holistic "community." Note, however, Thompson's (1995) reference to the individualist properties of agriculture: its contributions to civilization, urbanization, and industrialization were/are not solely holistic and "community" based activities, but also individual pursuits. Here agriculture is referenced by its characteristics as an "independent" and "autonomous" activity. Thus, Leopold's land ethic, particularly when referenced to "agriculture," illustrates both of its communal and holistic connotations: that of an independent, yet communal member of a larger society, whose moral impetus is stewardship toward nature.

As individual "members" of a larger holistic "community," notes Knight (1996), humans (here I'm referencing not only agriculturists, but all communal members) possess the "moral responsibility" to care for nature and "must acknowledge [their] role as. . . integral part[s] of an ecosystem, whose activities must be attuned to natural processes of utilization and restoration" (p. 471). In essence, our moral duty is the creation and implementation of a land ethic based on stewardship and responsibility, which specifically emphasize, according to Shaw (1997), three land virtues: respect (or ecological sensitivity), prudence, and practical judgment. This emphasis on "ethic" requires limiting how nature is traditionally used, and as such, "would impose limitations on human freedom of action in relationship to non-human natural entities and to nature as a whole" (Callicott, 1994, p. 1).

Herein lies a great dilemma, particularly for rural North Dakotans. Predominantly, rural North Dakotans think negatively of anyone or anything

threatening to "limit" their freedoms, particularly their property rights. Historically, the imposition of such an "ethic" threatens not only the "right" to farm or ranch, but also implies that agriculturists are not faithful stewards of nature (Danbom, 1990; Peterson, 1986). Yet, many agriculturalists consider themselves as "moral stewards" of nature. To be implied as anything contrary to "moral" or "responsible" offends and further alienates rural North Dakotans, whose land use and ethical issues are rhetorically reinforced by both myth and history. As Peterson (1991) notes in reference to farmer's long-standing "moral" commitment and responsibility, "[f]armers must perform their stewardship within a land-use ethic that has been influenced by frontier images that predate even the colonial period, and range beyond agriculture" (p. 291). Such a commitment is historically reinforced by the farmer's acceptance of Jeffersonian agrarianism, which according to Peterson (1991) "has long guided both the development of American attitudes toward agriculture, and American agricultural policy" (p. 290).

The irony, of course, lies in the contradictory nature of language and mythical rhetoric. Leopold's rhetoric advocates limits, while rural North Dakotans are threatened by a discourse of limits. Yet, the commonality between both Leopold's land ethic and the experiences of rural North Dakotans are the deeply meaningful concepts of "moral responsibility" and "stewardship." Whereas "stewardship" within the world view of the agriculturist may include connotations toward "wise use" or "personal rights," the world view of the Leopold land ethic" advocate is more aligned with "community" and "nature's rights." Both are seemingly at odds, but ironically, both arguments evolve from the same "moral responsibility" premise.

Computer-Mediated Group Decision-Making

Northern Great Plains historian Dan Danbom (1990) argues in his book, *Our Purpose is to Serve: The First Century of the North Dakota Agricultural Experiment Station*, that rural North Dakotans have long had an affinity for technology. As such, the farm is a technologically complex cultural text; complete with machinery, chemicals, and other by-products of science. Science and technology are part of the agriculturists' "lifeworld," notes phenomenologist Don Ihde (1990). Peterson (1991) posits that "[f]armers rely on technology to implement both the frontier imperative to exploit the wilderness and the caretaker's responsibility to battle social evils such as confusing farm programs and natural evils such as droughts" (p. 301). The farmer is a technician whose knowledge is specifically developed for viewing land as an object, and the earth as a machine (Peterson, 1991). Moreover, many farm operations are automated, complete with computer-driven equipment, such as yield monitors, and personal computer budgeting, mapping, bar coding (for inventory purposes), and digital photography (for crop history and selection purposes) software (Kaplan, 1996; Mangold, 1996, 1997).

Because the "successful" farmer has historically depended on technology, and because many contemporary farmers are incorporating "high-tech" computer software and hardware into their farming operations, I'm of the opinion that farmers are not put off by the idea of discussing land use and ethic ideas through the medium of technology. GDSS thus provides an acceptable technological framework for our discussions about land use and ethic issues.

Research in the area of small group decision-making illustrates the relevance, effectiveness, and possibilities of GDSS mediated group decisions and discussions (DeSanctis & Gallupe, 1987; Poole, 1991; Poole & DeSanctis, 1990; Poole, Holmes, Watson, & DeSanctis, 1993; Poole & Holmes, 1995). According to Poole, Holmes, Watson, and DeSanctis (1993), "[t]he potential of GDSSs lies in their ability to enhance individual and group information-handling capacity, to provide additional media for interpersonal communication, and to provide data resources and process structures for group work" (p. 177). The impetus for adopting GDSSs is to "improve group decision making processes, which in turn should result in more effective decisions" (Poole & Holmes, 1995, p. 91).

A GDSS combines communication, computer, and decision technologies to support decision-making and related group activities (DeSanctis & Gallupe, 1987). The configuration of a GDSS mediated group process includes communication technologies such as electronic messaging, teleconferencing, and large public screens visible to all group members to support interaction. GDSSs have been designed to support face-to-face or distributed meetings and to support both synchronous and asynchronous work (Poole & Holmes, 1995). The Group Decision Center (GDC) located on the campus of North Dakota State University (NDSU) is an example of a GDSS system. The GDC at NDSU is a network of twenty-four laptop computers linked by GroupSystems software enabling group participants concurrent and immediate sharing of ideas.

Unlike traditional decision-making sessions that are often marred by criticism, status and personality issues, and power plays, the GDSS-aided session offers participants anonymity, simultaneous participation, a criticism-free discussion, and an "equal" voice during the discussion.

The typical GDSS session includes a facilitator, up to 25 discussion participants each provided with a laptop computer, a technician who oversees software operation, and the Windows 1998-driven GroupSystems software package. Participants sit in a circle facing each other. Generally, the facilitator is responsible for keeping the discussion on task. This includes a variety of duties such as posing questions to participants, aiding in the creation of a discussion "agenda," aiding in the establishment of group priorities, and calling for votes about particular issues. Typically, the facilitator does not substantially participate in the discussion.

Each participant responds to issues arising during the discussion by typing their insights onto a laptop computer. Although the discussion is "electronic" in format, there is a lot of verbal interaction among participants including inquiries for clarification and verbal exchanges concerning a participant's "intent." The technician manages the computer system and software during the session by directing it to do various functions based on the desires of the participants. Simply, GDSS is not unlike other computer software programs such as word processors or spreadsheet applications that we all use as "tools." The GDSS software package creates an anonymous electronic and paper record of the session.

Research Questions

Given the import of both land use and ethic issues in "sustaining" the quality of life in the Northern Great Plains, Leopold's emphasis on "community," "moral responsibility," and "stewardship," and the influence of technology on the lives of rural people in the Northern Great Plains, this study investigates two research questions.

RQ 1: How are the land ethic perspectives of North Dakotans and Leopold's "land ethic" rhetorically consistent, and how is this consistency illustrated in language?

RQ 2: How "effective" is GDSS group decision software in facilitating meaningful land use and ethic discussions and decision making?

Methodology

This study incorporates a two-prong methodological framework for investigating the stated research questions: 1) rhetorical theory (with specific reference to RQ 1's focus on language), and 2) empirical methods (for assessing the "effectiveness" of GDSS as referenced by RQ 2).

Participants. The twenty-four participants in this study are all members of the Regional Environmental Studies Initiative (RESI).[1] The RESI is a coalition of academics, community leaders, agriculturists, scientists, and politicians committed to land use and quality of life issues in North Dakota. Located at NDSU and established in 1996, the RESI serves agricultural extension service agents, the state of North Dakota, western Minnesota, and the entire Northern Great Plains region through research, securing grant funding, and training and development initiatives.

Procedures. Each discussion participant (each RESI member) received two sets of background reading prior to the date of the discussion. The first set included readings about Leopold's land ethic, research about the GDSS, and a short instruction manual for using GDSS. This information is provided in advance in order to provide a context for the discussion and to introduce each participant to the GDSS system. The second set included a copy of the research proposal for this project, a letter of invitation detailing certain aspects of this study, and an agenda for how the GDSS-aided discussion evolved.

At the time of the two-hour scheduled discussion, a short orientation session led by the GDSS technician addressed basic operation of the GDSS system. Next, as the land ethic discussion began, each participant was asked by the discussion facilitator to respond to three interrelated topics: natural resource issues, quality of life issues, and property rights. At the end of the session, each participant completed a Likert-type questionnaire with inquiries about the overall effectiveness of the GDSS.

The GDSS provided a complete transcript of the session. In the next section of this essay, this transcript is analyzed using metaphor rhetorical theory. Rhetorical theory is appropriate for assessing the GDSS-aided session for two reasons. First, rhetorical theory, specifically a focus on metaphor, is consistent with Leopold's original land ethic prose, which makes great use of metaphor. Moreover, rhetorical theory is appropriate for analyzing the socially constructed conceptions of land use held by the discussion participants. Second, metaphor rhetorical theory potentially provides insight into the various metaphoric representations associated with land, natural resources, quality of life, and property rights. In their book *Place, Culture, Representation* (1993), James Duncan and David Ley argue that we experience and understand certain places, geographies, landscapes, and spaces by drawing interpretive metaphors by what we see. Just as in metaphorical language use, "seeing" a metaphor often represents other than an intended or desired meaning. "Seeing" metaphors in the places we visit are often

related to cultural experiences (Sack, 1992; Soja, 1989). Blair, Jeppeson, and Pucci (1991) reinforce this point in their analysis of the Vietnam Veterans Memorial in Washington D.C. As a site of cultural reflection, "the Vietnam Veterans Memorial is an instance of an emergent discourse within the cultural rhetoric of public commemorative monuments" (Blair, Jeppeson, & Pucci, 1991, p. 290). Metaphorically, the memorial facilitates an emotional response and represents what Blair, Jeppeson, and Pucci call a "postmodern commemorative text" (1991, p. 290).

In addition, many cultural geographers discuss the relevancy of metaphor and its relationship to land and regions (Popper & Popper, 1999; Soja, 1989). According to Popper and Popper (1999), "[r]egional metaphor provides. . . thinking about regions and the probable changes in them accessible to wide, often opposed portions of the public. . . " (p. 1). In the analysis of the transcript generated by this study, close attention will be paid to those metaphors that resemble Leopold's land ethic themes of "community," "moral responsibility," and "stewardship." The responses to the questionnaire about GDSS effectiveness are statistically analyzed and discussed in later sections of this essay.

Results

Three themes surfaced in the metaphorical analysis of the GDSS transcript: "enlightened community," "water quality (of life)," and "land as a gift." The most prominent of these metaphors was the "enlightened community" theme in that it appeared in all the discussions about natural resources, quality of life, and property right issues. The "land as a gift" metaphor predominately surfaced as RESI members discussed property rights, while the "water quality (of life)" arose primarily during the quality of life discussion.

"The Enlightened Community"

When asked the question, "What elements constitute a high quality of life for you personally?," the responses were rather general. Most responded with short words or phrases like "hope," "low crime," "scenic beauty," "clean air and water," and "good health." Others noted that one's quality of life is very much related to nature. Responses supporting this relationship mentioned that a high quality of life depends on "ecological wealth" and "an abundance of lakes, rivers, park and other recreation areas," "to see the land being used properly," and the "freedom to pursue land-based activities."

Then came this posting: "communities that understand that—everything—comes from the land, not from ephemeral economic activities." It prompted a lively discussion. A sampling of the responses to this query include, "Yes, everything comes from the land, but it is useless without hard work." Or, "What good is farming without the economics behind it, I don't do for the sheer joy it brings;" while a more critical response pointed out that, "Why can't we get beyond the whole agriculture for profit mentality—are we so focused on profits that we willingly flood our lands with chemicals without regard for those who ingest those chemicals." With respect to the original postings' emphasis on "community," several responses echoed the sentiments illustrated in the following response: "We need people who care about the long-term and not what happens with the price of sugar beets this afternoon." Other examples of responses that supported this contention indicated that "our livelihood in North Dakota depends on our caring for the land and for those who work with it. . . we cannot spoil those who work [with the land] or the land will become spoiled." Yet the most direct citation with a focus on community simply stated: "we need to become enlightened as a community. . . clear in our relationship with nature and firm within it. . . less focus on using it [nature] and much more focus on protecting it."

Discussions about natural resources and property rights also generated postings related to the "enlightened community" theme. Examples include, "as a community, we need to think beyond using natural resources simply for economic purposes;" "we need to preserve wetlands to help prevent flooding and protect water quality;" and "I and the other farmers I know can't afford to preserve or conserve our land given current prices and economic forecasts." When asked specifically about the type of community and leadership needed for improving quality of life, responses included: "a diverse group of people (educators, professionals, land owners, land users, law makers," and "educated peers are the biggest influence on me)." Others responded with "concerned and enlightened citizens;" "a group of concerned agriculturalists together with other concerned citizens;" "no one linked to for profit agribusinesses;" and "need a broad coalition of leaders who represent the environment, not big business."

"Water Quality (of Life)"

According to one respondent, "the most sacred and hated natural resource in this area is water, it floods us in the spring and abandons us in the summer." Generally, the responses to questions about quality of life and natural resources focused primarily around the "resource" of water. As the above statement illustrates, people in the Northern Great Plains seem to have a vicarious relationship with water.

Some respondents argued about the quality of the water itself, pointing out that we need to "preserve our quality of water by being more careful with its use. . . ban sprinkling of lawns," and to "amend the statewide drainage system which has been a big cause of flooding and water pollution." Some questioned the relationship between water and quality of life with the following sarcastic queries, "should the natural shape of North Dakota be altered so that it won't flood????" and "when land floods than all of a sudden we wish to change it. . . duh!" Others pointed out the recreational benefits of the region's water. "I can sympathize with the farmer's frustration with water, but as a boat owner, I don't really mind, water provides me with access to the joys of fishing!" "Lakes allow for relaxation and play," and "my business depends on folks having fun in the water."

Yet, the tenuous relationship between flood and drought dictated much of the discussion about the region's water "resources" and its contribution to enhancing or threatening the quality of life of those humans living in the Northern Great Plains. Frustrations with the region's water included, "my basement floods every fall and I'm getting tired of it;" "although we didn't have as much snow in years past, about 400 acres on my land still are flooded and probably will not get planted;" "the lakes are flooding into lake homes, I feel sorry for those people living in or around Devils Lake, that whole town will soon be overtaken;" and "now the government is mandating that I buy flood insurance, I can't afford it, if my land floods, I don't plant and I don't get paid." The Flood of 1997 (involving the Red River of the North, Sheyenne, and Wild Rice Rivers), which forced the evacuation of several cities and towns, was specifically referenced several times. Examples from responses include: "I'm still trying to remodel after the floods of 1997;" "I never want to live through the nightmare of 1997 again. . . I'm seriously considering moving out of the region because of the constant threat of floods;" "1997 was easily the worst year of my life. . . I lost everything;" and "I thought the world was ending in April 1997."

In terms of the region's frequent droughts, one respondent mentioned that "this area needs a long drought to dry things out," to which someone quipped, "are you telling me that I need both flood and drought insurance for my land?" According to one discussant, droughts are more threatening than floods since "a drought can wipe out months of planting. . . floods are more forgiving." It was pointed out to this discussant that "you make it sound that because you are a farmer that you'd prefer a flood, well how about those folks in Grand Forks who are not farmers that suffer constantly from flooding?" At least one other discussant agreed, noting that "floods impact more than farmers. . . floods are terrifying in that they do not discriminate against the young, old, rich, or wealthy—they spread with out reservation." To which another person responded, "I own so much land that if one, two, or three sections of it floods, I can still farm the dry land, but in a drought, all my land and work is wiped out."

"Land as a Gift"

Besides focusing on the "resource" of water, discussants spent a lot of time talking about the region's land "resource." Interestingly, the land "resource" was generally discussed as a "gift." For example, when asked the question, "How does the region's quality of life depend on the land?" responses included: "the land is comparatively unspoiled. . . it is rugged and undeveloped by large civilizations;" "the land offers some of the best farmland in the world;" "the soil is rich;" and "offers rugged beauty." One respondent drew the correlation between the land and the region's people: "the landscapes and geographies reflect the values of use who live here. . . both are simple and stable." This statement brought forth a variety of responses, such as "I take offense to the statement that I'm simple. . . you don't know anything about me;" "yes, the land is simple, but the reason it's misused is because we are not as simple;" and "who is to say our land and its people are simple? . . . that's like saying that everyone here is not intelligent or enlightened enough to appreciate the region."

Yet, much of the discussion focused on the economic prosperity that the land contributes to the region's quality of life. Specifically, one respondent mentioned that "God gave us this land as a gift so that we could make this region economically livable." Similarly, the "gift" analogy surfaced in the following responses: "we were given this land and we are responsible for doing something with it;" "should we not be responsible for the land provided to us. . . ?" "I inherited my property from my father and he from his grandfather, now I'm afraid that I'm going to have to give up what was given to me;" and "this land must be used wisely and not as something that should be easily disregarded."

Responses to GDSS

Discussants responded to three types of survey questions. Initially, general "yes/no" questions geared at tapping the participants' knowledge of major environmental figures associated with the environmental movement were asked. Second, questions geared toward their evaluation of the GDSS system were posed. Third, participants were asked to respond to open-ended questions relevant to the GDC session. In total, the survey asked 15 Likert-type questions, and

the responses to these questions were statistically assessed by GDSS, and 3 open-ended questions allowed participants to provide positive or negative feedback about the session.

Of the participants (N = 24, mean age of 33.17), 7 responded "yes" to the survey questions asking if they were familiar with the writings of Aldo Leopold and Rachel Carson, and 9 responded "yes" to the question asking if they were familiar with the work of John Muir. When asked, "How do you feel about this statement? 'I wish our government and community leaders would address the environmental issues significant to our region?'" 8 participants strongly agreed or agreed with the statement, 8 participants were neutral, and 8 participants disagreed or strongly disagreed with the statement. Yet, when asked to rate their appreciation for nature, all 24 participants responded, "I very much appreciate nature."

With reference to questions addressing participant satisfaction with using GDSS, the results were quite mixed. When posed with the question, "Now that you have completed the GDC, how do you feel about this statement? 'The GDC was very helpful in facilitating a discussion about regional land issues'," 2 participants strongly agreed, 15 participants responded as neutral, and 7 disagreed or strongly disagreed. Moreover, responses to the question, "How do you feel about this statement? 'The GDC is an excellent resource for decision making'," 12 agreed with the statement, 4 responded as neutral, and 8 disagreed or strongly disagreed.

In response to the open-ended question, "What would you change about the session?" one discussant mentioned that "It seemed that little discussion took place. . . we engaged more in list making." Two other responded in a similar way, stating "more time needs to be devoted to discussing issues, and not simply creating lists," and "no decision was made, we never got into a real discussion." Yet, the discussants were not quick to disregard the potential of the GDC in aiding in the creation of a regional land ethic. Discussants responded that they liked the anonymity, the simultaneous input that the system provides, and the expedient nature of the discussion. One discussant responded, "Interesting process; has the potential with a more conducive format for decision making."

Discussion

Recall that Leopold's notion of land ethic emphasizes the themes of "community," "stewardship," and "moral responsibility." For Leopold, the creation of a land ethic required an understanding of how a region's ecosystems meaningfully contribute to the region's quality of human life. To have a meaningful quality of life essentially means that the region's inhabitants care for and respect their land. In many respects, the themes of "enlightened community," "water quality (of life)," and "land as a gift" put forth by those participating in the GDC discussion reflect Leopold's ethic. Yet, one distinction is evident. Whereas the GDC participants emphasize a need for a land ethic in order to respect the "gift" and that it is the responsibility of a moral and "enlightened community" to carry out this directive, Leopold's vision involves the participation of all community members—a holistic community. The "enlightened community" possesses not only an understanding that the land is a "gift," but also a coming-to-terms with the region's flooding and drought problems. The excess and lack of water is very much part of the ethic that binds the region; grasping this reality is a major responsibility of an "enlightened community."

What is needed, according to the participants, is "enlightenment," an awakening to the plight of the land, and a resurrection of the simple ethic-based actions that define Earth stewardship. This return to a land ethic, understood so fully by Leopold, is necessary given the present agricultural and economic forecasts of the region. As discussed earlier, the future is bleak in many respects. Coming to terms with de-population, flooding, and drought seems to require a new and enlightened approach. That is to say, that the dominant view toward nature—that of as a means to an economic end—is no longer considered "enlightened." It is the role and purpose of the "enlightened community," I suppose, to exercise its moral and ethical fortitude in creating an alternative approach, one based on religious values and traditions.

Religious overtones are apparent in the "land as gift" theme. The creationist narrative of God providing for "his" people is very much illustrated in the responses to this study. Recall that the Genesis story teaches us that the Garden of Eden was God's gift to Adam and Eve, and it was not until they disobeyed God and abused His "gift" that they required forgiveness. This notion of the "land as gift" certainly has strong religious tonalities; itself emphasizing the need for ethical and moral treatment of the region's garden. Part of the task of the "enlightened community" described above is to direct and lead the "return" of the gift-garden. The receivers of the "land-gift" require not only forgiveness for improper treatment, but also the "enlightenment" needed in order to atone for such disrespect.

Kenneth Burke's notion of guilt-redemption-victimage applies here, and in *The Rhetoric of Religion* (1961) he discusses the influence of religion on culture. "Here are the steps in the Iron Law of History that welds Order and Sacrifice: Order leads to Guilt

(for those who can keep commandments!), Guilt needs Redemption (for who would not be cleansed!), Redemption needs Redeemer (which is to say, a Victim!). Order through Guilt to Victimage" (p. 5). Burke goes on to discuss that it is this formula that dictates the "return to ethics," and I suppose the need for a "land ethic." Recall those statements clustering around the "land as gift" theme illustrated in this study. The emphasis was on a need for redemption; that the gift was abused, and that limits and sacrifices are needed for redemption. The land not only needs redemption, but so does the region's people. Thus, they must become "enlightened" as a means toward "redemption."

Whereas the themes of "enlightened community" and "land as a gift" rhetorically associate with religion, the "water quality (of life)" theme focuses on those negative factors associated with the "land as gift." The theme's focus again is religious. The land is threatened by water and drought and as a result, people's livelihoods—and particularly their quality of life—is often negatively affected (similar to such Biblical stories and references as The Great Flood, turning water into wine, and baptism). An irony exists in that the "gift" can harm its receivers, and faith is required in the Redeemer who ultimately controls the "gift." The focus here is not simply on life, but on the *quality* of life. The latter construct goes beyond simple and ethical living to an existence oftentimes based on materialism, luxury, and comfort. The *quality* of life is often not so much defined in ethical or even religious terms, but generally in economic and technical terms. The "land as gift" is very much a religious concept, but is easily equipped linguistically to become an economic, scientific, and technical term particularly when associated with the *quality* of life. Flooding and drought are not seen as parts of the "land-gift" but rather as direct threats to the *quality of human life* in the region. Both flooding and drought affect the economic viability of the region because it threatens the region's *quality* of life. A high quality of life oftentimes is the result of technology. Technology enables one's life to become more convenient, luxurious, and free. It can aid in predicting floods and droughts, and it helps shape how we budget and forecast when such threats exist. But can technology meaningfully aid in discussions that are as value-laden as those about ethics, and in particular, those focusing on a creation of a land ethic?

Because of the value-based nature of this particular discussion, I'm not convinced that the GDC was particularly helpful in aiding the discussion. This seems evident in that the majority of the participants did not have a strong opinion of support for the system once the session concluded (the majority of discussants responded to the GDC effectiveness as "neutral"). This does not mean that the GDC is not an important tool for the implementation of environmental and agricultural policy.

This study illustrates the strong religious connotations associated with the land and the people of North Dakota. The land is a "gift" from God and when the land is neglected or mistreated, an "enlightened community" is needed to re-establish God's will. In attempting to understand the region's land ethic, it may not be necessary to read Leopold but rather the King James Bible. Yet, there exist several distinctions between the religious perspective promoted by the GDC participants and Leopold's land ethic construction.

Moreover, religion emphasizes the faith in the heavenly, while Leopold emphasizes the earthly. The ethics of both emphasize limits on human action, yet Leopold's ethic emphasizes human limitations on how the earth is used. The irony here is that this contrasts with the "land as a gift" religious connotation that basically contends that as a "gift" the land should be used for improving the quality of human life. Leopold's message emphasizes "limits" just as religious discourse does, but the difference is that Leopold focuses on limiting use and interaction with the Earth. This limitation threatens the freedom to improve the quality of one's life. Indeed, the irony between this emphasis on limits and the use of nature for improving one's quality of life is stark. Is it possible to address environmental issues seriously, create a regional land ethic, or gain widespread public support for environmental issues when so much emphasis is put upon improving quality of human life standards? Does not the means by which we improve our lives (attaining material goods, our "greeds" rather than our "needs") have direct environmental consequences? We look to a variety of places to iron out this contradiction. Science, technology, religion, and politics among others, offer advice on how the "gift" should be used for quality of life improvement, and more significantly how "enlightened" people should prosper from such utility.

Notes

1. The twenty-four member RESI consists of ten academics and social scientists (from North Dakota State University, the University of North Dakota, Concordia College of Moorhead, Minnesota, and Moorhead State University) representing nine different departments (Chemistry, Communication, English, History, Mathematics, Physics, Religion, Sociology, and Soil Science). Three RESI members work for the Northern

Crop Institute at North Dakota State University as researchers funded by the USDA. Three additional members are Agricultural Extension Service agents employed by NDSU. Three additional members are area sugar beet and potato farmers, and three other members are business owners. The remaining two members are local representatives from the Sierra Club and the Audubon Society.

References

Attfield, R. (1983). *The ethics of environmental concern.* Athens: U of Georgia P.

Blair, C., Jeppeson, M. S., & Pucci, E. (1991). Public memorializing in postmodernity: The Vietnam Veteran Memorial as prototype. *Quarterly Journal of Speech, 77,* 289-308.

Bruner, M. & Oelschlaeger, M. (1994). Rhetoric, environmentalism, and environmental ethics. *Environmental Ethics, 16,* 377-396.

Burke, K. (1961). *The rhetoric of religion.* Berkeley: U of California P.

Buffalo commons metaphor is about change. (1999, February 7). *Fargo Forum,* p. E4.

Callicott, J. B. (1989). *In defense of the land ethic: Essays in environmental philosophy.* Albany: State U of New York P.

Callicott, J. B. (1994). *Earth's insights: A survey of ecological ethics from the Mediterranean Basin to the Australian Outback.* Berkeley: U of California P.

Danbom, D. B. (1990). *Our purpose is to serve: The first century of the North Dakota Agricultural Experiment Station.* Fargo, ND: North Dakota Institute for Regional Studies.

DeSanctis, G. & Gallupe, R. B. (1987). A foundation for the study of group decision support systems. *Management Science, 33,* 589-609.

Duncan, J. & Ley, D. (1993). *Place, culture, representation.* London: Routledge.

Ferre, F. & Hartel, P. (1994). *Ethics and environmental policy.* Athens: U of Georgia P.

Goodpaster, K. (1978). On being morally considerable. *Journal of Philosophy, 75,* 306-325.

Ihde, D. (1990). *Technology and the lifeworld: From garden to earth.* Bloomington: U of Indiana P.

Kaplan, J. K. (1996, April). High-tech fattens the bottom line. *Agricultural Research, 44,* 4-12.

Katz, E. (1997). *Nature as subject: Human obligation and Natural community.* Lanham, MD: Rownam & Littlefield.

Knight, R. L. (1996). Aldo Leopold, the land ethic, and ecosystem management. *The Journal of Wildlife Management, 60,* 471-475.

Leopold, A. (1949). *A Sand County almanac.* London: Oxford UP.

Mangold, G. (1996, May-June). Yield monitors and precision farming system integrators. *Successful Farming, 94,* 37-41.

Mangold, G. (1997, March 15). Plan your hardware and software tools: Consider needs of data-intensive site-specific farming. *Successful Farming, 95,* 49.

McCloskey, H. J. (1983). *Ecological ethics and politics.* Totowa, NJ: Rowman & Littlefield.

Poole, M. S. (1991). Procedures for managing meetings: Social and technological innovation. In R. A. Swanson & B. O. Knapp (Eds.), *Innovation Meeting Management* (pp. 53-110). Austin, TX: 3M Meeting Management Institute.

Poole, M. S. & DeSanctis, G. (1990). Understanding the use of group decision support systems: The theory of adaptive structuration. In J. Fulk & C. Steinfield (Eds.), *Organizations and communication technology* (pp. 173-193). Newbury Park, CA: Sage.

Poole, M. S., Holmes, M., Watson, R., & DeSanctis, G. (1993). Group decision support systems: A comparison of decision making in computer-supported and nonsupported groups. *Communication Research, 20,* 176-213.

Poole, M. S. & Holmes, M. E. (1995). Decision development in computer-assisted group decision making. *Human Communication Research, 22,* 90-127.

Peterson, T. R. (1986). The will to conservation: A Burkeian analysis of dust bowl rhetoric and American farming motives. *Southern Speech Communication Journal, 52*, 1-21.

Peterson, T. R. (1991). Telling the farmers' story: Competing responses to soil conservation rhetoric. *Quarterly Journal of Speech, 77*, 289-308.

Peterson, T. R. & Horton, C. C. (1995). Rooted in the soil: How understanding the perspectives of landowners can enhance the management of environmental disputes. *Quarterly Journal of Speech, 81*, 139-166.

Popper, D. & Popper, F. (1987). The Great Plains: From dust to dust. *Planning, 53*, 12-18.

Popper, D. & Popper, F. (1998, February 2). The bison are coming. *High Country News*, pp. 15-17.

Popper, D. & Popper, F. (1999). *The case for regional metaphor as a geographic method: The Buffalo Commons and its implications*. Unpublished manuscript, Rutgers University.

Sack, R. D. (1992). *Place, modernity, and the consumer's world.* Baltimore: The Johns Hopkins UP.

Shaw, B. (1997). A virtue ethics approach to Aldo Leopold's land ethic. *Environmental Ethics, 19*, 53-68.

Soja, E. W. (1989). *Postmodern geographies.* New York: Verso.

Sylvan, R. & Bennett, D. (1994). *The greening of ethics.* Tucson: U of Arizona P.

Thompson, P. B. (1995). *The spirit of the soil: Agriculture and environmental ethics.* London: Routledge.

Analysis of Marine Resource Conflicts in Two North Central Chilean Fishing Villages**

Susan E. Qashu
Olympic National Park Resource Educator
Kalaloch Ranger Station—Forks, WA
(1999 Affiliation, College of Oceanic and Atmospheric Sciences, Oregon State University—Corvallis, OR)

Abstract

In 1992 amendments to the Fishing and Aquaculture Law required rural communities to organize into syndicates or cooperatives and to create resource management plans. Once the Chilean Fisheries Service (SERNAP) approves these plans, the village can manage its proper subtidal and intertidal area. Two such villages, Puerto Aldea and El Totoral, sought the advice of Northern Catholic University's (UCN) biologists. Despite the UCN's educational campaigns aimed at limiting the catch, traditional fishermen's attitudes have not changed. From June 1997 to December 1997, I worked with UCN's extension crew to assess this multilayered cultural conflict which occurred because of the stakeholders' differing interest. This project employed various methods to identify the conflicts affecting the communities of Puerto Aldea and El Totoral. The qualitative data revealed that many governmental and non-governmental agencies have triggered interpersonal conflicts among the fishermen, between the fishing communities, and among agencies and fishing communities. A conflict of values occurs, one of technical knowledge versus local indigenous knowledge.

Introduction

The Andes and the Pacific Ocean border Chile, a long, narrow, South American country extending over three thousand kilometers. A traveler in Chile is never far from the sea or the mountains. The Pacific Ocean and Andean high plains, the *altiplano*, have been integral components of Chilean culture for centuries. The Chileans have integrated the ocean into their daily lives: they tell legends, sing, and dance about the sea. This composes their seafaring culture.

The Chilean culture is like an intricately designed Andean tapestry with multilayered and multicolored fabric where the patterns give meaning to social life. This culture has many symbolic facets, including gender, age, or country (as well as many other aspects). This specific Andean tapestry or weaving is slowly being tugged at and unraveled by a host of stakeholders and communities of interest. The tapestry represents the marine resource; the tailors or the seamstresses of the tapestry represent the Chilean fishermen and other communities of interest such as the Chilean Fisheries Service (SERNAP), the Northern Catholic University (UCN), and the Institute for the Development of Artisanal Fisherman (IFOP), who are all key weavers of this fabric. When the seamstresses do not agree on the fabric, the color, or the design, an unraveling occurs—a cultural clash of values.

Conflict arises between the Chilean fishermen and other communities of interest. Once these traditional fishermen practiced subsistance fishing, and today, because of shellfish over-harvesting, they must abide by a fishing regulation which severely limits their catch. According to the fishermen, their tapestry has been cut, ripped, and shredded by outsiders. The outsiders feel they are repairing a component of the tapestry, the marine resource, which is an integral part of their culture. The government and non-government agencies feel they bring scientific changes and new methodologies, new colors to integrate into the weaving. Thus, the following paper analyzes the "unraveling" which is presently occurring in this cultural tapestry.

This study reports on a marine-bound culture in conflict. I conducted a series of studies employing several methodologies with various key stakeholders involved in fishing resource conflicts in two villages (see Table 1). From June 1997 to December 1997, I worked in Chile's Region IV with the UCN extension crew, whose goal was to conduct outreach education projects with artisanal fishermen. Using participant observation, individual interviews, surveys, and participatory rural appraisal activities I gathered information about the conflict. The UCN extension crew needed assessments to identify the marine resource conflicts in order to understand and to advise the rural fishing villages in managing their marine intertidal and subtidal areas.

TABLE 1
Communities of Interest (Stakeholders) and Their Goals

Communities of Interest	Goal
CORFO: III &IV (Regional Direction of the Institute for Fishing Development), Director and Fisheries Managers	Government Organization (under the Economics Ministry) directed towards artisanal fisheries development
FFPA (Funds for the Advancement of the Artisanal Fishery)	Provides funds for artisanal fishers, syndicates, and cooperatives
FNDR (National Regional Development Fund)	Provides funding for rural development projects
FOSIS (Solidarity Fund and Social Research)	Provides funds for extension projects & artisanal fishers projects
FUNCAP (National Foundation for Artisanal Fisherman Training's)	Provides Workshops and Training s for fishers.
IFOP (Institute for the Development of the Artisanal Fishermen), Director and Fisheries Managers	Provide training for coastal fishers.
SERCOTEC (The Technical Cooperation Service)	Provides funding for technical training, workshops, and seminars.
SERNAP (Chilean Regional Fisheries Service), Region III and IV Director and Biologists	To enforce regulations, and administer coastal territories.
UCN (Northern Catholic University) Biological Sciences Dean and Head of Extension Crew	Extension crew provides outreach education to coastal, rural fishers
Department of Ports and Harbors, Director	Constructs and maintains ports and docks in urban and rural areas.
Ministry of Defense: Maritime Governor and port Captains	Register fishers and enforce fishing regulations out to Exclusive Economic Zone.
Department of Transportation	Construction and Maintenance of Roads
The Artisanal Fishing Federation Traditional Fishers and Representative Syndicate & Cooperative Presidents	Union for Artisanal Fishers. Regional and National representative organization for local syndicates and cooperatives.
Puerto Aldean Fishing Cooperative President of Cooperative	To unite the fishers of the Puerto Aldean community.
The Regional and Provincial Ministries of Education,Regional Director, Supervisors, & Teachers	Provides formal education for k-6 in rural communities.
The El Totoral Syndicate, President of Syndicate, Mayor	To unite the fishers of the El Totoral community.
Tongoy, Guanaqueros, and Fishing Cooperatives north to Punta Choros Mayors, Members of Cooperatives	Artisanal Cooperative meet to inform their members of changing regulations

Source: "Estrategia Regional de Desarrollo De la Pesca Artesanal IV Region 1996-2000," Intendencia IV Region, Coquimbo, Chile, March 1996.

Several conflict theorists' assessment guides were used to bring specific aspects of the conflict into focus and to acknowledge gaps in the conflict. Because the conflict is intercultural and resource specific, I followed Wilmot and Hocker (1998), who suggest the use of several questions from each of their frameworks that appear to apply to this specific conflict. These were combined with questions from *A Framework for Analyzing Natural Resource Conflicts and Disputes* (Walker, Daniels, & Means, 1993). Combining these frameworks helped provide insights into this particular Chilean conflict.

Orientation to the Conflict

Clash of Values

In community development work, there is a juxtaposition between science and technology and indigenous values. Contemporary Andean peasants express the knowledge conflict as "losing our ancestral knowledge because the technicians only believe in modern science and cannot read the sky" (Salas, 1994, p. 59). In Chile, indigenous fishermen experience this dilemma when scientists impose their marine resource management techniques. Artisanal fishing and modern science are conflicting value systems.

When values clash between traditional and modern worlds, conflict occurs. Fisheries have long been a part of Chile's history and culture. In the traditional world, Chilean fishermen have collected seaweed and shellfish in the tidepools and in the ocean by free diving for nearly two hundred years. Within this culture, the roles of men, women, children, and the elderly are distinct. Traditionally, the men fished offshore. Today, they dive for hours with compressors in subtidal areas. Only one commercial fisherwoman resides in the country and she dives with a compressor. She is an exception. Usually, the women, children, and elderly are collectors of algae in the tidepools, the intertidal areas along the coastline. Generally, if the women are not collecting, they are taking care of their children and performing domestic chores. The elderly men of the village often have the "bends," decompression sickness, so badly that they cannot dive, so they collect algae and other intertidal shellfish along the coastline.

Community Profile

A community profile of Puerto Aldea helped orient me to this rural fishing culture. The Department of Social Work at the Coquimbo Municipality provided their current survey results. In 1996, the social workers interviewed 113 Puerto Aldeans belonging to 34 Puerto Aldean families whose average yearly earning was approximately $5,086 U.S. dollars. Seven percent of the men interviewed (heads of households) had no labor activity. Ninety-three percent (93%) of the interviewed men had their own activity, either diving for shellfish or buying shellfish. The percentage of women interviewed was small, showing four of them as heads of households. Of these households, fifty percent (50%) of the women had no activity, and fifty percent (50%) were retired.

According to the Coquimbo Municipality, twelve percent (12%) of the Puerto Aldean community lies within the extreme poverty level; forty-six percent (46%) in the lower poverty level; forty-one percent (41%) in a lower middle class; and one percent (1%) in the middle class level. The agency's interviews also tabulated the number of years of schooling the respondents had passed. In Puerto Aldea, twelve percent (12%) of the villagers were illiterate; twenty-six percent (26%) had completed through fourth grade. Forty-six percent (46%) of the respondents had completed fifth through eighth grade; and sixteen percent (16%) had completed ninth through twelfth grade. Of approximately sixty families living in Puerto Aldea, the municipal social workers interviewed only thirty-four of the more educated households.

Puerto Aldeans are squatters like many of the fishing-villages or *caletas* along this semi-arid coastline. Villages, such as El Totoral, squat on private land, but Puerto Aldeans sit on government land—military land. This community sits in the middle of a military zone, and the fishers cannot own the land until the military relinquishes ownership of the zone. Of the thirty-four families interviewed, ninety-seven (97%) percent of the residents were squatters who resided in the military zone for at least six months. Only one family interviewed rents from the landlord without any debts, meaning that they are probably not renting the land space, but the housing space that they live in—the hacienda on the border of the military zone which is still considered Puerto Aldea (see Table 2).

Although the survey is not a valid sample statistically, I used it as background information that helped me formulate survey questions for rapid rural appraisal activities. Furthermore, the social workers' interview techniques sensitized me to the fishing culture and its animosity towards government agencies. The municipal interviewers did not establish rapport with the residents. They hurried through the interviews while sitting in their cars or skipped the interviews and enjoyed the beach. Thus, the Puerto Aldeans were reluctant to answer outsiders' questions, so the interviewers sometimes created their own responses to the questions because they needed to demonstrate that they interviewed "x number" of respondents. Coquimbo's social service's survey helped me identify some stake-

holders involved in the community, such as the Coquimbo municipality and the military, and their techniques gave me some insight into existing intercultural conflicts. For more detailed socio-economic data concerning the study sites, please refer to the participant-observation surveys in Appendix I.

TABLE 2
Community Profile Survey of Puerto Aldea

(Puerto Aldea's infrastructure results from the Municipality of Coquimbo's Social Services survey. This table summarizes the final portion of the Coquimbo municipality's survey, which examined the towns' infrastructure. 34 out of 62 families interviewed, n=113 Puerto Aldeans)

Transport and access to water:

Municipality delivers potable water	80% families			
Individual water transport from unknown sources	18%			
No answer	2%			
Bath/shower (no hot water)	3%			
No bath /shower	97%			
Sewage Disposal	7% chemical latrine	48% hole in ground (individual family)	4% share hole with neighbors	41% no system

Homes' Infrastructure:

With electricity	9% families				
Without electricity[1]	91%				
Structural materials	Walls			Roof	
	71% combination of materials	26% plywood (new-comers)	3%[2] mud, rock, & straw (insiders)	83% corrugated metal plates	17% straw or cane plants (*totora*)

Source: Municipality of Coquimbo's Social Services Survey, Coquimbo, IV Region, Chile, 1996.

[1] The military's ownership of the land is a contentious topic with most Puerto Aldeans. As long as the military owns the land, the Puerto Aldeans believe that they will never have access to electricity.

[2] Older families, *insiders* that settled this coastal area, came from interior agricultural areas, and they brought some of their traditions such as construction with them.

Fishing Issues

Before the modern regulations, fishermen used to fish all over the country, harvesting indiscriminately, diving and fishing for as much as they wanted. In 1991, the Chilean Fisheries Service began enforcing stricter guidelines limiting fishermen to harvest in their region of residency. In the face of growing export demands from Asian markets, traditional fishermen found ways of avoiding these regulations. In 1992, SERNAP added an amendment directed towards the artisanal fishers.[1] The amendment directed rural communities wanting marine-tenured areas to form cooperatives or syndicates that would submit management plans for local marine resources. Only after submitting a plan would SERNAP award rural villages exclusive management areas. Since most rural communities had high illiteracy rates, they sought outside help to write these plans. That same year, extension crews at the Catholic University in Coquimbo, Chile, began working closely with two fishing villages, Puerto Aldea and El Totoral (see Figure 1). Despite the scientists' attempts to teach the fishermen management techniques, the attitudes of the fishermen did not change.

Today, many government officials feel that traditional Chilean fishermen have harvested indiscriminately, decimating large natural areas of endemic shellfish and algae populations. Traditional fishermen feel that regulation is unfair and should only apply to the commercial fishermen harvesting in large quantities. Through individual interviews, a survey, and participant observation, determined that the fishermen have a negative attitude toward the 1991 fishing regulation and its 1992 amendments. They repeatedly narrated how some government official, sitting in his office, designed this regulation and did not consider the perceptions, customs, or traditions of the fisherfolk. This perception of the regulation changes with education: the more educated the fishermen, the more accepting of the regulation and the less violent the disputes.

Conflict is extremely complex in Chilean fishing villages because it is based on differing values—local indigenous knowledge versus scientific knowledge. Most of the fishermen are illiterate, with little formal education, while the scientists and government and non-government agents are educated. This creates different values among the parties. Further values analysis reveals that among the educated stakeholders, some come from military training (from Augusto Pinochet's dictatorship during 1973-1989) while others do not. This creates a clash in values among the policy makers—regimented *Pinochetistas* versus democratic *Freistas*. All these parties speak a different language—national security versus education, conservation versus preservation, and conservation versus economic gain.

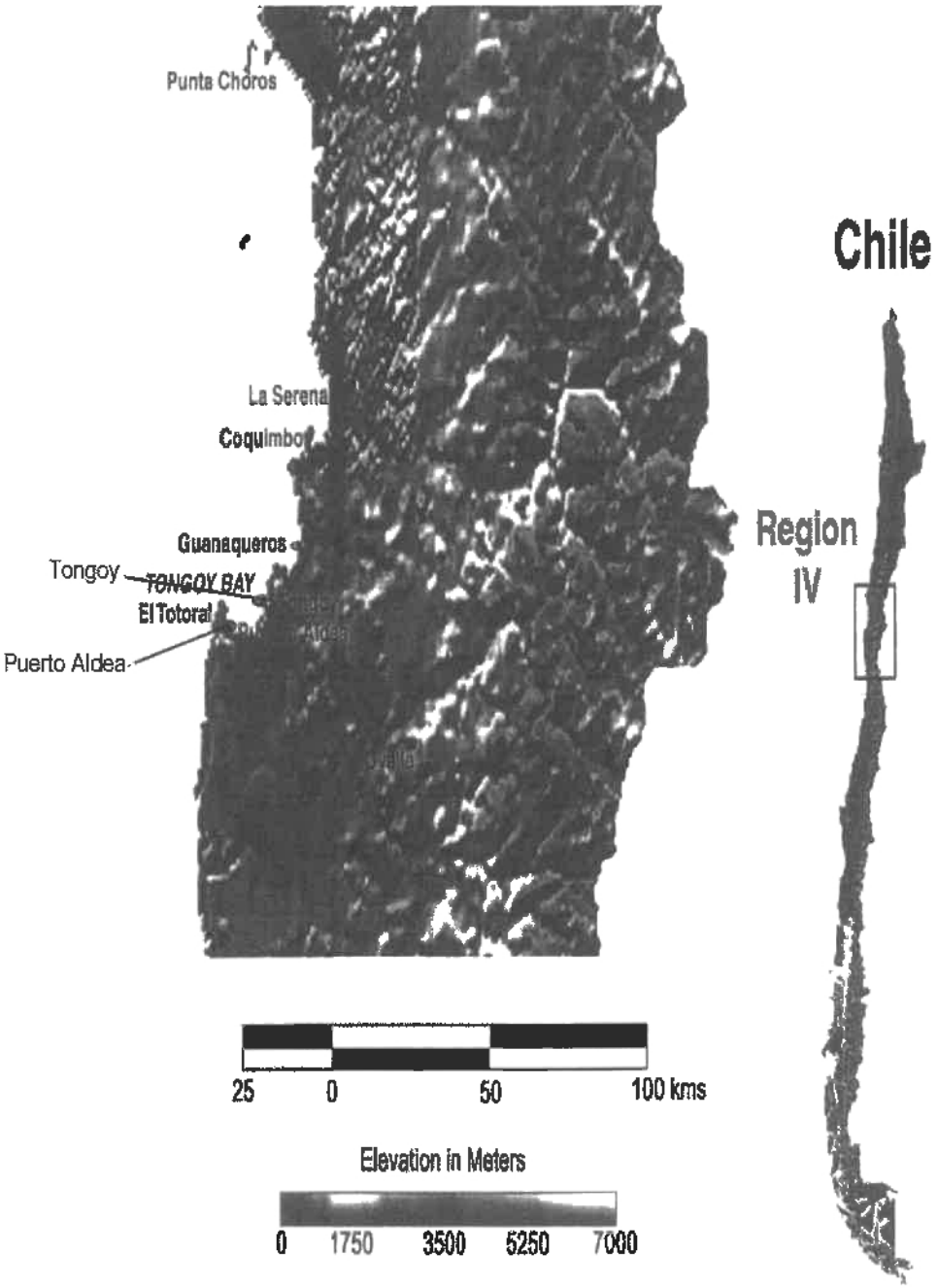
Perhaps some of the authoritarian ideology of the military translated into the methodologies used by some agencies. Many of these institutions entered the rural villages, implemented their biological approaches in fisheries management, and ignored the role of the traditional fisherfolk. Spurred on by the 1992 Rio de Janeiro conference, scientists and development agencies became interested in critical declines in marine biodiversity in North Central Chile. These Chilean non-government, government, and university teams wanted to diminish the decline of seaweed and scallop populations. A decline in the supply of marine resources translates into depressed incomes, which further encourages shifts to more destructive fishing techniques (Cruz-Trinidad, 1993). In this case, the university wanted to stop such a shift by changing the fishermen's behavior. The scientists proposed a new strategy for harvesting the marine resources in an effort to attain long-term sustainability of the marine ecosystem. During a sixteen-month period, the biologists tried to implement their management plans through non-formal education of the fishermen. For example, while diving with the fishermen, the biologists attempted to teach them to diversify their fishing practices and exploit alternate, non-traditional species. Thus, they attempted to impose their values from the outside world on the fishermen (local versus outside control).

Nature of the Conflict

Many government agencies have triggered interpersonal conflicts among the fishermen, among fishing communities, and among agencies and fishing communities. When the Chilean Fisheries Service detailed their 1991 regulation, the fishermen became angry because it was directed at the larger commercial fishermen, but it affected when and what the small-scale fishermen could harvest. This legal document triggered violent fights between and within fishing communities. The regulation directed fishing cooperatives and syndicates to develop management plans, and, if approved, the respective communities could receive their marine-tenured areas. Subsequently, the cooperatives and syndicates petitioned various government and non-government agencies for consulting services. Since the fishermen were poor, their cooperatives and syndicates had no money to pay the consulting agencies. Consequently, organizations such as the UCN and IFOP wrote grants in order to assist the fishing villages or applied for government loans for the fishing villages which sought their help. Thus, this management mandate, set by the Fisheries Service, spurred new relationships between agencies and

FIGURE 1
Location of UCN's Study Sites: Puerto Aldea and El Totoral

NORTHERN SECTION OF REGION IV



fishing villages. The fishing syndicate of El Totoral cooperated with the University, and the relationship continues today. This relationship spurred jealousy from its neighbor to the north, Puerto Aldea, because in 1997, El Totoral received a marine-tenured area, and Puerto Aldea did not (see Appendix I).

Many Puerto Aldeans feel that the UCN extension crew gave more attention to El Totoral's management plan; however, the UCN claims that this is not the case and that the underlying reason is the military maneuvers. The Puerto Aldeans squat on military land, yet the only road which connects El Totoral to outside markets is the road through the military zone. Once a year, the Japanese and U.S. Navy join the Chilean Marines and Navy in what the extension crew calls "war games." During these lengthy periods, the villages again become isolated, and their shellfish rot. For the fisherfolk, the cost of transporting their product via boat to market is just too expensive. It is more cost-effective to sit and wait until the military opens the roads. The isolation that the military creates rips at the tapestry, and the Navy can issue the fishing fines which create more tears in this pattern.

Fishermen feel that both the military and scientists are inflexible. These scientists continually suggested to the community how they should harvest the resource; however, they never directly asked the community members for their opinions. The community did not actively participate in the creation of the management strategies. The Puerto Aldean fisherfolk expected their lives to improve; they expected short-term results such as more bountiful supplies of scallops. One fisherman interviewed describes how the university enticed the traditional fishermen to dive with the biologists. The biologists promised the fisherfolk that more of a variety of subtidal animals would appear, but the marine invertebrates and algae continue to decline.

Furthermore, interpersonal conflicts arose among the fishermen within their own village. For instance, historically, one family settled Puerto Aldea, which resulted in nuclear family disputes triggered by jealous relationships. This made facilitating cooperation among the stakeholders (individual fishermen and institutions) challenging. The UCN did not understand these disputes. When the biologists dove with specific fishermen, they fueled more bitter feelings among those who were not chosen. In another village, families which fell out of Puerto Aldea's nuclear unit immigrated to El Totoral. Consequently, El Totoral did not cooperate with its neighboring village to the north. The intercommunity conflicts are extensive in this situation, but by drawing these triggering events on a mind map (see Figure 2), I analyzed this dynamic system. The map illustrates the conflict in its multi-faceted dimensions, where the communities of interest can observe the values clashes encouraged by triggering events, such as SERNAP's regulation, which unravel the conflict.

The biologists, however, are trying to shift to different ideologies and not be so rigid in their views. Today, these scientists, along with many Chilean biologists, feel that biological knowledge must integrate with other disciplines and enable fishermen to make their own decisions in order for conservation to be effective in the coastal marine environment (Stotz & Gonzalez, 1994). The UCN wants to begin this by understanding the conflict so they can adjust their strategies to change the fisherfolk's behavior.

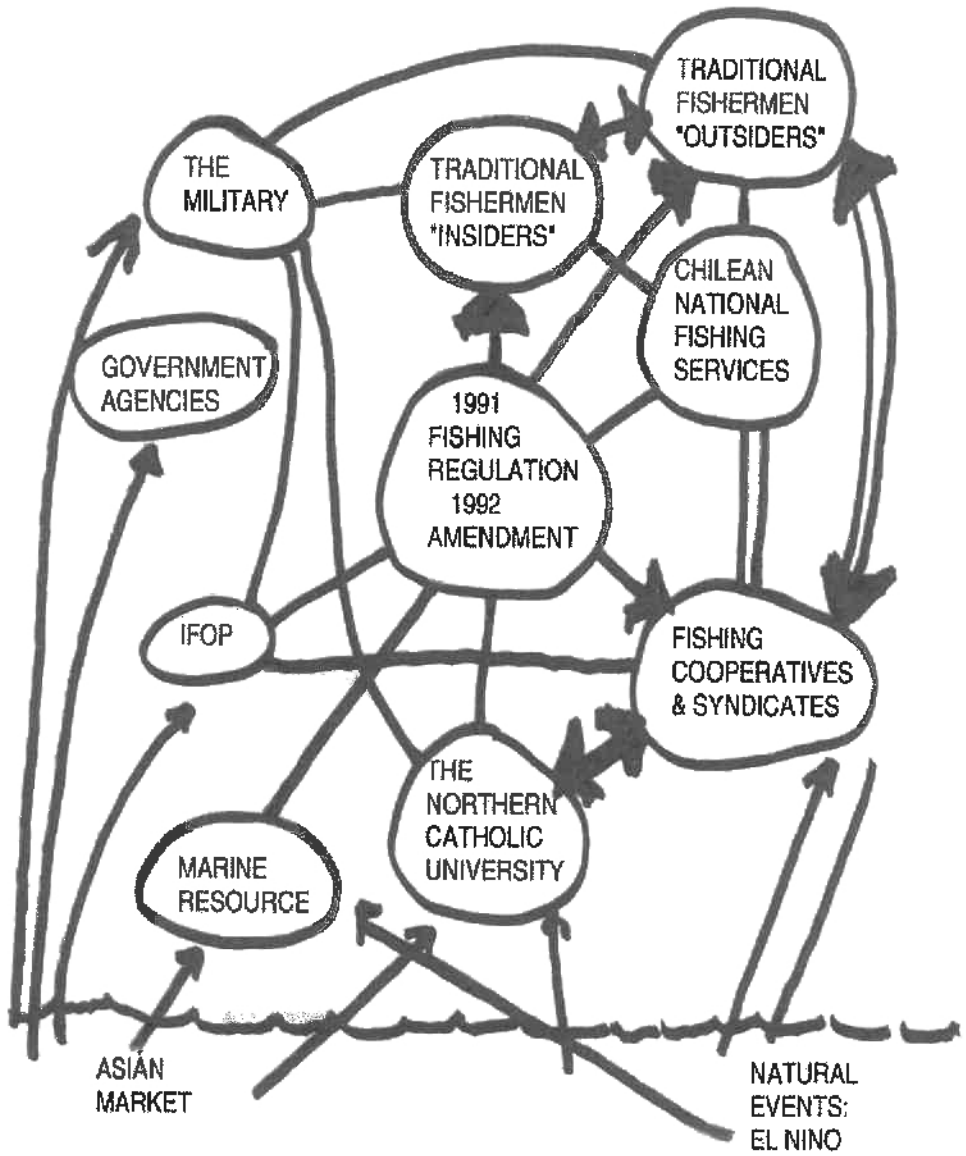
As Wilmot and Hocker (1998) explain in *Interpersonal Conflict*, "rational exchanges of opposing views deteriorate in an emotion-laden interchange in which strong feelings, usually anger and fear, are aroused" (p. 41). To determine whether or not escalation in these situations is appropriate, the parties involved should analyze the conflict cycle and determine whether this cycle will be positive or negative. The UCN perceived that the conflict was spiraling out of control. Consequently, the extension crew felt that as a result of this growing escalation, their fisherfolk education outreach was not advancing. When I arrived in Coquimbo,[2] the UCN wanted me to define the fishermen's attitudes towards the 1991 Fishing Regulation and 1992 Amendments because the biologists suspected that these documents were the source of the conflict.

I tried using Rapid Rural Appraisal (RRA), individual interviews, participant observation, and a group survey in order to quickly gather the information for the University extension crew. I found that the fisherfolk of El Totoral cooperated and collaborated throughout the RRA activities, the resource maps, time lines, and trend lines (data available from author). However, the Puerto Aldean fishermen were unreceptive toward RRA methods. The only group activity that I could coerce them to complete was a group survey (see Appendix I). Why? Several Totoraleans described how their small village needs to collaborate and cooperate in order to survive the recurring natural disasters which demolish the road. In addition, this road passes through a military zone, and the Totoraleans become isolated several times a year when the military practices their "shell-fire" sessions.

Through observation, listening, and interviewing in Puerto Aldea, discovered that not only were there conflicts between the fishermen and the government, but conflicts also existed between the fishermen and the University. After I had established a rapport with many of the fishermen, they told me that they did not want to participate as a group because the Univer-

sity "always, just comes in, does the job, has the meetings when they want to, and then leaves. The marine biologists never really listen to us. They need to sit down and talk to us." Few of the fishermen associated with the Puerto Aldean fishing cooperative would try the activities. They claimed to be tired of the University's meetings which "never improved anything!" The fishers who participated in the group surveys regularly dove with the biologists. Even though the UCN views the escalation negatively, the cycle could become positive if the UCN realizes that they are a part of the negative escalation cycle.

FIGURE 2
Mind Map (Illustrates players in the marine resource conflict)



However, it is difficult to determine whether the escalation in any given situation is appropriate because escalation can be situation-specific. Some indicators of a negative conflict cycle are avoidance, chilling effect, and competitive escalation. Although the fishermen did not avoid the extension crew, they have become continually more reluctant to dive or to help the crew. The fishermen will think of any excuse not to join the crew when they measure the biological transects in the subtidal area in front of Puerto Aldea. Furthermore, both the fishermen and the crew "chill one another," which promotes the conflict. Both parties withhold criticism or grievances because they fear the other party's reaction. With this decreased level of communication, both parties become less committed to the project. The fishermen do not want to help monitor their proposed area with the biologists, and many of the biologists who were initially active during the onset of the program with Puerto Aldea have asked the supervisor of the crew, Dr. Wolfgang Stotz, for other assignments and projects with different fishing villages, such as El Totoral.

The communities of interest have made assumptions about the conflict that are evident by attitudes expressed during the interviews. For instance, stakeholders at SERNAP initially assumed that the fishermen would obey the law. The fishermen did observe the catch limits of their own villages, but they began raiding other villages. One such example described during interviews was Puerto Aldea's northern neighbor, Tongoy. Tongoy fishermen illegally harvest from Puerto Aldea's natural scallop embankment. Additionally, RRA resource maps reveal intercommunity conflicts occur between El Totoral and Puerto Aldea. The Totoraleans also travel outside their management area to harvest marine invertebrates and algae.

Not only did SERNAP assume that the fisherfolk would consider the law but also that the traditional fishermen's values were the same as the men who wrote the law. Many other stakeholders make a whole range of assumptions about the fishermen. For example, the UCN extension crew assumes that the fishermen do not want to conserve the resources. Also, the middlemen who buy the shellfish assume the fishermen can not add, and they will try and cheat the fishermen out of the correct price. In both of the previously mentioned assumptions, the stakeholders presumed that because the fisherfolk had little education, they had little cognitive or analytical ability.

Many of the stakeholders have incompatible values which continue to tug at the tapestry. These attitudes comprise their goals. For instance, the UCN consists of biologists who collect data in order to support their hypotheses; many of them are ecologists who study a dynamic marine system. These marine ecologists developed a management plan which they thought would conserve the resource (if all their assumptions were taken into account). The Fisheries Managers at SERNAP received a lot of political pressure from the Chilean Ministries to maintain a viable economic resource for the export market (the Asian one). Many of the Fisheries Managers are biologists who finished their degrees at the UCN or a university with an equivalent marine biology program. These managers realized the importance of science to the management picture such as the development rate of scallop larvae. They needed to know this information in order to advise the fishermen when to harvest shellfish.

Even though many fishermen do not understand the hard scientific facts like the managers and scientists do, they do understand the marine organisms because they have lived around them for a lifetime—technical knowledge versus local indigenous knowledge. What is incompatible with these parties is that the fishermen do not understand the dynamic complexities of the system. They do not see external factors, such as the Asian market or El Nino, as relevant. Many of them believe that the ocean will provide for them when she wants to, and this belief is an integral part of their culture.

On the opposite end of the values continuum sits the military. The military's attitude is also "off the deep end" for many well-educated people. Much of the Chilean population harbors animosity towards the military. The dictatorship affected many families—scientists, managers, and fishermen. The Navy, Marines, and Army use the military zone where Puerto Aldeans live (squat) for target practice. The Armed Forces feel that without this practice, they cannot be prepared for war times. The officers give commands, and the young Chilean militia follow orders. They want to protect their country, and the military participants have a strong sense of national pride. Some residents say the military is square and rigid, like machines.

Complicating the situation further, organizations and communities of interest have become interdependent. For instance, SERNAP depends on the Armed Forces for law enforcement; they no longer work with the fishermen. The fishing cooperative of Puerto Aldea and the syndicate of El Totoral, respectively, have become dependent on the university's help. The fishing cooperative of Puerto Aldea does not function without the presence of its president, Juan Perez.[3] In Puerto Aldea, this creates a lot of interpersonal conflict. When problems occur in a fishing village, such as Puerto Aldea not receiving its tenured area, the cooperative blames it on Perez. They say that he does not try hard enough, that he has left town, that

he never attends the meetings, or that he is never in the village, so he doesn't know the people's problems. Perez became so frustrated with this criticism that he and his family left the village.

Before the arrival of Silvia and Juan Perez, the village had little infrastructure, extreme poverty, and no organized fishing. With their arrival, the village's economic situation began to change. Perez formed the fishing cooperative and moved the fishermen to seek economic aid from non-governmental and governmental agencies. He became president of the cooperative, and through the UCN's help, the fishermen began working with extension crews. Juan and Rosa Perez were the intermediaries between the village and the outside world. However, much jealousy existed towards the Perez family. In an interview, Rosa Perez explained how native Puerto Aldeans did not easily accept "outsiders." She felt her ability to overcome petty jealousies improved the lives of many people. Because of her initiative, the municipality built a medical post, a church, and a town meeting center. Today, the Perez's interest in helping the Puerto Aldeans has plummeted. Perez says that he will not spend much more of his time helping people who will not fight for themselves.

Not only have personal factors, such as these jealousies, affected the nature of the conflict, but the roles of goals, power, styles, and tactics also contribute other complexities to this intercultural conflict. When parties have differing desired outcomes (goals), differing relationships (power), and differing styles and tactics, these factors influence the dimensions of the conflict. The roles that goals, power, and styles and tactics play provide an essential framework for assessment.

Goals. From the Fisheries Service to the University to the Armed Forces to other government and non-government organizations, the goals of the various agencies differ and begin to wear at the weaving of the cultural tapestry. One community of interest, SERNAP, monitors the local rural fishermen who are illegally harvesting subtidal shellfish. SERNAP attempts to work with different government agencies such as IFOP, the Navy, the Coast Guard, the UCN, the Federation of Fishing Cooperatives, and other government and non-government organizations. For example, if SERNAP finds that the local fishermen are illegally harvesting or harvesting over their limits, they ask for help from the Coast Guard, which has the authority to fine the fishermen.

Another party, the scientists at the UCN, monitors the shellfish population and hopes to maintain biological diversity. The extension crew at the UCN also has the goal of educating the fishermen. They believe that if the fisherfolk understand the importance of biodiversity, they will help preserve the population. However, the biologists' strategies for adult education were neither interactive nor collaborative. The crew lectured to the fisherfolk with overhead transparencies (which most of the fishermen could not read) instead of using interactive teaching methods or integrating the fishers' local knowledge into lectures. The community members claim that they did not actively participate in the creation of the management strategy. This event did not improve the life of the people. Thus, the fishermen's and the scientists' views differed. However, when SERNAP released the 1992 amendment, the fishing syndicates and cooperatives realized that if they wanted their marine-tenured areas, they had to conserve the resource or manage it with a biologically sound method. Although their initial goals differed, today, the fishermen's goals are more consistent with the scientists'.

Many of the goals have more of an individual focus than a dynamic systems focus. Conflicts arise because many of the directors and presidents of various government and non-government organizations focus on what they want or what they feel is best for their institutions. They do not focus on what the fishermen want, nor do they focus on consensus or the community; there is little collaboration with the fishermen. Moreover, upper level officials make many of the management decisions.

Power. In *Interpersonal Conflict*, Wilmot and Hocker (1998) describe power as a dynamic product of shifting relationships. For instance, the president of the Fishing Cooperative, Juan Perez, once held a position of power, but today the mayor is the power-holder—the authority—in the fishing village. Rumors are spreading about how times were better when Perez was "in charge," and soon the authority may shift again. Wilmot and Hocker (1998) also explain how many references on power take the individualistic approach, so one assesses power by examining the resources that one party possesses. Such an example exists within Puerto Aldea. The mayor and all his children own more resources, such as boats, fishing nets, compressors, wetsuits, and other dive equipment, than any other resident in town. Thus, among the fisherfolk, the individual boat owners such as the mayor and his family hold power over their neighbors who work as their employees in the boats. For instance, while the mayor is underwater fishing, a neighbor[4] might run the compressor, navigate, or scull the oars while waiting for the boss to ascend. Since power is the control of resources, having an understanding of who controls what resources is important.

In addition, Wilmot and Hocker (1998) also explain that "power is a product of the social relationship, not an attribute of the individual and it grows from mutual dependencies" (p. 109). The fishermen realize that they are dependent on many parties, and these rural people were extremely open about who holds the power. Some examples which they gave included, "without the military, we would have no roads;" "without the university we would not even be considered for marine tenure;" "without the Regional Department of Ports and Harbors, we would have no dock or no consistent repairs;" and without SERNAP's authority, "we could not enforce their pilot marine-tenured area." While the fishermen openly express their dependencies, other government agencies hesitate to express their dependencies on other parties.

One exception among the government agencies is the Director of SERNAP's Region III and I, Leonardo Nunez, who openly expresses his position of power and his agency's dependencies. He describes how he and the fishermen have differing ideologies which are intangible factors affecting power. His organization enforces the law or delegates another organization such as the Coast Guard or Navy to do so. He tends to form a coalition with the Armed Forces when he enforces the law, which creates more interdependence between these government agencies. Although Nunez shares the power with law enforcement activities, he individually asserts his power through his political appointment as Director. Thus, depending on the definition, power can be tied more to the individual or group-centered. Nunez, as an authority, holds the right to command and direct. He holds political power. In this power position, the Director views his skills and knowledge as much more advanced than the fishermen do. In resolving these disputes, the Director of SERNAP has another source of power—sanctions—and through these, he can enforce obedience and compliance. To collaborate with other organizations, the Director needs to realize that his ideas are not the only ones.

Applying this idea to the two rural villages, Puerto Aldea tends to define power individually while, unlike the Puerto Aldean community, El Totoral's power is shared by the syndicate. The president of the fishing syndicate is a woman, and she believes that external hardships have forced her community to work as a group. The villagers are dependent upon one another because of a severely disabling infrastructure. In summary, a literature review shows how parties can assert power individually or collectively; Puerto Aldeans recognize it individually while Totoraleans recognize it collectively (Lustig & Koester, 1999).

Power imbalances can be also observed between fishing villages and within the organization agency which negotiates the disputes. Fishing villages with more natural resources and infrastructure will try and dominate poorer villages. For instance, rural fishermen from Tongoy, who have more plentiful infrastructure resources, such as boats, will illegally collect scallops at night from the neighboring village—Puerto Aldea's subtidal area. If the Puerto Aldean fishermen who are on night patrol catch the Tongoy fishermen stealing from their subtidal area, violence escalates. As a result, the Puerto-Aldean fishing cooperative will call for the Director of SERNAP to negotiate. In this instance, Nunez claims that his agency practices negotiation because the conflict is violent; thus, he sends a SERNAP representative to resolve the dispute. However, the SERNAP biologist represents SERNAP's interests. Nunez claims that he does not want to lose face, so he sends other employees.

The Director told me that he feels that in order to have authority over the fishermen, he must maintain face, and so avoiding the situation and sending a representative to do the "dirty" reprimanding is more in his favor. This way, the cooperatives of fishermen (even the ones who were illegally collecting from Tongoy) view him as a decent Director, and they are more inclined to listen to him when violent disputes occur between communities. Nevertheless, all of this delegation creates interpersonal conflicts between him and his SERNAP employees. Like many Chileans in governmental positions of power, Nunez does not communicate well with other agency colleagues. This creates more distrust among the agencies which must work with SERNAP.

In some respects, Nunez is balancing his position of power. He delegates his power to others in the agency so that they can exert authority. Even though he tries to maintain face with the fishing villages, he is engaging biologists in his organization to act as authorities. Nunez is empowering the low-power party. Although SERNAP does not engage in many power-balancing techniques, the agency's power imbalances are not as destructive as those of the fishing communities. Puerto Aldea's power imbalances have become destructive because too many intangible factors such as pride, jealousy, and anger affect interpersonal relationships, resulting in the fishing cooperative no longer functioning effectively. Within the Puerto Aldean community, a balance, like El Totoral or SERNAP, needs to occur. In summary, Wilmot and Hocker (1998) write that "power balancing can restore productive conflict management, limiting the power of the high-power party: focusing on interdependence, persisting in a calm manner, staying actively engaged, empowering the low-power party, and metacommunicating well are power balancing techniques" (p. 109). However, these conflict theorists describe their ideas of

power in a different cultural context. For this marine resource conflict, the styles and tactics inherent in Chilean culture must be considered.

Styles and Tactics. Because of Chilean culture, most of the directors of government agencies with a vested interest in the marine resource try to maintain face. Saving face is a characteristic of the culture. Additionally, since power is held by multiple authorities such as the Dean of the UCN, the President of the Fishing Federation, and the Director of IFOP, these power authorities do not share "their" information (i.e., there is little, if any, "horizontal" sharing of projects/research), which results in interagency disputes.

Another strategy which the traditional fishing communities employ is resorting to violence in order to settle a dispute. For instance, Tongoy, the village to the north of Puerto Aldea, which is heavily influenced by tourism and commercial fishing, does not cooperate with surrounding villages. Tongoy's recalcitrant fishermen have also illegally harvested neighboring villages' catches. These "neighbors" will resort to fist and knife fights if they catch the Tongoy fishermen in their territories. The Armed Forces and SERNAP use different tactics to manage violent escalations such as these.

The Director of SERNAP admitted he enjoys negotiating disputes, but he does not like playing the role of "the fish police" (whereas, the Armed Forces do not mind playing police). Nunez said that he likes helping with these inter-village disputes; however, he does not like "busting" the individual fishermen, fishing syndicate, or fishing cooperative. He claims that he is not a mediator because he cannot remain impartial. These are conflicts he tries to avoid, and he tries to send one of the other Fisheries biologists to manage the disputes. In these instances, Nunez saves face when he steps back from his position of "fish police" and delegates it to another in his agency.

He views conflict management as positive in violent disputes. However, with shellfish catch disputes, Nunez stated that there is no long-term management, "only a definitive resolution because the law limits the quota of shellfish caught." The Director is different from many Chileans because he confronts the particular conflict frankly, and this behavior is not typically Chilean. Most Chileans avoid issues and indirectly approach them through jokes. Although, as mentioned earlier, Nunez has his own techniques for saving face, generally, he asserts his views toward a particular conflict. "This," he said, "is what got me in trouble during the military regime! I could never keep my opinions to myself." He can be, as Rubin and Sander (1991) describe, a stubborn and argumentative Latin American negotiator. Nunez has preconceived ideas about the traditional fishermen, and he is not aware of his biases and predisposition toward these people. He needs to become more aware of the norms and culture found in the rural, coastal fishing villages in order to improve his management techniques for resolving the re-occurring disputes. Power and reputation are essential parts of Nunez's conflict and dispute resolution experiences.

Leonardo Nunez's communication style has caused some friction. He has made enemies, and he claims that he does not care. Nunez has alienated IFOP and the university because he does not collaborate. He describes how he wants to help the resource as best he can, and the only way that he can do this is by the authority he holds. Nunez claims that he does not care because his appointment was political, and once the new government takes power, he will have to relinquish his position of authority to a new Director.

Nunez explained to me that in Chile, a mediator is called *el hombre bueno,* which means "the good man." *El hombre bueno* is impartial and does not side with any one party. He explained that he is not a good man, but a negotiator who will always side with the party who obeys SERNAP's policies. This, Nunez claims, makes collaboration with other agencies challenging because many of them do not agree with SERNAP's regulations.

Methodology

During the winter and spring fishing seasons of 1997, the UCN extension crew and I conducted participant observations (refer to Appendix I), individual interviews, a group survey, and participatory rural appraisals (PRA) and rapid rural appraisal (RRA) techniques to uncover the artisanal fisher's views concerning their marine environment. During the course of initiating these methods, not only did we learn about their local knowledge, but the activities also revealed the multi-dimensional complexities, including interpersonal, social, cultural, and organizational levels of this marine resource conflict. Therefore, identifying these conflicts through the activities should help the UCN better advise rural fishing villages so that the fishers can effectively manage their intertidal and subtidal areas.

During my brief stay in North Central Chile, I observed the people and their attitudes for four months and found the Puerto Aldeans more open to individual interviews than group activities, whereas El Totoraleans collaborated as a group. These individual interviews helped me initiate a brief group survey with the Puerto Aldean community. With the extension team's help, I conducted the survey in person because

many of the fishers are illiterate. We announced the "survey night" as well as posted signs that said "come answer some questions and you might win a prize!" We tried to develop non-biased questions with at least one open-ended component and limit the survey to basic information. Figure 3 represents the survey (translated from Spanish) which was pre-tested on a willing range of Puerto Aldeans who represented potential respondents. Forty-one Puerto Aldeans participated in the survey, although I was trying to obtain one hundred participants.

FIGURE 3
Group Survey

Are you: woman___man___child___?

In what fishery do you work?
___Diver
___Compressor Operator
___Fisherman
___Fisherman's Assistant
___Shoreline Diver
___Shoreline Collector
___Other

Are you a member of the Fishing Cooperative? Yes___No___

Are you registered in Region IV? Yes___No___ (If not, in what Region?___)

Do you think the Fishing and Aquaculture Law is affecting you? Positive___Negative___No opinion___

Indicate in what way it is affecting your community:

Of all the institutions which have helped your community, which one has been the most helpful?
__Universities
__Government institutions such as the Municipality
__Non-government institutions
__Other

The extension crew and I found that the directions were easier to give orally to the Puerto Aldean participants. Throughout the interviews, I had identified the greatest conflict as one concerning management of resources, where at least three communities of interest are involved, the fishermen, the Chilean Fisheries Service, and the Armed Forces. The intent was to develop a needs assessment survey which would be used to solicit public opinion of community problems and some possible solutions. We designed this sample survey to avoid including emotional or biased words. The questions had to be very specific in the beginning and easy so that we could draw the respondents' attention. Our questions also needed to produce credible information, and the respondents needed to be able to answer the questions.

We wanted the respondents to participate and provide information; for instance, what do Puerto Aldeans do, and what are some of their attributes? We also wanted to address the Puerto Aldeans' attitudes or beliefs towards the Fishing Regulation. Consequently, while designing the survey, the crew and I gradually led up to an open-ended question because we knew it would be demanding for the fisherfolk. We had decided not to use close-ended statements with ordered choices. This strategy would frustrate many Puerto Aldeans because they have difficulties weighting or ordering their choices in daily life.[5] Thus, we decided that close-ended questions with unordered responses would be more effective.

Consequently, I saved questions which referred to specific events over a long period of time for the individual interview. Likewise, the open-ended questions from the initial survey were best for future focus group activities and other exploratory questioning. Since the Puerto Aldeans tended to be a more individualistic group which did not enjoy performing activities together, I used many of these open-ended questions with another fishing community, El Totoral. Thus, the open-ended questions which evolved from the Puerto Aldea survey were incorporated into RRA activities which I used during sessions with the Fishing Syndicate of El Totoral.

The second series of qualitative data collection occurred in El Totoral. All of the PRA and RRA activities began with an explanation followed by a short work period, and concluded with a discussion section. For instance, in El Totoral, we divided the fisherfolk into four groups for an open-ended timeline activity. We divided elderly and illiterate participants equally among the groups. After explaining to them that they needed to express what was important to them in the past, we asked the elders to identify events that shaped and influenced individual and community activities. These discussions stimulated exchanges concerning problems and achievements from the elders' era to the present day (see Appendix I[6]).

We also used another RRA activity to determine the El Totoral residents' perception of changes in marine resources over time (see Appendix I). Again, we divided the community members into groups, and they began a work period where they plotted their natural resource abundancies over time. When the groups presented their trend line, discussions ensued concerning resource availability and its use over time. While the list of resources varied within El Totoral, depending on what the villagers and the team deemed important, a core set of trends included algae loss, combined with decreased *loco*[7], razor clam, mussel, sea urchin, and limpet populations.

Not only did the extension crew and I learn about changes over time in the natural resource sector, but we also conducted a time line of natural disasters and their degree of severity over the past fifty years (data available from author). All four of these frequency discussions identified key problems—the global conflict of fishers versus government organizations. For instance, when severe earthquakes, flooding, and mudslides occurred in 1997, the Chilean Federal Emergency Management Agency (OMNEMI) did nothing for these villages. Following these complaints, a discussion continued about how the villagers could improve the situation for themselves. For instance, they proposed petitioning the Department of Transportation for construction of a road leading to El Totoral which would skirt the military zone. Another group claimed that a wealthy developer had bought the land directly east of the village, and that this man would build a road, so that in the future there was no need to worry.[8]

The time analysis is beneficial because it focuses the community's attention on historical positive and negative changes. It identified the frequency and severity of natural disasters. For instance, in terms of traditional resource practices (subsistence fishing before the demand for intertidal resources grew from Asia), the syndicate described how they continually had enough food to support their families. The fishers also illustrated how, historically, government conflicts (little help during disasters) compound negative feelings toward government agencies. These RRA trend lines are necessary in analyzing the conflict because they include the themes which people consider important. The direction of the trend is significant even if the change cannot be quantified or is statistically inaccurate because it shows how villagers view their ever-changing situation. Finally, the process of discussing the trends of resource use and the trends of natural disasters in different groups brought out important interorganizational management issues.

Results

The global events and microevents that best characterize this conflict are fishermen versus government, and within these events are nested interpersonal conflicts among the fishing communities, the disputes from village to village, within the village itself, and between "outsiders" and "insiders." Furthermore, many stakeholders who have worked with the villages claim that the escalation, sometimes, has spanned decades, and feuds among families make the conflicts difficult to resolve. These stakeholders claim that the tone of the conflict erupts in violent disputes between villages if one fishing community crosses into the territory of an adjacent one without permission.

Not only did the individual interviews with stakeholders uncover issues concerning power, but problematic styles and tactics surfaced in these interviews and throughout the PRA activities, especially during discussions of the timeline of natural disasters. For example, when violent weather conditions occur as a result of El Nino, the Director of the Department of Ports and Harbors does not want the fishers to view him negatively, so he sends a co-worker. The Director saves face; however, this event fuels more anger of the fishers toward government organizations.

For Chileans, maintaining face is essential with conflict at work, at home, and at play. Saving face is an integral component of Chilean culture, especially where conflict management is concerned. According to the Director of SERNAP, the President of the Puerto Aldean Fishing Cooperative, and the Dean of the UCN's Biological Sciences, *face* may be important, but so is acknowledging other people's culture when issues are in dispute. As Jacob Bercovitch (1991) explains, disputes can be ideological, which can exemplify disagreements over basic values or beliefs. The fishermen's beliefs and values constitute their culture. Many of these communities of interest neglect this dimension during what Bercovitch terms "negotiation." They should not neglect their culture because it could affect the negotiation's outcome. As Rubin and Sander (1991) explain, "culture is a profoundly powerful organizing prism, through which we tend to view and integrate all kinds of disparate interpersonal information" (p. 249). In these rural *caletas*, the communities of interest have neglected the fishers' local culture.

The outside stakeholders forget that these rural people perceive events differently. The RRA group activity and PRA participant observation results illustrate some of the Totoraleans' primary problems such as "fishing access being limited during military war games where their boats cannot even pass" (see Appendix I). Furthermore, the PRA resource map activity triggered discussions concerning nebulous boundaries and illegal access and confusion. The fishers explained that the government agencies in charge of enforcement do not calmly and patiently teach the fishers where their designated territories begin and end. Some of the Totoralean elderly fishers described how the ocean should have no bounds for the poor, rural fisher trying to survive for subsistence. During some of the focus sessions, they exclaimed, "Those boundaries should not be for us, but for the commercial fisher, doing business with people across the Pacific!" Although these resource maps are not accurate geographically, they are important because they initiated lengthy discussions among the fishers concerning territorial resource conflicts. The activities demonstrate the fishers' perceptions of events, resources, and territories affecting inter-community conflicts.

Through the PRA and RRA activities in El Totoral and the individual interviews in both villages, the UCN crew and I hoped to identify the resource management conflicts in these North Central Chilean *caletas*. Throughout these qualitative methods, we thought we could obtain accurate data concerning fishers' attitudes towards the 1991 Regulation; however, we found this not to be the case. Many difficulties arose with the survey. First, the sample population consisted mainly of women who were not members of the Puerto Aldean fishing cooperative. Second, the Puerto Aldeans did not understand the phrase "affecting you positively or negatively." Moreover, although we tried not to bias the survey, the last question placed the University as the first choice among the options (see Figure 3).

Even though the Puerto Aldea survey results were unreliable, they helped me identify more open-ended interview questions for subsequent activities with the fishers (see Appendix I). I used many of these questions while conducting observations and interviews. By using these questions, I learned who the stakeholders were, how they were organized into various communities of interest, and what their relations and conflicts were with the fishers. For instance, the fishermen are organized into a fishing cooperative in Puerto Aldea in order to manage their marine resources. The short survey conducted in Puerto Aldea was directed toward the fishing cooperative members because of their reticent attitude towards government intervention and *outsiders*. Even though the survey was brief, it revealed some of the fishers' values such as a *maximizer* attitude towards resource extraction. In addition, the survey added anonymity, which allowed women to openly express opinions which they might not otherwise have done (Thomas-Slayter & Rocheleau, 1995).

In summary, the short survey began leading me on the trail of an assessment of resource conflicts in Puerto Aldea. Unfortunately, this community was not willing to participate in group activities like the other village, El Totoral. With my limited time, I was only able to conduct one survey. A productive result from the survey was the open-ended question. This question was demanding for the respondents, and it required more thought and time. The question produced many different responses which only briefly mentioned any one topic. From these "brief" topics, I was able to expand on the themes during subsequent interviews with some of the more talkative fishers. Even though the open-ended question did not provide accurate measurements of consistent, comparable information across the sample of Puerto Aldeans, it did open avenues for more questions during the individual interviews and PRA activities. The crew and I found that the fishers responded more effectively to social science participant activities conducted orally than the survey. The fishers were inclined to share their opinions concerning the conflict because they felt their voices were being heard.

Attempted Solutions and Recommendations

Some of the poorest communities in Chile are the fishing villages that lie next to large urban growth areas.[9] As much of the literature suggests, there is a high correlation between population, growth, poverty, and resource degradation (Feeny, Berkes, McCay, & Acheson, 1990). These variables have pushed the concept of sustainable development in marine resource use in Chile. The need to ensure that renewable resources are not over-exploited and are rationally managed has led to increased efforts to find innovative solutions for improved marine resource use. In fisheries, much attention has been focused on increasing the involvement of participant users, who are the major beneficiaries of critical decisions, in determining how and at what rate marine resources should be exploited (McGoodwin, 1990). Although Dr. Stotz and his team proposed introducing new strategies for harvesting the marine resources in an effort to attain long-term sustainability of the marine ecosystem, they did not build on traditional customs and practice. Some social science literature suggests that such an approach is more likely to be accepted in fishing communities and give increased legitimacy (Cordell, 1974; Pastner, 1978).

The extension crew became frustrated with the adult fisherfolk, and they became influenced by UNESCO's Agenda 21, believing that their focus should be future generations and environmental education. Before environmental education begins with schoolchildren, the marine biologists should try a more participatory method for understanding conflicts in order to design management strategies among adult fishermen. Much of the literature reviewed suggests it is rare for fisheries management to be defined solely in biological terms; as this Chilean example suggests, social and economic factors should also be included (McGoodwin, 1990; Pomeroy, 1991). The reason is obvious, this capture fisheries management—as opposed to aquaculture—is aimed at people, not fish. As a result, it is fishermen who are subject to regulatory measures and who must live with their consequences (Jentoft, 1989).

Current literature cites participation as an essential ingredient of effective conservation and natural resources management. Participatory methods of social assessment are fundamental to a project's success (Byers, 1996). This addresses a flaw in the Puerto Aldea Project—without community participation, a behavioral change may not occur. The artisanal fishermen are more likely to manage their resources wisely if they are given an active role in the planning and implementation process (Jacobsen, 1995). With increasing pressures in North Central Chilean coastal fisheries, conservation of marine ecosystems will depend on community participation and support.

Last year at the UCN, I had the opportunity to attend a forum held for the traditional fishermen. This workshop was an opportunity for the fishermen to voice their opinions about the various communities of interest. Many of the traditional fishermen, represented by the Fishing Federation, listened patiently to the different stakeholders from the agencies; however, when the fishermen tried to speak directly to that particular agency's stakeholder, he did not listen. As an observer, I watched this occur repeatedly during the three-day workshop. When the workshop ended, one of the cooperative fishing presidents turned to me and said, "You see, they do not listen to us!"

The organizations that work with the villages should collaborate with the fishermen. One solution might include a cooperative management plan whereby the communities of interest, such as the UCN, SERNAP, IFOP, the Armed Forces, and the Fishing Federation, collaborate with one another. Since the communities of interest do not listen to the fishermen, I propose that these agencies meet with the Artisanal Fishing Federation and a non-partisan facilitator. Furthermore, the stakeholders and communities of interest should require a workshop whereby all stakeholders learn better communication skills or refine the ones they have. For instance, at this workshop, they could refine their listening skills and attend cultural sensitivity and conflict resolution seminars. In addition, at the proposed workshop, partnerships could be

proposed in an open forum (to minimize jealousies). Unlike the UCN workshop where the fisherfolk sat facing an overhead projector and the government and non-government leaders sat in the front row, this workshop could be organized for equality, seating all participants in a circle.

Although surveys have demonstrated that the perceptions of the 1991 regulation by traditional fishermen change with education, the education of the adult fishermen is problematic because many of them are illiterate. When the university teaches them management practices with overheads or videos, they cannot read the charts and diagrams, so they do not understand. Thus, the university and other organizations need to perform more interactive and participatory activities.

Finally, communities of interest cannot implement any of these proposed recommendations without funding. A neutral funding source is necessary, yet finding a Chilean source of funding which is not tied to the fishing industry will be challenging. Perhaps an outside agency such as Inter-America could supply purse strings for funding facilitation, workshops, and continued seminars for all affected people.

Conclusion

Solutions to the conflict are problematic because of institutional versus individual differences.[10] Chilean stakeholders and communities of interest have tried many management options, but these options have been filled with tremendous conflict. Because of differing goals and differing balances of power within the various agencies, consensus building has not been possible. Much of this is due to maintaining face and not sharing information among the communities of interest.

The stakeholders and communities of interest perceive differing options for change. For instance, the uneducated "traditional" fishermen feel that the fishing regulation needs to apply only to the commercial fishermen and not to the small-scale traditional fishermen. Both educated and uneducated fishermen feel that their views need to be acknowledged. Further, the philosophy that characterizes the conflict is one of power imbalances. Thus far, regulations and sanctions are the only system regulations that have been used. The technique of cooperative management might be used productively by the system; however, the greatest obstacle the Chilean people will have for the successful implementation of a cooperative management program is a horizontal sharing of information among the communities of interest. In Chile, little of this horizontal information-sharing occurs because people are envious and jealous that someone else might advance ahead of them on the career ladder. Anger could be managed more productively if the communities of interest met in open forums with a facilitator to discuss the conflicts. The traditional fishermen are not shy, and they do not have difficulties expressing their feelings, given the opportunity. This way, many parties will feel that they are being heard and that their opinions might be considered. Perhaps through these measures a consensus could be met among the communities of interest.

A cooperative management plan will have to be slowly adjusted to this Chilean reality. An Applegate Partnership, Alaskan Native Whaling, or Swedish Fisheries model is, perhaps, further down the road. Cooperative values in this cultural context will be challenging to implement because of existing power imbalances. However, now that Chileans have experienced nearly ten years of growing democracy, workshop participants could establish an equality of voices, share power and responsibility, and respect the values of others. Perhaps with the evolving democracy, beliefs will change, and attitudes will shift along the values continuum from individual to group, from self to community, enabling more equitable systems of resource management.

The fabric and threads of this inter-cultural tapestry need to be saved by the many stakeholders and communities of interest. They need to try re-integrating these pieces into the fabric. Perhaps the different parties could choose different colors or different materials; this way they could reach a consensus so that an integrated, whole tapestry could be created. As mentioned earlier, the essence of this marine resource conflict is a clash in values between the various stakeholders. Because of the many hands pulling at the fabric, no absolute resolution can be met; however, a consensus or cooperation might be reached.

By thinking of the conflict metaphorically and creating a relationship between a tangible object, the fabric, and an intangible concept such as culture, I was able to distinguish interpersonal relationships between the scientists, the fishermen, the fisherwomen, the schoolteachers, the military, the land developers, the commercial fishermen, and the governmental and non-governmental agencies. I also observed a host of intercommunity conflicts from fishing village to fishing village and from the UCN and other community institutions toward the fishing villages.

This conflict is a multi-layered, cultural one where the participants range along a spectrum of well-educated scientists and managers to illiterate fishermen. Furthermore, the cultural context is polychronic and high context where the stakeholders are individualistic. When conflict arises, they practice avoidance to save face. A path toward resolution of the conflicts

will begin when all of the stakeholders working on the tapestry learn to listen, to observe, and to conscientiously respond. Currently, a methodology needs to be implemented whereby scientists observe, listen, and learn the rural fisherfolks' values through participatory rural appraisal techniques. Choosing a particular method depends upon the goal, the situation, and the participants. Hopefully, the use of a wide range of methods will help scientists and government and non-government officials understand which factors influence critical behaviors, including neglected socio-cultural ones within this Chilean tapestry.

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Notes

1. Much of the PRA literature uses terminology such as fishers to denote fisherfolk, traditional/ artisanal fishermen.

2. The industrial port city about 70 kilometers north of Puerto Aldea, and the home of the UCN.

3. Pseudonyms have been used to respect respondent privacy.

4. Among Chilean fishers, *Telegrafistas* are the employees who perform this function.

5. The crew determined this through years of working with the fishers, and I observed this during my interviews and observations.

6. I translated the fishers' responses from the El Totoral Group Survey (found in Appendix I) as close to their Spanish context as possible.

7. The loco, *concholepas concholepas*, is endemic to Chile. It is a giant gastropod that looks like an abalone. It is a threatened species, yet there is a high demand for it in Japan and Korea.

8. Along the Region IV's coastline, unrestricted resort development occurs along beach areas. If the development begins at El Totoral, the developer will need to build a road from the Pan-American Highway 5 west towards the Pacific.

9. El Totoral, Puerto Aldea, Tongoy, and Guanaqueros lie near Coquimbo (refer to Figure 1).

10. Chilean women refer to this continuum as Chilean *machismo* pride.

References

Bercovitch, J. (1991). International mediation and dispute settlement: Evaluating the conditions for successful mediation. *Negotiation Journal, 7*(1), 17-30.

Byers, B. A. (1996). *Understanding and influencing behaviors in conservation and natural resources management.* African Biodiversity Series, No. 4. Washington, D.C.: Biodiversity Support Program.

Cordell, J. (1974). The lunar-tide fishing cycle in northeastern Brazil. *Ethnology, 13,* 379-392.

Cruz-Trinidad, A. (1993). *Economic exploitation in the Philippine small pelagic fishery and implications for management* (ICLARM Contribution No. 989).

Feeny, D., Berkes, F., McCay, B. J., & Acheson, J. M. (1990). The tragedy of the commons: Twenty-two years later. *Human Ecology, 18,* 1-19.

Jacobsen, S. K. (Ed.). (1995). *Conserving wildlife: International education and education approaches.* New York: Columbia UP.

Jentoft, S. (1989). Fisheries co-management: Delegating government responsibility to fishermen's organizations. In J. S. Thomas, L. Maril, & E. P. Durrenberger (Eds.), *Marine Resource Utilization: A conference on social science issues.* Mobile: South Alabama Publication Services.

Lustig, M. W., & Koester, J. (1999). *Intercultural competence: Interpersonal communication across cultures.* New York: Longman.

McGoodwin, J. R. (1990). *Crisis in the world's fisheries: People, problems and policies.* Stanford: Stanford UP.

Pastner, S. (1978). Baluch fishermen in Pakistan. *Asian Affairs, 9*, 161-167.

Pomeroy, R. S. (1991). Small-scale fisheries management and development: Towards a community-based approach. *Marine Policy, 16*(1), 39-48.

Rubin, J. Z., & Sander, F. E. A. (1991). Culture, negotiation, and the eye of the beholder. *Negotiation Journal, 7*(3), 249-254.

Salas, M. A. (1994). 'The technicians only believe in science and cannot read the sky': The cultural dimension of the knowledge conflict in the Andes. In I. Scoones & J. Thompson (Eds.), *Beyond farmers first* (pp. 57-69). London: Intermediate Technology Publications.

Stotz, W., & Gonzalez, S. (1994). *Biological diversity conservation in the marine coastal environment in Chile: Development of management strategies for artisanal fisheries.* Paper presented to the international meeting of the Society for Conservation Biology and the Association for Tropical Biology, Guadalajara, Jalisco, Mexico.

Thomas-Slayter, B. P., & Rocheleau, D. (1995). *Gender, environment, and development in Kenya: A grassroots perspective.* Boulder, CO: Lynne Rienner Publishers.

Walker, G. B., Daniels, S. E., & Means, J. E. (1993). *A framework for analyzing natural resource conflicts and disputes.* Unpublished manuscript, Oregon State University at Corvallis.

Wilmot, W. W., & Hocker, J. L. (1998). *Interpersonal conflict*. Boston: McGraw-Hill.

APPENDIX I

Participant Observation Surveys (Used in Puerto Aldea and El Totoral) and Participatory Rural Appraisal Questionnaire (Group Activity Initiated with El Totoral)

PARTICIPANT OBSERVATION SURVEY

(I used the following survey as a guide while observing the communities of Puerto Aldea and El Totoral. I conducted the observations informally while living amongst the Puerto Aldeans and Totoraleans.)

Example: Fishing Community Interview—Household Data Form

- Position in Household. Male: Female: Marital Status:
  A majority of the husbands had second or third families from the transient nature of their work.

- Highest level of education attained for husband and wife. Husband: Wife:
  Most of the married couples before 1952 had no elementary school education. Most of the married couples after 1952, when the first school and teacher arrived to Puerto Aldea had an elementary school education. Today many of the younger couples have completed at least an eighth grade education.

- Place of origins of parents and grandparents. *Many of these Puerto Aldean families were from shepherding families which lived towards the Andes, inland; they migrated to the coast and learned the fishing practices from other family members who had settled on the coast.*

- How many children have been born to you? *Many of the elders in both towns had eight to twelve children, and today many of the families have four or five.*

- How many children are living here? *Generally all the children live with their parents until they are married, and some even live with their parents after they are married.*

- How many children help you fish?

- Do you own a boat? *Most families do not own a boat, but the "nuclear" family does own the boat.*

- How many people share your boat? *Sometimes as many as five related family members will share a boat. In El Totoral, the fishing cooperative owns a boat, and the villagers work together to pay the monthly quota.*

- Does anyone in the family have a job outside Puerto Aldea? In other nearby larger fishing villages? In larger cities: Coquimbo/La Serena? *Many of the fishing families in Puerto Aldea have family in the larger Port City of Coquimbo, and they also have families in smaller villages north, including north of the IV Region, the III and II Regions. The villagers from El Totoral have family members in a larger town north of Puerto Aldea, Tongoy.*

- Do they help with school fees or money for the boat's gasoline? *Many times the mothers do not have money for the children's school items because there is a high rate of alcoholism among the fishermen, so the fees go towards the gasoline for the boat and the alcohol.*

Example: Fishing Interview-Questionnaire Guidelines

1. Socio-economic Status
   - Type of housing: Walls (adobe, wood, tin), roof, floor (dirt), windows. (Refer to the Municipalities infrastructure percentages for Puerto Aldea in Table 2.) *In El Totoral, the roofs are mainly corrugated metal and some straw with cement or adobe walls, and dirt floors.*

   - Type of fishing implements owned: Boat, nets, dive suit. *Fishermen in the cooperative own among family members a boat, multiple types of nets, and a dive suit for each member who is a registered "huka" diver.*

2. Resources and Resource Use

- In good years, do you harvest surplus fish for sale? Which fish? *The fish is usually rockfish, however, it depends what fishing village and fishing area.*

- Who are your main sources of advice on marine resource use and marine management practices? *The Northern Catholic University and the Institute for the Development of the Altisanal fisherman.*

- What are your marine resource problems? What solutions do you propose? What do you think are the causes of marine use problems? What are some possible solutions? *Generally, most interviews among lesseeducated fishermen indicated that the fishing regulation was the main source of their problems, and that the fishing ministry should listen to the traditional fishermen and their practices. Some fishers responded, "the Secretariat of Fishing could probably learn a thing or two from our harvesting practices, and if the government would regulate the larger industries better the small fishermen would have a better chance at making a living off of the marine resources."*

  The response from the fishermen with higher education generally was that the restrictions on shellfish harvest were good because it let the shellfish develop so that the fishermen could harvest them the following year, however, they also believe that stronger restrictions should be placed on the larger fishing practices. They believed by uniting all villages that the government might listen to them. (They tended to be more optimistic.)

- How do you obtain your firewood supply? (Collect freely or limited opportunity to collect or buy, specify details.) *The IV Region has an advancing desertification problem. Firewood is scarce because the goats have eaten most of the flora, and the people have harvested all of the trees. People mainly use containers of gas.*

- What do you do to save energy? *The people in these village constantly save energy by using candles and walking. Sometimes they extravagantly use a generator to watch a soccer game for an hour or two on the television.*

- What specific problems and opportunities do you see in the area of energy? *The firewood supply is a problem, and there are plans to transport underground gas from Argentina over to the IV Region, so that people might have gas inside their homes instead of using the containers of gas.*

3. Water

- Household's water supply. *Distance (in km): 70* *Quality: potable*
- Personal well? *None of the people in Puerto Aldea or El Totoral have this.*
- Roof catchment (capacity in liters)? *Some have basins.*
- Fog trappers? *None*
- Community water well or spring? Is it dry? *The community water well is dry and the municipality brings the water to the villages.*
- What distance do you have to travel to collect water? *The municipality travels approximately 70 kilometers to El Totoral and 35 kilometers to Puerto Aldea.*
- Are the sources permanent or seasonal? *There can be seasonal sources from the rain.*
- Does the local municipality bring potable water to the community? How often? *The Municipality brings the water once a week.*
- What water conservation measures have you practiced in your household? *The people in both communities know a lot of water saving measures, almost every one of them possible.*
- What changes in water access would be most helpful to you? *The water truck needs to come more often, and it would be helpful if the Municipality would provide the community with a pump for a well.*
- What problems have you encountered in water access? What opportunities do you see? *The drought will continue after the El Nino leaves, so water access is a continual problem.*

4. Infrastructure And Services

Health

- Which sicknesses are common in this area? Frequency? *The bends among the fishermen.*
- Is malnutrition a problem in this area? (specify nature) *No, however, the women complain that not enough vegetables are eaten (too much fried fish and shellfish).*
- Where is the nearest health facility? How many kilometers away from your home? *Puerto Aldea has a medical outpost in their town, and the villagers from El Totoral have to travel 40 km to this post.*
- Do you have family planning services available? *Once a month a nurse, paramedic, doctor, and a midwife attend the community. The midwife and nurse offer family planning.*
- Do you know if people use these services willingly? Why or why not? *Generally the pregnant women use these services once a month.*
- What problems and opportunities exist for health? *If there is an emergency, the nearest hospital is in Coquimbo. Many times in life threatening circumstances the people die because they cannot reach the hospital in time. Also, for a severe case of the bends, the nearest decompression chamber is in Coquimbo, and many times it does not work. When this occurs, the closest chamber is in Valparaiso which is seven hours away. Another problem is when the military begins their war games, they do not allow the people or vehicles to pass from El Totoral to Puerto Aldea through the military zone.*

Education

- Do you think the schools in this area are adequate? *Many villagers believe the school in Puerto Aldea is not adequate. El Totoral has no school.*
- How far do your children have to travel to school? *There is an elementary school in Puerto Aldea. For middle and high school, the children travel to Tongoy, 20 km, or to Coquimbo, 40 km..*
- Are there adult education classes or other programs in the area? *In Puerto Aldea there are hydroponics classes, and the members of the fishing cooperative, the men, have frequent training from outside organizations.*
- Do you or any of your family members attend classes at the technical trade schools in Coquimbo/La Serena? *A small percentage attend these schools. Most of the community members continue their fishing practices.*
- What are the most important problems in education? What are the best ways to address them? *Many parents would like to see higher levels of education offered in Puerto Aldea.*
- Has the school in Puerto Aldea begun any marine education programs? *The professor began marine education programs five years ago with his students. In 1997, the Catholic University began an extension education program with the school.*
- Are your children involved in trying to conserve marine resources? *Generally, the children have a poor attitude towards conservation because they observe role models such as other family members.*

Transportation and Communications

- What is your principal mode of transport? *Hitchhiking walking, boating, or driving.*
- How do you get your fish and algae to market? *Generally, a "middle man" comes to the village to buy it. Sometimes some family members drive their own product to the larger port of Coquimbo.*
- Who maintains your rural access roads? *The Military.*
- Have you undertaken any communal road repair activities? *No, because the military maintains it.*
- What are your significant problems in terms of transport? What is the best way to address these problems? *The fishermen commonly complain about the road access during military activities. The community members frequently complain about vehicle passage being restricted. The community of the Totoral continually discusses the military blocking their passages. They describe how the military will randomly block the passage without notifying the community, and then the villagers are "stuck" until, the military exercises finish, meanwhile, their shellfish harvest rots.*

Institutions

- What are the different institutions and groups in this area? *The University Catolica del Norte, the women's organization, the organization for the development of the artisanal fishermen, the fishing cooperative in Puerto Aldea, and the fishing syndicate in El Totora.*
- Out of these, which ones have the most positive impact on people's lives? (specify) *Many commented on the University, but a portion mentioned the Municipality (because of the health services and the water) while some mentioned the church.*
- Do you belong to any of these organizations or groups? Why or why not? *All of the fishermen belong to the cooperative in Puerto Aldea, and all belong to the syndicate in El Totoral. A portion of the women in Puerto Aldea belong to preschool parents group.*
- What activities are carried out by these groups? What activities would you like to have undertaken by these groups? What problems do institutions face in this area? What opportunities do you see for addressing these problems?

RAPID RURAL APPRAISAL

Group Activity: El Totoral

(The groups' responses for question (3), (4), and (5) were similar, so I synthesized their answers. I mention this activity in the Methods and Results Sections.)

(1) How did the fishing village form? Why? and for what reason?

Group 1: The village formed with a group of 27 people who registered in a cooperative to improve their way of life.

Group 2: Twenty-seven people make up this village and we all work together, united. We work together for the future of our children so that our children will also have work in the future.

Group 3: With 27 members the village formed, we created it, thinking of our children, and we created the association of fishermen because we knew if we continued alone then we would destroy the marine resources.

Group 4: In 1962 two divers came and fished off the coast of El Totoral and settled here. (The remainder of group 4's answer was illegible because they did not know how to write). The remainder of their response is detailed in a few of the individual interviews conducted with the elders.

(2) What was one of the main problems in the past?

Group 1: In the past the government gave a lot of liberties, and there was not a lot of violence, and for that reason the people from here immigrated.

Group 2: The main problem in the past was that the road was so bad that no one would come into our village to buy shellfish and alga.

Group 3: We did not have community property areas in the subtidal, offshore areas, and now we do.

Group 4: There were few people, few roads, and little communication. Our products traveled to market 80 kilometers by donkey.

(3) What was the first important event that you can remember in El Totoral? *Many of the elders of the Totoral say that the event was the road through the military zone to the North of the village. Some of the younger generations say that it is now the radio room the municipality built.*

(4) Have many people moved into or out of your community? *Now more people are moving to El Totoral because they have their own fishing area in their bay—friends of family members and relatives.*

(5) What are some of the greatest things your community has done? What have been some of the happiest times? *Some of the greatest times for our community have been working with the University so that today we have been able to manage our own fishing zone. The Fishing Ministry finally handed over the zone to our village.*

(6) What is the community's main problem today?

Group 1: The main problem we have today is the northern access. The Maritime authority will not even let our boats pass when they play their military games in the area.

Group 2: The authorities have not recognized the village on a regional level. The restrictions on road access when the military plays its games.

Group 3: When the armed forces restrict land passage that is our principal problem, and the armed forces are our main problem and that is why we cannot do anything.

Group 4: (The remainder again was illegible, however, their answers were also covered during the individual interviews.)

(7) What way do you think the fishing regulation could affect the fishermen or their community?

Group 1: Until now it does not affect us.

Group 2: It affects us by controlling the products we fish from the sea. It affects the fishermen and the low retrieval rates of our products from the ocean.

Group 3: The fishing law affects the fishermen by restricting the extraction of the marine products. This law diminishes the fishing areas: they should change the laws.

Group 4: The law affects us by not letting us travel to other zones to fish.

Working Through Environmental Conflicts: Citizens' Views of Collaboration[1]

Gregg B. Walker[2]
Department of Speech Communication
Oregon State University–Corvallis, OR

Abstract

Environmental policy is important to the quality of people's lives and the fabric of their communities. Many citizens want a say in how environmental conflicts are managed and environmental policies decided (Blackburn & Bruce, 1995). They want to participate in the environmental policy making process. But do they prefer to do so collaboratively? One way to address this question involves asking citizens themselves. This essay reports on such a project. It first discusses traditional and collaborative public participation and then presents results from a citizen survey. Citizens in a variety of communities have participated in a survey concerning environmental collaboration. The survey poses questions to citizens about their concerns regarding collaboration, what constitutes meaningful collaboration, and the strengths and limitations of collaboration. The study reveals that citizens generally prefer collaboration to traditional methods of public participation. Furthermore, whether experienced in collaboration or not, people believe that collaborative processes are important in addressing environmental and natural resource conflict.

1. Introduction

In the arena of environmental and natural resource policy, the decade coming to an end—the last decade of this millennium—may be remembered as the decade of collaboration. Throughout the 1990s, collaboration has been heralded in the halls of government and in agency policies. From the President's Council on Sustainable Development to the Environmental Protection Agency's watersheds initiatives to USDA Forest Service Chief Michael Dombeck's call for "collaborative stewardship," collaboration has been a watchword of the Clinton Administration. Community-based collaborations (CBCs) have proliferated throughout the decade. From the Applegate Partnership in Oregon to the Malpai Borderlands Group in Southwestern Arizona to the the Chicago Wilderness partnership in Illinois to the Upper Delaware Watershed Council of Pennsylvania and New York, CBCs are playing an active role in local natural resource management activities.

Collaborative efforts, either in agencies, communities, or organizations, emerge in response to conflict and controversy, and a frustration with the default decision-making and conflict resolution methods. Collaboration provides parties with a non-adversarial alternative for managing environmental conflicts and resolving disputes.

While collaboration is often touted as a desirable way to address environmental conflicts (e.g., Gray, 1989; Burgess & Burgess, 1995; Daniels & Walker, 2001), citizens' ideas about collaboration remain to be explored. Little empirical research on environmental collaboration has been conducted (O'Leary, 1995). This paper reports the results to date of an on-going effort to learn from citizens what they think about the viability of collaboration in environmental conflicts.

The paper first discusses the nature of environmental conflict. Second, the essay highlights key features of collaboration. Third, the current controversy over community-based collaborations (CBCs) is examined. Finally, the paper presents data from a study about citizens' views of collaboration.

2. The Nature of Environmental Conflict

In the introduction to their recent work, *Mediating Environmental Conflicts*, Blackburn and Bruce assert that "environmental conflict arises when one or more parties involved in a decision-making process disagree about an action that has potential to have an impact upon the environment" (1995, pp. 1-2). In an essay from that same work, Burgess and Burgess propose that "environmental conflict refers to long-term divisions between groups with different beliefs about the proper relationship between human society and the natural environment" (1995, p. 102).

These definitions reveal that environmental conflict involves some degree of incompatibility arising from issues related to the environment, rather than some other form of interpersonal or organizational conflict that merely happens to have arisen in the

context of environmental decision-making. As such, the definitions may offer more insight into the difficulty of devising a single sentence definition of environmental values or policy than of characterizing environmental conflict itself. Understanding environmental and natural resource conflict requires much more than a minimalist definition. As Crowfoot and Wondolleck (1990) note, environmental conflicts have various sources: they are "rooted in different values of natural resources and environmental quality;" they are "incited by different stakes in the outcome of environmental and natural resource management decisions;" and they can be caused by "the uncertainly surrounding various environmental actions, and the different assessments of the risks associated with these actions" (1990, pp. 6, 7).

The sources of conflict in natural resource decisions that Crowfoot and Wondolleck identify reveal the difficulty of finding a simple definition. We can accomplish more by describing two fundamental assumptions about environmental conflict.

2.1 *Environmental Controversies Involve Both Conflicts and Disputes*

As environmental mediator Gerald Cormick notes, an environmental conflict occurs "when there is a disagreement over values or scarce resources" (cited in Crowfoot & Wondolleck, 1990, p. 18). Specific disputes arise as episodes in the longer-running social discourse over natural resource policy. Disputes are encounters "involving a specific issue over which the conflict in values is joined." Cormick explains that "the settlement of a dispute is achieved when the parties find a mutually acceptable basis for disposing of the issues in which they are in disagreement, despite their continuing differences over basic values" (1982, p. 3). Environmental conflicts are ongoing, and reflect the persistent value differences to which Cormick speaks. These different values, interests, and fundamental views of the relationship between people and the natural environment are embedded in the body politic (Henning & Mangun, 1989; Hunter, 1989). These conflict factors may contribute to views of a conflict as intractable (Kriesberg, 1989). Disputes, on the other hand, are identifiable issue-specific interactions that arise at particular points in time, often as episodes within longer-running conflicts (Crowfoot & Wondolleck, 1990).

Consequently, enduring conflicts need to be managed, while the disputes that arise within them offer opportunities for settlement. Citizens, natural resource managers, and organizational representatives must be able to distinguish between the disputes and the conflicts that are relevant to their roles. For example, conflicting views and philosophies over the importance of preserving old growth forests will continue over the long term, while specific timber harvest, stream buffer, and salvage disputes require decisions in the short term.

2.2 *Environmental Conflict is Complex.*

There may be no conflict setting more complex than environmental policy. Faure and Rubin (1993) have identified a number of "distinctive attributes" of environmental negotiations: multiple parties and multiple roles, multiple issues, meaningless boundaries, scientific and technical uncertainty, power asymmetry, joint interest, negative perceptions of immediate outcomes, history, long time-frame, changing actors, public opinion, institutionalization of solutions, and new regimes and rules (pp. 20-26). Lang (1992) has featured five ways in which environmental negotiations are different from other conflict situations. First, lobbies (either for ecological or business interests) try to influence policy on both the national and intergovernmental levels. Second, media interest and scrutiny are greater on environmental issues than other matters, such as trade or arms control. Third, scientific evidence often competes with economic interests. Fourth, negotiated agreements on environmental issues are rarely final and are likely to be reopened as new evidence emerges and situations change. Fifth, agreements generally emerge from an incremental negotiation process that generates a series of decisions over a period of years (Lang, 1992, p. 355).

In *Working Through Environmental Conflict: The Collaborative Learning Approach* (2001), Daniels and Walker identify seven different sources of environmental conflict complexity: multiple parties, multiple issues, cultural differences, deeply-held values and worldviews, scientific and traditional knowledge, legal requirements, and the presence of a conflict "industry." Multiple parties and multiple issues may be rather obvious aspects of environmental conflicts. Parties may be primary or secondary and representatives of parties often change. Issues relate to matters of substance, procedure, and relationship (Daniels & Walker, 2001). Less obvious, perhaps, are the five other sources of environmental conflict.

Cultural differences. Differences between parties related to their perceived membership in cultural communities permeate environmental conflicts. Cross-cultural communication scholar Dean Barnlund has predicted that "we can expect to spend most of our lives in the company of neighbors who will speak in a different tongue, seek different values, move at a different pace, and interact according to a different script" (1991, p. 22). He asserts that "when people communicate between cultures, where communicative

rules as well as the substance of experience differs, the problems multiply" (p. 22).

Barnlund's ideas refer to communication between two cultural communities; imagine the increased complexity when an environmental conflict includes people and groups identifying with many different cultures. Culture is a far more inclusive concept than race and refers to a historically transmitted system of symbols, meanings, and norms. Culture relates to ethnicity, gender, regional identity, profession, community, or "any other symbol system that is bounded and salient to individuals" (Collier & Thomas, 1988, pp. 102-103).

Cultural communities pertinent to numerous environmental conflicts include rural and urban residents, newcomers to an area as well as old-timers, ethnic groups, and occupational groups.

Deeply-held values and worldviews. Natural resource conflicts are frequently ongoing, reflecting different values, interests, and fundamental views of the relationship between people and the natural environment (Henning & Mangun, 1989). Some conflicts exist at the profoundly fundamental level, featuring stakeholders with diametrically opposed value systems relative to the issues at hand (Hunter, 1989). The complexity of a conflict certainly increases when it is driven by people's fundamental values—about right and wrong, about entitlements, about humans' role in nature, etc. Parties will not agree to outcomes that contradict their worldviews, and may make little progress until they understand one another's value orientations and regard them as legitimate. There is no one right way to understand nature; there are many different value-based views of the natural environment and of humanity's relationship to it. Ralston (1988), for example, delineates various seminal values, including life-support, economic, recreational, scientific, aesthetic, historic, cultural-symbolic, character-building, diversity-unity, and religious. Many of these, while fundamental to value systems about natural resources, also seem incompatible. Economic values of a specific western rangeland, for example, may seem to deny some aesthetic or religious values related to that same land.

Scientific and traditional knowledge. Understanding of environmental policy situations is enhanced by integrating ideas from a variety of sources: physical/biological science, political/social science, and the local community. Policy decision-making should respect traditional knowledge (both indigenous and local) just as it respects scientific knowledge; voices from non-scientific communities deserve to be heard alongside the scientists. An ecosystem-based management approach should include agencies, organizations, and community representatives learning about and analyzing conflict and dispute situations systemically, and should enact appropriate strategies to deal with those disputes constructively. Learning and analysis demand forethought, time, and coordinated effort, although these are often scarce when crises erupt. Crises encourage "knee jerk" reactions, rather than evaluating options systemically and making constructive, planned strategic choices. In crises, parties often rely on "trained incapacities," habitual methods of responding, even when aware that these methods may not work (Folger et al., 1997). Such habitual responses may thwart innovation, systems thinking, and good decisions.

Legal requirements. A considerable body of laws, executive orders, regulations, and legal precedents defines what is acceptable procedure in terms of agency decision-making and public involvement. Federal legislation offers a comprehensive illustration. Certainly the Administrative Procedures Act of 1946 (APA) establishes a fundamental benchmark for agency decision-making with its prohibition of arbitrary and capricious decisions, which the courts have evolved into the "hard look" doctrine. (Agency decisions are assumed not to be arbitrary and capricious if the agency can show that it took a hard look at the issues. In this regard, it is similar to the concept of "due diligence" found in commercial law.) Certainly better known than APA is the National Environmental Policy Act of 1969 (NEPA), which requires interdisciplinary planning of major federal actions that could potentially affect the human environment. Even though NEPA now provides the core of the requirements for public involvement in agency decision-making in the natural resource arena, most of its public involvement features come not from the law itself, but from either executive orders issued shortly after the passage of NEPA, regulations promulgated by the Council of Environmental Quality, the rule-making body established by NEPA, or case law from the large number of NEPA-related lawsuits that have been contested over the past three decades. In addition, there are some "open government" laws that were passed during the Vietnam War era and its distrust of government, notably the Freedom of Information Act of 1966 (FOIA) and the Federal Advisory Committee Act of 1972 (FACA). FOIA makes the great preponderance of agency files open to public scrutiny. FACA requires that advisory committees function in an accessible and well-publicized manner. Both of these laws are philosophically motivated by a desire for transparent governance.

This large body of procedural requirements related to public involvement has arguably had a chilling effect on innovation in public involvement practice, which may be the exact opposite of what that the laws' authors intended. The requirements for public notice have become quite specific: e.g., legal notices must appear in X number of newspapers for Y number of days. Because failure to meet these various mandates are grounds for having a project overturned, the prudent course of action is to do the legal requirement—no more, no less. This means that there is certainly no structural incentive for any innovation in public involvement; any creativity emerges in spite of the law, not because of it. This legal environment certainly adds a level of complexity to the planning of collaborative efforts. The case law is clear that efforts at collaboration do not substitute for other procedural requirements. That means that the collaborative process must include activities that are NEPA-compliant or that traditional NEPA activities (publish environmental documents, allow public comment periods, etc.) must occur at the same time as the collaborative process.

Conflict "industry." A final overlay of complexity emerges from our largely contentious and litigious political tradition. The political and legal landscape around natural resource management is populated by a number of advocacy organizations whose roles are to fight for the preferred outcome of some constituency. These groups are on all sides of the political and ideological spectrum: They fight for the interests of particular industries, for geographic areas, for landowning people, for landless people, for elderly people, for unborn people, and for wildlife, wilderness, and water. Yet all of these groups face a similar incentive—they must convince their members and funders that they are fighting the good fight. It is entirely possible to imagine situations where the interests of a formal interest group, including its staff, may not be entirely compatible with the underlying goals and values of the constituency they presumably serve. It is conceivable that their organizational niche, and their job security as individuals, depends more on the perpetuation of the conflict than on some calm, quiet settlement. Conflicts are inherently mixed-motive, with incentives to compete as well as cooperate (Deutsch, 1973). Competitive incentives may foster adversarial behavior and actions to perpetuate the conflict and be very skeptical about collaboration.

The "conflict industry" is not merely lobbyists or national-level organizers. It includes any party—individual or organization—whose personal and/or professional interests are better served by the perpetuation of a competitive and conflictual approach to environmental policy. This can encompass anyone from the slickest environmental or industry attorney in San Francisco or Washington, D.C., to a rancher in Evanston, Wyoming, whose status among his or her peers comes from his or her willingness and ability to challenge local BLM employees over grazing management.

Parties promoting collaboration need to recognize that (1) the conflict industry exists; (2) it evolved as a legitimate part of the system of government created by the framers of the Constitution; (3) some parties may believe that successful collaborations will undermine their importance and agenda; (4) some parties may not want to participate in collaborative processes; and (5) these parties may have good reasons to attempt to circumvent and "blindside" collaborative efforts (Daniels & Walker, 2001).

As an illustration of the threat that some national organizations may feel from a movement toward collaboration (particularly a movement that would devolve policy-making to a large number of localized efforts), consider the opening paragraph of a speech that Mike McCloskey, Executive Director of the Sierra Club, gave to his Board of Directors in 1995:

> A new dogma is emerging as a challenge to us. It embodies the proposition that the best way for the public to determine how to manage its interest in the environment is through collaboration among stakeholders, not through normal governmental processes.

There are three notable word choices in this sentence: dogma, challenge, and normal governmental process. *Dogma* often connotes a view or position that is overly rigid, or lacks adequate foundation. It is also instructive that McCloskey framed collaboration as a *challenge to us*, rather than as either a challenge to others or as an opportunity for the enhanced direct involvement of Sierra Club members. Finally, he draws a clear distinction between collaboration and *normal governmental processes*, implying that collaborations are abnormal, or in some way inconsistent with American traditions of governance and policy making. In short, this one sentence sets the stage for the message that ran throughout the speech; notably, that McCloskey feels that the Sierra Club is profoundly threatened by any consideration of collaborative approaches. And it is not solely environmental groups who might feel that local collaborations are not in their best interest; commodity-production groups (who presumably are the "other side" to the Sierra Club) face exactly the same dynamic. Collaborative processes do not, by definition, favor any one "side" over any other. Federal agencies may resist proposals with

the potential to diminish their traditional discretion, and relocate the policy discussion out of their organizational hierarchy and into discussions that occur at the agency/stakeholder interface. But the fact that some organizations and individuals feel that collaborations pose a threat to them certainly adds to the complexity of convening and designing them. If these various players resist efforts at collaboration, their behavior does not arise because they are somehow evil or because collaboration is somehow flawed. Rather it is because these players occupy niches in the political landscape, and these niches derive their power and status from a competitive approach to addressing environmental problems, and because at a fundamental level these players' roles have shaped their strategic views of how decisions ought to be made (Daniels & Walker, 2001).

3. ***Environmental Mediation and Collaboration***

There are many ways to respond to environmental and natural resource conflicts; approaches that run the gamut of struggle from mild disagreements resolved via civil discourse to resolution through violence (Keltner, 1994). Environmental conflicts are frequently "settled" via litigation and legislation, both adversarial processes that seem to sustain conflict, creating as much new conflict as may be resolved. In the 1970s new approaches emerged, under the umbrella term of "environmental alternative dispute resolution" (EADR). While the environmental ADR movement includes a variety of activities (e.g., negotiated rule-making, policy dialogues; see Gray, 1989; and Dukes, 1996 for reviews), mediation seems the best known.

3.1. *Mediation*

Mediation, regardless of context (e.g., environmental, labor management, community, commercial), "is third-party assistance to people who are trying to reach agreement in a controversy" (Pruitt & Kressel, 1989, p. 1). Mediation features disputant decision-making; it "is a self-empowering process that emphasizes the participants' responsibility for making decisions that affect their lives" (Taylor, 1988, p. 61). Mediation proceeds through a series of stages with agreement as its goal (Moore, 1996; Lewicki, Saunders, & Minton, 1999). Negotiation characterizes mediation interaction. "Mediation is essentially negotiation," Moore explains, "that includes a third party who is knowledgeable in effective negotiation procedures, and can help people in conflict coordinate their activities and to be more effective in their bargaining" (1986, p. 14). The negotiation a mediator promotes is essentially integrative or mutual gain; facilitated problem-solving negotiation that seeks a joint, mutually beneficial decision.

Environmental mediation, simply put, is mediation techniques applied to environmental conflict situations. As Blackburn and Bruce explain in the introduction to their edited work, *Mediating Environmental Conflicts: Theory and Practice*,

> mediation is a relatively new approach to managing conflict over environmental issues. It developed from attempts to apply labor and community mediation experience to environment-related conflicts, with the first documented instance of such mediation dating from 1974. Since then, a literature on the theory and practice of environmental mediation has evolved as practitioners reflect upon the techniques and approaches which have worked best and theoreticians attempt to pull together the key elements of successful mediation activities. (1995, p. 1)

In *Resolving Environmental Disputes*, Gail Bingham tells the story of what many consider to be the "first [mediated] environmental dispute" (1986, p. 15):

> In 1973, Daniel J. Evans, then governor of the state of Washington, invited mediators Gerald W. Cormick and Jane McCarthy to help settle a long-standing dispute over a proposed flood control dam on the Snoqualmie River (p. xvii) . . . The controversy contained two elements essential to mediation attempts—the issues were seemingly intractable, and the parties were willing to try something new. There were few, if any, precedents to follow, either for the mediators or the parties. By December 1974, however, an agreement was signed . . . the mere fact of the agreement was enough to inspire individuals from across the United States with the idea that controversial environmental disputes could be settled through mediation. (pp. 14-15)

If environmental mediation was born in the early 1970s, it had perhaps its most significant coming out party in 1998. On 22 October 1998, 150 people gathered in Tucson, Arizona for the dedication of the U.S. Institute for Environmental Conflict Resolution. As the February 1999 *Udall Center Update* reported:

> The Environmental Policy and Conflict Resolution Act of 1998 created the Institute, which will operate under the aegis of the Morris K. Udall Foundation, also located in Tucson. The Senate and the House unanimously passed the Act,

> which was signed into law by President Clinton in February 1998. Under the new law, federal agencies are authorized to use the Institute to assist in the resolution of disputes involving federal environmental, public lands, and natural resource issues. (http://udallcenter.arizona.edu/publications/update/update05.html)

The Udall Foundation website explains the purpose and focus of the Institute:

> The Institute is intended to provide a neutral place inside the federal government, but outside the "Beltway," where public and private interests can reach common ground. The Institute is directed to resolve costly environmental conflicts outside the courtroom and to foster collaborative agreements among affected parties concerning the implementation of federal environmental and natural resources policy.

The U.S. Institute for Environmental Conflict Resolution is significant for a number of reasons. First, it grants institutional legitimacy to environmental conflict management and dispute resolution practices, such as negotiated rule-making, policy dialogues, mediation, and facilitation. Second, it increases the visibility of environmental alternative dispute resolution, preferably to the extent that stakeholders see EADR practices as viable alternatives to adversarial strategies. Third, the Institute features EADR beyond simply environmental mediation. According to information on the Udall Foundation website:

> Institute activities are currently organized around three major program areas: case management and contracting for professional ECR services (approximately 80 percent of its cases); training and education on ECR for federal agency personnel and other stakeholder groups; and direct provision of ECR services by in-house staff professionals (including convening, assessment, facilitation, and mediation processes). (http://udallfoundation.org/iecr.html)

The U.S. Institute for Environmental Conflict Resolution is important, both substantively and symbolically. The Institute symbolizes the compelling need to continue to develop and improve ways for people to meaningfully and constructively manage complex natural resource and environmental policy conflicts. What started in the early 1970s as environmental mediation has now evolved into methods that extend beyond the application of mediation to environmental conflict situations, while incorporating many mediation techniques. Many of these methods feature collaboration in some form, such as Collaborative Learning, search conferencing, constructive confrontation, and participatory decision-making (Walker & Daniels, 1997).

3.2. *Collaboration*

When Michael Dombeck became Chief of the USDA-Forest Service in January 1996, he told his fellow employees that "collaborative stewardship" would be among the key features of his resource management philosophy and tenure as Chief. Dombeck was stressing the importance of people working together as part of the development of sound policy. This is certainly vital in the natural resource arena. For example, federal and state agencies that embrace ecosystem management as their natural resource management orientation must "recognize resource planning as a forum for public deliberation on the shape of a common future . . . .planning needs to combine diverse viewpoints, ranging from perspectives of those who use public lands to views of those whose culture is shaped by the land" (Cortner & Shannon, 1993, p. 16). People can work together and deliberate through collaborative processes. Agency managers, such as foresters, "are realizing that collaborative approaches may be their best and only chance to influence the direction of natural resource policy" (Selin et al., 1997, p. 25).

But just what is collaboration? When describing collaboration as it applies to public decisions, Barbara Gray's book *Collaborating* (1989) provides a useful definition:

> Collaboration involves a process of joint decision-making among key stakeholders of a problem domain about the future of that domain. Five features are critical to the process: (1) the stakeholders are interdependent, (2) solutions emerge by dealing constructively with differences, (3) joint ownership of decisions is involved, (4) stakeholders assume collective responsibility for the future direction of the domain, and (5) collaboration is an emergent property. (p. 11)

Collaboration is fundamentally a process in which interdependent parties work together to affect the future of an issue of shared interests (Gray, 1989). More specifically, Gray (1985) defines collaboration as "the pooling of appreciations and/or tangible concerns, e.g., information, money, labor, etc., by two or more stakeholders to solve a set of problems which neither can solve individually" (p. 912). Drawing upon

Gray's ideas, Selin and Chavez (1995) assert that "collaboration implies a joint decision-making approach to problem resolution where power is shared, and stakeholders take collective responsibility for their actions and subsequent outcomes from those actions" (p. 190). In collaborative conflict management and decision-making activities, people have meaningful opportunities for "voice;" that is, to communicate as participants in significant ways. Their ideas and interactions matter in both the process and outcome of the situation.

Collaborative processes are fundamentally different than competitive conflict resolution processes such as litigation or highly structured, unilateral decision-making. When a decision-making organization (e.g., a government agency) interacts with citizens and stakeholder groups (its publics), it has strategic options that emphasize either a competitive or collaborative approach. As an involvement strategy, collaboration differs considerably from the traditional public participation model of open houses, public hearings, and comment periods. Several key aspects of collaboration clarify these differences:

(1) *It is less competitive* and more accepting of additional parties in the process because they are viewed more as potential contributors than as potential competitors.
(2) *It is based on joint learning and fact finding*; information is not used in a competitively strategic manner.
(3) *It allows underlying value differences to be explored*, and there is the potential for joint values to emerge.
(4) *It resembles principled negotiation*, since the focus is on interests rather than positions.
(5) *It allocates the responsibility for implementation* across as many participants in the process as the situation warrants.
(6) *Its conclusions are generated by participants* through an interactive, iterative, and reflexive process. Consequently, it is less deterministic and linear.
(7) *It is an on-going process*; the participants do not meet just once to discuss a difference and then disperse. However, collaborations may have a limited life span if the issues that brought the participants together are resolved.
(8) *It has the potential to build individual and community capacity* in such areas as conflict management, leadership, decision-making, and communication.

These distinctions between collaboration and traditional public participation can be encapsulated into two philosophical differences. First, an interest in collaboration grows out of the recognition that in some situations, any single natural resource or environmental management agency cannot adequately address the issues at hand by working independently. Collaborators bring to the process various additional resources that the agency may need: different perspectives on both the problem and potential improvements in it, understanding of rapidly changing social values, scientific data, indigenous knowledge, political clout, agreement and coordination of other agencies and private landowners, finances, volunteer labor, and so on. For example, since the focus of land management is increasingly shifting away from specific resources (stands of trees, herds of big game, grazing acreage, etc.) toward landscapes and ecosystems, collaboration appears better suited to planning and implementation tasks than traditional public involvement. Collaboration arranges the relationships between the stakeholders in a manner that more closely matches the resources and responsibilities that each brings to the process. Just as ecosystem management emphasizes "system" relationships in the natural world, collaborative processes can illuminate "system" relationships in the social world.

Second, collaboration values cooperation, while traditional public involvement has evolved to emphasize competition. There is no a priori reason why public involvement has a competitive orientation, but this perception persists. Public involvement policy is firmly embedded in the adversarial comment/appeal/litigate/legislate mentality that characterizes much of environmental politics. A call for collaboration is not a starry-eyed proposal that ignores the current venom and rancor; rather it raises the possibility that energy currently devoted to competitive behaviors can, in some instances, be channeled into developing new approaches to natural resource management and environmental policy.

Two keys seem essential to shifting the relationships in natural resource policy away from competition and toward collaboration. First, parties need to select those situations where collaboration is an appropriate strategy and second, they need to structure the conflict management process to encourage and reward cooperation rather than competition. Not all situations are amenable to collaboration. The complexity of natural resource conflict implies that it is often unrealistic to expect collaborative behaviors to emerge or persist. Some scholarship indicates that collaboration may be successful only in the minority of cases (Amy, 1987; Buckle & Thomas-Buckle, 1986). It is also unrealistic to merely announce that a collaboration is beginning and then expect the current relationships and patterns of behavior to change. Collaboration requires innova-

tive decision-building structures designed with considerable attention to the incentives they create. If parties and procedures do not establish clear rewards for collaboration and disincentives for competition, there is no reason to expect much change in behavior.

Collaboration does not demand that participants set their self-interest aside, nor does the success of collaboration hinge on their doing so. Quite the contrary; participants are expected to voice their interests clearly and work energetically to achieve them. The key is that their efforts are not oriented strictly in opposition to those of their fellow participants, but more in concert. An environment needs to be created in which exploring differences is encouraged rather than hindered. When differences are not openly addressed, they may fester below the surface and eventually cause discontent with the process and dissatisfaction with the results. To counter this, collaboration strives to encourage integrative negotiation and dialogue among the stakeholders. This interaction is "dialectical" to the degree that it is motivated by the desire to examine issues critically by means of fair, just, and orderly procedures (Wenzel, 1990).

3.3 *Collaboration as Controversy*

In 1987 Douglas Amy wrote a seminal book, *The Politics of Environmental Mediation.* In that book, particularly in a chapter titled "mediation as seduction," Amy voiced skepticism about the capacity and appropriateness of mediation to manage environmental and natural resource conflicts well. He noted that some aspects of the landscape had been compromised enough; that mediation required negotiation and compromise; and some things in nature were simply non-negotiable.

Today Amy's concerns resonate in discourse about community-level collaboration in natural resource and environmental policy. From the fields of conflict management, environmental dispute resolution, grassroots governance, and citizen activism, many community-based collaborations emerged during the 1990s. Referred to by a variety of names, such as forums, councils, community or collaborative partnerships, collaborative coalitions, and resource management cooperatives, community-based collaborations (CBC) have increased in number throughout the last decade of this century.

In recent years another phenomenon has appeared, informally linking the undercurrent philosophies of ADR, public participation and environmental problem-solving. Known by varying names—such as community-based collaborative partnerships, watershed councils, consensus groups, coordinated resource management, and sustainable community initiatives, among others—these community-based initiatives bring together traditional disputants from all sides of controversial environmental issues (McClellan, 1996; Arrandale, 1997). Using processes that promote problem-solving and focus on individual interests and shared concerns, collaborative partnerships are taking root across the U.S., addressing issues as varied as watershed management, riparian restoration, forest management, endangered species recovery, and grazing management (Jones, 1996; McClellan, 1996). Although the process uses principles of alternative dispute resolution, the focus on building relationships for on-going problem-solving distinguishes collaborative partnerships from a one-time negotiated dispute resolution process (Wondolleck, et al., 1996).

Community-based collaborations are, as the term implies, place-based and typically tied to a landscape, a resource area, or a watershed. CBCs generally employ some manner of consensus decision-making and seek the involvement of a broad and diverse array of stakeholders. CBC participants ideally include all parties desiring a voice in the given situation; parties that seek empowerment through the collaborative process. In many cases, CBCs bring together parties who may have been traditional adversaries (McClellan, 1996; Arrandale, 1997). CBCs draw upon elements of negotiation and mediation, but as on-going enterprises are different from single-event environmental negotiations or mediations (Wondolleck, et al., 1996). CBCs have typically emphasized problem-solving in order to address both short-term and long-term resource management issues, such as endangered species recovery, waste disposal procedures and siting, watershed management, forest and range stewardship, and habitat conservation planning (McClellan, 1996; Jones, 1996). Examples of CBCs include watershed councils (e.g., The Henry's Fork Watershed Council, Idaho; the Kenai Watershed Forum, Alaska); rangeland organizations (e.g., the Malpai Borderlands Group, Arizona and New Mexico; the Diablo Trust, Arizona), resource management partnerships (e.g., the Applegate Partnership, Oregon; the Minnesota Forest Resources Council; Canyon Country Partnership, Utah); and citizen coalitions (e.g., the Catron County Citizens Group, New Mexico; Friends of Marys Peak, Oregon).

CBCs have increased throughout the past few years for a variety of reasons. First, collaborative partnerships have received support on the national level. Both the Clinton Administration and Republican leadership have, at various times during the 1990s, voiced support for local initiatives rather than Beltway control. The Environmental Protection Agency has fostered the development of watershed councils, while the Forest Service has advanced the idea of collaborative stewardship.

Second, CBCs are consistent with the resource management philosophies of the 1990s. Rangeland stewardship, ecosystem-based management, landscape-level planning, riparian restoration, watershed integrity, biodiversity, and sustainability are examples of management concepts that respect scientific, technical knowledge and local, traditional knowledge. Collaborative processes may best accommodate different forms of knowledge, ways of knowing, and learning styles (Walker & Daniels, 1998). Further, issues related to ecosystem-based management may be best conceived of as local (Sadler, 1994).

Third, many parties at the local level who have been enduring adversaries may be worn out fighting a "win-lose" battle. At some point parties may desire a more viable alternative, one that restores and sustains community rather than divides it. Wondolleck et al (1996) assert that CBC activities can address complex and controversial natural resource management problems more innovatively and flexibly than traditional adversarial decision-making. Doing so can lead to broad endorsement of and participation in project implementation (Wondolleck, et al., 1996). CBCs, by offering a fair procedure, may improve relationships between parties, including increasing trust and respect (Gieben, 1995; Weber, 1998).

While supporters assert that CBCs are compatible with the principles of citizen involvement and democratic governance, CBCs have not been universally embraced as a viable part of natural resource management. McCloskey's comments, analyzed earlier, offer an example. Critics of CBCs assert that locally-based stakeholder consensus processes generate "lowest common denominator" agreements (McCloskey, 1996). Some critics claim that CBCs ignore national interests and may co-opt the environmental advocacy movement in the United States (Mazza, 1997; Britell,1997). Some national environmental groups have encouraged their members to not participate in partnerships; some environmental group leaders have expressed strong skepticism about CBCs (McCloskey, 1996). Concerns range from doubts about the appropriateness of alternative dispute resolution techniques, coupled with a view that ADR methods may serve to delegitimize conflict and co-opt environmental advocates (Britell, 1997; Modavi, 1996). Some critics question the legitimacy of local control of national resources and the scientific soundness of negotiated agreements. Congressional support for the proposals of at least two groups (in Quincy and Tuolumne County, California) have fueled fears that CBC work will undermine national interests, compromise environmental standards, and deny meaningful opportunities for non-CBC parties to review and comment on proposals (Duane, 1997; Blumburg & Knuffke, 1998).

A fundamental concern of CBC skeptics addresses the matter of precedent. Given the variations among local communities, CBCs may be vulnerable to criticisms that they do not correspond to clear and uniform standards for planning, implementation, and monitoring (Huber, 1997). As noted earlier, there is an "entrenched conflict industry;" consisting of parties—people and organizations—that have incentives different from CBCs. National organizations understandably prefer that conflicts and controversies be resolved at the national level, where they hold standing as players. To the extent that CBCs are perceived to respond better to local interests than regional or national interests, particularly when dealing with resource areas "owned" by a state or national government, the controversy over them will continue.

CBCs as a part of environmental and natural resource policy decision-making have both their supporters and detractors. CBC processes may give hope to members of local communities as they create anxiety for organizations that have been long active in normal policy development processes, such as organizing nationwide support and lobbying legislators at the state and federal level. These issues about CBCs have become more prominent with passage of the Quincy Library Group Forest Recovery and Economic Stability Act of 1997 (July) in the U.S. House of Representatives by a vote of 429-1 (U.S. House of Representatives, Herger, 1997). This action granted national political legitimacy to a process that began as a CBC.

The controversy over community-based collaborations highlights the both the promise and the risk of collaborative processes. Collaborative methods provide great opportunity for parties in complex environmental and natural resource policy situations to manage conflicts well and make the best decisions. But collaboration is not easy, and not appropriate for all situations. Collaboration provides a means for parties to engage one another meaningfully and constructively, but also opens parties up to manipulation and exploitation. Parties need to assess the collaborative potential of a situation and apply collaborative approaches thoughtfully and strategically (Daniels & Walker, 2001).

Even the best decision-making process, whether collaborative, adversarial, or unilateral, will be subject to criticism from those whose interests are not met. No single process or event will necessarily provide voice for all parties at all levels. The challenge to find processes and methods to honor local, regional, and national interests is continual. Still, collaborative processes may offer the best hope for incorporating the voices of all concerned parties, both in the local and national arenas.

Lost in the tug-and-pull discourse of collaboration is the vantage point of people "on the ground." In all the literature on natural resource and environmental policy collaboration, neither academics or practitioners have focused on citizens themselves, to learn what they think about collaboration. The next section of this essay presents results from a preliminary study designed to learn from citizens what they think about environmental and natural resource collaboration.

4. *Citizens' Views of Collaboration*

While an environmental conflict resolution fellow at the University of Arizona's Udall Center for Studies in Public Policy in 1998, I surveyed citizens in a variety of communities about their views of collaboration. This research is on-going, and I hope o further distribute the survey.

4.1 *Method*

The study's general research purpose is to learn about citizens' views concerning collaboration in natural resource and environmental conflict and decision situations. Specific research questions include:

RQ1. What are citizens' views about collaboration in natural resource management situations?

RQ2. Do citizens' views about collaboration differ due to experience participating in a collaborative group?

RQ3. Do non-government citizens' views of collaboration differ from the views of state and federal government employees?

4.1.1 *Survey Design*

The survey instrument consists of 24 Likert scale items on various aspects of collaboration, a set of open-ended questions about collaboration, and questions concerning participation in collaborative groups (e.g., CBCs), age, residence, occupation, organizational affiliation, and recreational interests. This paper reports results from the Likert scale items.

The Likert and open-ended questions are drawn from the literature on environmental, natural resource, public policy, and community collaboration. The Likert items correspond to Gray's (1989) characteristics of collaboration as well as the features of collaboration Daniels and Walker (2001) identify. Survey participants are asked to respond to statements on a five-point Likert scale, ranging from strongly disagree to strongly agree. An example of a questionnaire statement is:

A collaborative process works best if it involves as many different parties or stakeholders as possible.
Strongly disagree 1 2 3 4 5 Strongly agree

4.1.2 *Participants*

Participants were citizens from communities in the western and upper midwestern regions of the United States. People who were involved in community groups the author observed or facilitated, or who participated in training programs the author conducted, were invited to take part in the survey. Participants either completed a survey on site or mailed it to the author via a pre-addressed, stamped envelope. Sites and response rates are presented in Table 1.

The respondents represented a variety of occupations, as Table 2 indicates. The largest category, administration, generally consisted of administrative and managerial positions with local, state, and government agencies.

TABLE 1
Sites and Response Rates

	Surveys	# Returned	Return rate
Great Lakes Forest Alliance Workshop (WI)	26	20	77%
Kenai Watershed Forum (AK)	15	06	40%
Collaborative Learning Circle (CA/OR)	10	01	10%
Catron County Citizens Group (NM)	18	07	39%
Cispus Scientist Dialogue (WA)	30	12	40%
Total	99	46	46%

TABLE 2
Respondents' Occupations

Occupation	n	%
Ranching	2	04.3
Forestry	7	15.2
Tourism	2	04.3
Science	9	19
Administration	16	34.8
Education	6	13
Retired	3	6.5
No response	1	2.2

4.2 *Results*

Survey participants were presented with 24 Likert scale items about collaboration in natural resource and environmental policy situations. The full text of these items appears in the Appendix. These items correspond to Faure and Rubin's (1993) elements of environmental negotiation.

As noted earlier in this essay, mutual gain negotiation is a central element of collaboration. Faure and Rubin (1993) explain that "all negotiations can be described and analyzed in terms of several key elements: actors, structure, strategies, process, and outcome(s)" (p. 18). *Actors* include individuals, groups, organizations, and even nations. In environmental negotiations, "actors include the negotiators and the constituents to whom they are accountable" (p. 18). *Structure* refers to "the set of constraints within which the exchange takes place" (p. 18). Faure and Rubin list a number of structural factors, such as time limits, negotiation site, communication channels, presence of an audience, issue order, and power resources. *Strategies* highlight "the general orientation of the actions that negotiators take to achieve their objectives" (p. 19). Strategies incorporate the choices parties make, such as whether to compete or cooperate; whether to deceive or be honest; whether to impose deadlines; whether to emphasize mutual or individual gain; and whether to be rigid or flexible. *Process* "can be thought of as the meta-level set of concepts that are used to explain how the interaction takes place" (p. 19). Faure and Rubin emphasize that "process" focuses on the dynamics of the negotiation—the negotiation interaction. Process includes negotiation stages, negotiator behaviors or "moves and countermoves," and negotiator orientations and goals (1993, p. 19). Outcome is the label for "the results to which the parties aspire" (p. 20). Outcome can be judged qualitatively or quantitatively via "objective" criteria (Fisher & Ury, 1991) or via the perceptions of the negotiators themselves.

These five elements provide a way to organize the collaboration survey's Likert scale items. Table 3 presents mean values for each of the items, both overall and according to respondents' prior experience with community-based collaboration. As the mean values indicate, respondents believe that open communication, openness and accessibility of the process, the presence of diverse parties, and the process being ongoing are keys to effective collaboration. Actor factors receive particularly strong ratings, including the item that asserted that collaboration requires no particular skills (X=2.7). Among outcome factors, consensus was not considered to be a necessary product of collaboration. Collaboration and consensus are different both in theory and practice (Daniels & Walker, 2001), something that respondents seem to recognize.

When comparing the responses of people who have participated in a collaborative process with those who have not, no discernable pattern emerges. Responses from both groups to most items are generally similar. Two items, though, generate statistically significant differences. People with no experience in a collaborative process consider ease of participation to be significantly greater than respondents who have been involved in a collaborative effort. A significant difference also appears on the item asserting that collaboration favors some parties. Experienced respondents are generally neutral on this point, while people

with no collaboration experience believe that a collaborative process does not favor particular parties.

Table 4 features mean values on the 24 Likert items according to citizen status. Of the 46 survey respondents, 21 identified themselves as citizens not affiliated with a government organization. 25 of the survey participants reported that they were members (employee or appointed/elected official) of a state or federal government organization. With one exception, non-government citizens and government-affiliated citizens viewed aspects of collaboration in a similar fashion. The exception concerned the number of parties. Non-government citizens indicated that involving many parties in a collaborative process was very important. Government-affiliated citizens also believed that many parties were an important to a collaborative process, but significantly less so. The survey revealed that the government-affiliated citizen respondents were more experienced with collaborative processes than the non-government citizens. Perhaps because of their experience government-affiliated citizens prefer a manageable and defined number of parties rather than an unlimited number. For example, habitat conservation planning, a process that typically involves a number of government agencies, industry organizations, and environmental groups, features collaborative work among a limited number of stakeholders (Salvesen & Porter, 1995).

TABLE 3
Attributes of Collaboration by Experience in a Collaborative Group

A=Actor factors R=Structure factors S=Strategies factors
P=Process factors O=Outcome factors YesPart=have participated in a collaboration
NoPart=have not participated in a collaboration

Factor	Mean	SD	n	YesPart	SD	n	NoPart	SD	n	F/sig
many parties- A	4.09	1.08	45	4.07	1.04	27	4.11	1.18	18	.012
right parties-A	4.29	1.14	45	4.48	0.89	27	4.00	1.41	18	1.97
leads to consensus-O	3.53	1.14	45	3.63	1.15	27	3.39	1.14	18	.476
open & accessible-R	4.50	0.72	46	4.41	0.69	27	4.63	0.76	19	1.07
easier to participate-P	***3.04***	1.43	45	***2.70***	1.44	27	***3.56***	1.29	18	4.11/.049
best if learning-O	4.26	0.85	46	4.15	0.91	27	4.42	0.77	19	1.14
more time consum-R	4.02	0.94	45	4.11	0.85	27	3.89	1.08	18	.597
effect if ongoing-R	4.47	0.77	45	4.41	0.89	27	4.56	0.62	18	.378
favors some parties-A	***2.47***	1.20	45	***2.93***	1.21	27	***1.78***	0.81	18	12.5/.001
local most effective-R	3.74	1.04	46	3.67	1.07	27	3.84	1.01	19	.311
best if open comm-P	4.85	0.36	46	4.81	0.40	27	4.89	0.32	19	.535
best if facilitated-P	4.22	0.97	45	4.11	1.08	27	4.39	0.78	18	.875
influences mgmt-S	4.04	1.07	45	4.23	0.95	26	3.79	1.18	19	1.92
requires no skills-A	2.30	1.13	46	2.30	1.10	27	2.32	1.20	19	.003
deal direct w/conflict-P	3.20	1.22	45	3.11	1.31	27	3.33	1.08	18	.355
creates false hopes-O	2.44	0.99	45	2.52	1.01	27	2.33	0.97	18	.373
best if citizen driven-R	3.61	0.99	44	3.73	1.00	26	3.44	0.98	18	.881
helps und complexity-S	4.37	0.77	46	4.26	0.86	27	4.53	0.61	19	1.35
builds community-O	4.39	0.71	46	4.41	0.80	27	4.37	0.60	19	.033
process is manipulat-S	1.95	1.03	44	2.00	1.06	26	1.89	1.02	18	.121
parties will. to negot-S	3.96	0.88	45	3.96	0.90	27	3.94	0.87	18	.005
useful than alt proc-P	3.51	0.90	45	3.54	0.90	26	3.47	0.90	19	.056
best if power shared-R	4.04	0.71	45	4.00	0.69	26	4.11	0.74	19	.240
best with div parties-A	4.43	0.66	46	4.48	0.75	27	4.37	0.50	19	.327

Although non-government citizen and government-affiliated citizen views were similar across 23 of the 24 items, non-government citizen views of collaboration were generally more positive. For example, non-government citizens were slightly more positive about collaborative processes building community, helping parties to understand complexity, and best if citizen-driven. In contrast, government-affiliated citizens considered collaborative processes to be slightly less time-consuming and less likely to lead to consensus than non-government citizens.

TABLE 4
Attributes of Collaboration by Non-government and Government Citizens

A=Actor factors R=Structure factors S=Strategies factors
P=Process factors O=Outcome factors

	Citizen Non-Govt			Citizen State/Fed Govt				
Factor	**Mean**	**SD**	**n**	**Mean**	**SD**	**n**	**F**	**sig?**
best if many parties- A	***4.55***	0.83	20	***3.72***	1.13	25	7.48	***.009***
best if right parties-A	4.05	1.47	20	4.48	0.77	25	1.60	.213
leads to consensus-O	3.65	0.99	20	3.44	1.26	25	0.372	.545
open & accessible-R	4.52	0.75	21	4.48	0.71	25	0.041	.840
easier to participate-P	3.20	1.47	20	2.92	1.41	25	0.421	.520
best if learning-O	4.24	0.94	21	4.28	0.79	25	0.026	.871
more time consuming-R	4.25	0.85	20	3.84	0.99	25	2.164	.149
effective if ongoing-R	4.45	1.00	20	4.48	0.59	25	0.016	.901
favors some parties-A	2.50	1.15	20	2.44	1.26	25	0.027	.870
local most effective-R	4.00	0.89	21	3.52	1.12	25	2.502	.121
best if open communication-P	4.95	0.22	21	4.76	0.44	25	3.372	.073
best if facilitated-P	4.20	1.06	20	4.24	0.93	25	0.018	.893
influences management-S	4.10	1.18	21	4.00	0.98	24	.088	.769
requires no skills-A	2.33	1.24	21	2.28	1.06	25	0.25	.876
deal directly with conflict-P	3.20	1.36	20	3.20	1.19	25	.000	1.000
creates false hopes-O	2.55	1.19	20	2.36	0.81	25	.401	.529
best if citizen driven-R	3.85	.933	20	3.42	1.02	24	2.13	.152
helps understand complexity-S	4.48	.750	21	4.28	.792	25	.736	.396
builds community-O	4.57	.598	21	4.24	.779	25	2.54	.118
process is manipulative-S	2.00	1.25	19	1.92	.862	25	.063	.803
parties willing to negotiate-S	4.05	.887	20	3.88	.881	25	.411	.525
useful than alt proc-P	3.65	.813	20	3.40	.957	25	.864	.358
best if power shared-R	4.25	.639	20	3.88	.726	25	3.21	.080
best with div parties-A	4.48	.750	21	4.40	.578	25	.152	.700

Overall, based on this limited survey sample, citizens generally have positive views about environmental and natural resource collaborations. When comparing citizens according to collaborative group experience, significant differences appear in ease of participation and the process favoring some parties. When comparing non-government and state/federal government citizens, a significant difference appears only regarding including many parties.

These results seem encouraging, given the important role community-based collaborations are playing in natural resource management. Still, citizens do not appear to be naive about natural resource collaborations. When asked in an open-ended question to

identify benefits to collaboration, all 46 of the respondents (100%) did so. When questioned about drawbacks to collaboration, 42 of 46 (91%) were able to do so. Citizens saw natural resource and environmental policy collaborations as a challenge, with potential benefits as well as risks.

5. *Conclusion*

In a provocative work, E. Franklin Dukes (1996), Associate Director of the University of Virginia Environmental Negotiation Institute, provides a compelling rationale for community-based collaboration:

> Beyond the practical need for agreement is the moral need to move beyond the type of fighting which characterizes so much of public conflict. This moral need has led to the search not only for common ground, but for *higher* ground: a ground for engagement of issues on terms such as fairness, integrity, openness, compassion, and responsibility. It is the search for forums and processes where individuals and organizations can be forceful advocates without being adversarial, where public officials can make effective decisions without being dictatorial, and where communities can come together rather than split apart when faced with tough problems and divisive conflicts. (p. 2)

The citizens who participated in this study, albeit part of a small and limited sample, appear to agree with the potential for collaboration to bring communities together. Furthermore, the forty-six participants, via their survey responses, seem to be saying that:

- Collaboration is preferable to other public involvement alternative methods.
- Collaboration involves some risk.
- Collaboration takes work; it is not easy.
- Collaboration draws strength from diversity—of people, of parties, of views.
- People, regardless of occupation, believe that collaborative processes are important in addressing environmental and natural resource conflict.
- People, whether affiliated with state and federal government or not, believe that collaborative processes are important in addressing environmental and natural resource conflict.
- People, whether experienced in collaboration or not, believe that collaborative processes are important in addressing environmental and natural resource conflict.

Perhaps because of their prior experience, their democratic ideals, their recognition of the complexity of the situation, their frustration with fighting, or simply their common sense, citizens see hope in collaboration. Community-based collaboration offers potential benefits beyond a single victory one might obtain through adversarial means.

Still, as noted at the outset of this paper, with collaboration comes controversy. The Quincy Library Group's experience offers an illustration. In late 1992 a county supervisor (commissioner), a timber industry forester, and an environmental attorney, recognizing that the "timber wars" harmed everyone while serving no one's underlying interests, began informal talks. These discussions led to the development of the Quincy Library Group (QLG). As *High Country News* reported:

> The Quincy coalition formed in 1993 after Coates and Tom Nelson, a Sierra Pacific Industries forester, asked Michael Jackson, an environmental attorney, to work with them to salvage the local economy. Traditional enemies, Coates and Jackson developed a plan designed to protect wilderness and roadless areas while providing timber for local sawmills, the mainstay of the rural economy. The group they formed took its name from the only neutral meeting place they could agree upon. It attracted anglers and business owners, school officials and timber union leaders who have gathered once a month since 1993. (Little, 1998, p. 2)

The group, open to interested citizens, took its name from its meeting place, the public library in Quincy, California. The QLC focused on a three-county area (Lassen, Plumas and Sierra Counties in northeastern California) larger than Austria. Since much of this region is primarily federally-owned coniferous forests, the QLC area has been heavily dependent upon the logging industry. Recreation has also been a growth industry in the area, home to about 50,000 people. (http://qlg.org)

As the Environmental Working Group's *A Clear View* newsletter reported in 1996:

> Early meetings were rife with suspicion, mistrust, and blame and the group nearly split apart a number of times. Hard work, perseverance and a commitment to the community, however, has kept the (by now) 40-member group at the table. After meeting for more than two years, the QLG developed, by consensus, a comprehensive plan for the national forest timber lands that met their goals. (Environmental Working Group, 1996)

In August 1993, the QLG developed a "community stability proposal," which recommended improvements for management of the Lassen National Forest, the Plumas National Forest, and the Sierraville Ranger District of the Tahoe National Forest. The proposal included deferral of certain sensitive areas from scheduled harvest; timber management based on group selection and single tree selection; implementation of fire and fuels management objectives; riparian habitat protection and watershed restoration; continuation of set-asides; expanded stewardship contracting; and a northern Sierra working circle.

According to *High Country News*, "the grassroots proposal drew little serious opposition until the coalition sought help from Washington. Frustrated by the plodding pace of the U.S. Forest Service and fearful that it would atrophy from inaction, in 1995 Coates, Jackson and Nelson took their plan to Rep. Wally Herger, R-Calif. The legislation Herger introduced sailed through the House in July 1997 on a 429-1 vote" (Little, 1998, p. 2).

The QLC bill then went to the Senate, under legislation sponsored by California Senators Feinstein and Boxer, both Democrats. Under pressure from environmentalists and in a tight re-election race, Senator Boxer withdrew her support and blocked the legislation from going to a debate and vote before the full Senate. In October 1998 Senator Feinstein attached it as a rider to the 1999 federal spending bill and, with Herger, lobbied for the support it needed to survive congressional opposition and the threat of a presidential veto. President Clinton signed the QLC bill into law in October 1998.

Throughout the 1990s, the Quincy Library Group has been cited frequently as a "collaboration" success story. As Little writes in *High Country News*, "the Quincy plan proves that wildfire is a political buzzword powerful enough to bring traditional opponents together. The common ground Coates and Jackson found in Quincy in 1993 allowed Herger and Feinstein to work together in Washington. The image of old foes cooperating to solve mutual problems has made the group a fabled example of collaboration" (Little, 1998, p. 2).

Whether the Quincy Library Group reinforces or denies critics' fears about collaboration depends on who one asks. For some in the environmental conflict arena, the QLC exemplifies the promise and product of community-based collaboration (CBC). For others, the QLC's use of the legislative process is anti-collaborative, because the legislative process itself is adversarial. For still others, the QLC represents local action that does not account for regional and national interests.

Regardless of one's view of the QLC, it has accomplished a lot through collaboration. The QLC members have recognized that mutual gains could not have occurred without different people and interests coming together for the sake of the community. As we consider the potential benefits and risks of collaboration, we can learn much from groups that have tried to do community-level collaborative work and from citizens' views of collaboration.

Public policy conflicts, such as those in the environmental and natural resource management arenas, are "socially constructed, dynamic organisms, whose actors, issues, and consequences are invariably shaped and transformed by the means available and used to contest them" (Dukes, 1996, p. 9). Collaborative processes can foster a transformation away from the divisiveness of conflict and toward the development of sound environmental policies, decision-making, and the construction of sustainable communities.

Notes

1. This work has been initiated while the author was an Environmental Conflict Resolution Fellow at the Udall Center for Studies in Public Policy, University of Arizona, Tucson. This paper was prepared for presentation at the Fifth Biennial Conference on Communication and the Environment, Northern Arizona University, Flagstaff, 24-27 July 1999.

2. The author has developed many of this paper's ideas on conflict and collaboration with Dr. Steve Daniels, Director of the Western Rural Development Center, Utah State University, and is grateful for Daniels' insights and contribu-

tions. Portions of this paper appear in the book, *Working Through Environmental Conflict: The Collaborative Learning Approach* (2001, Praeger), by Daniels and Walker.

References

Amy, D. (1987). *The politics of environmental mediation.* New York: Columbia UP.

Arrandale, T. (1997, July). Conservation by consensus. *Environment, 39*(2), 68.

Barnlund, D. C. (1991). Communication in a global village. In L. A. Samovar & R. E. Porter (Eds.), *Intercultural communication: A reader* (6th ed.). Belmont, CA: Wadsworth.

Bingham, G. (1986). *Resolving environmental disputes: A decade of experience.* Washington, D.C.: The Conservation Foundation.

Blackburn, J. W., & Bruce, W. M. eds. (1995). *Mediating environmental conflicts: Theory and practice.* Westport, CT: Quorum Books.

Blumberg, L., & Knuffke, D. (1998). Count us out: Why the wilderness society opposed the Quincy Library Group legislation. *Chronicle of Community, 2*(2), 45-46.

Britell, J. (1997, 30 December). *Partnerships, round-tables and Quincy-type groups are bad ideas that cannot resolve environmental conflicts.* Unpublished essay, at http://www.harborside.com/home/j/jbritell/ welcome.htm

Buckle, C., & Thomas-Buckle, S. (1986). Placing environmental mediation in context: Lessons from "failed" mediations. *Environmental Impact Assessment Review, 6*(1), 55-70.

Burgess, G., & Burgess, H. (1995). Beyond the limits: Dispute resolution of intractable environmental conflicts. In J. W. Blackburn & W. M. Bruce (Eds.), *Mediating environmental conflicts: Theory and practice.* Westport, CT: Quorum Books.

Collier, M. J., & Thomas, M. (1988). Identity in intercultural communication: An interpretive perspective. In Y. Kim & W. Gudykunst (Eds.), *Theories of intercultural communication* (pp. 99–120). Newbury Park, CA: Sage.

Cormick, G. (1982, Winter). Intervention and self-determination in environmental disputes: A mediator's perspective. *Resolve*, 1-7.

Cortner, H. J., & Shannon, M. A. (1993). Embedding public participation in its political context. *Journal of Forestry, 91*(7), 14-16.

Crowfoot, J. E., & Wondolleck, J. M. (1990). *Environmental disputes: Community involvement in conflict resolution.* Washington, D.C.: Island Press.

Daniels, S. E., & Walker, G. B. (2001). *Working through environmental conflict: The collaborative learning approach.* Westport, CT: Praeger.

Deutsch, M. (1973). *The resolution of conflict.* New Haven, CT: Yale UP.

Duane, T. P. (1997). Community participation in ecosystem management. *Ecology Law Quarterly, 24*(4), 300-320.

Dukes, E. F. (1996). *Resolving Public Conflict: Transforming Community and Governance.* Manchester, England: Manchester UP.

Environmental Working Group (1996 12 June). *A Clear View* (newsletter), *3*(9).

Faure, G-O., & Rubin, J. (1993). Organizing concepts and questions. In G. Sjostedt (Ed.), *International environmental negotiation.* Newbury Park, CA: Sage.

Folger, J. P., Poole, M. S., & Stutman, R. K. (1997). *Working through conflict* (3rd ed.). New York: Longman.

Gieben, H. (1995, Summer). The misplaced search for objectivity in resource management. *Watershed Management Council Newsletter, 6*(3). http://glinda.cnrs.humboldt.edu/wmc/news/sum_95/objectivity_rm.html

Gray, B. (1985). Conditions facilitating interorganizational collaboration. *Human Relations, 38*, 911-936.

Gray, B. (1989). *Collaborating*. San Francisco: Jossey-Bass.

Henning, D., & Mangun, W. (1989). *Managing the environmental crisis*. Durham, NC: Duke UP.

Herger, W. (1997, 09 July). Victory for Quincy Library Bill. *Congressional Press Release*.

Huber, J. (1997, Fall). The citizens watershed movement in Washington state. *Watershed Management Council Networker*, *7*(3), 14-17.

Hunter, S. (1989). The roots of environmental conflict in the Tahoe basin. In L. Kriesberg, T. Northrup, & S. Thorson (Eds.), *Intractable conflicts and their transformation*. Syracuse, NY: Syracuse UP.

Jones, L. (1996, 13 May). Howdy neighbor! - as a last resort, westerners are starting talking to each other. *High Country News*, pp. 6-8.

Keltner, J. W. (1994). *The management of struggle*. Cresskill, NJ: Hampton Press.

Kriesberg, L. (1989). Conclusion: Research and policy implications. In L. Kriesberg, T. Northrup, & S. Thorson (Eds.), *Intractable conflicts and their transformation*. Syracuse, NY: Syracuse UP.

Lang, W. (1991). Negotiations on the environment. In V. Kremenyuk (Ed.), *International negotiation: Analysis, approaches, issues*. San Francisco: Jossey-Bass.

Little, J. B. (1998, 9 November). A quiet victory in Quincy. *High Country News*, p. 2.

Lewicki, R., Saunders, D., & Minton, J. (1999). *Negotiation: Readings, exercises, and cases*. New York: Richard D. Inwin.

Mazza, P. (1997, 20 August). Cooptation or constructive engagement? Quincy library group's effort to bring together loggers and environmentalists under fire. *Cascadia Planet*. http://www.tnews.com/text/quincy_library.html

McClellan, M. (1996, 13 May). A sampling of the WLA's collaboration efforts. *High Country News*, p. 15.

McCloskey, M. (1996, 13 May). The skeptic: Collaboration has its limits. *High Country News*, p. 7.

Modavi, N. (1996). Mediation of environmental conflicts in Hawaii: Win-win or co-optation? *Sociological Perspectives*, *39*(2), 301-316.

Moore, C. W. (1996). *The mediation process* (2nd ed.). San Francisco: Jossey-Bass.

O'Leary, R. (1995). Environmental mediation and public managers: What do we know and how do we know it? In J. W. Blackburn & W. M. Bruce (Eds.), *Mediating environmental conflicts: Theory and practice*. Westport, CT: Quorum Books.

Pruitt, D. G., & Kressel, K. (1989). Introduction: An overview of mediation research. In K. Kressel and D. G. Pruitt (Eds.), *Mediation research*. San Francisco: Jossey-Bass.

Ralston, H. (1988). *Environmental ethics: Duties to and values in the natural world*. Philadelphia: Temple UP.

Salvesen, D. A., & Porter, D. R. (1995). Introduction. In D. R. Porter & D. A. Salvesen (Eds.), *Collaborative planning for wetlands and wildlife*. Washington, D.C.: Island Press.

Selin, S., & Chavez, D. (1995). Developing a collaborative model for environmental planning and management. *Environmental Management*, *19*, 189-195.

Selin, S. W., Schuett, M. A., & Carr, D. S. (1997). Has collaborative planning taken root in the National Forests? *Journal of Forestry*, *95*(5), 25-28.

Taylor, A. (1988). A general theory of divorce mediation. In J. Folberg & A. Milne (Eds.), *Divorce mediation: Theory and practice*. New York: The Guilford Press.

Walker, G. B., & Daniels, S. E. (1997). *Collaborative public participation in environmental conflict management: An introduction to five approaches*. Paper presented at the 4th Biennial Conference on Communication and Environment, Cazenovia, NY.

Walker, G. B., & Daniels, S. E. (1998, June). *Natural resource policy and the paradox of public involvement: Bring scientists and citizens together.* Paper presented at the American Forests Workshop on Rural Communities and Sustainable Forestry, Bend, OR.

Weber, E. P. (1998). *Pluralism by the rules: Conflict and cooperation in environmental regulation.* Washington, D.C.: Georgetown UP.

Wondolleck, J. M., Manring, N. J., & Crowfoot, J. E. (1996). Teetering at the top of the ladder: The experience of citizen group participants in alternative dispute resolution processes. *Sociological Perspectives, 39*(2), 249-262.

APPENDIX: THE SURVEY INSTRUMENT

Natural Resource Collaboration Research Project

Questionnaire

This survey is part of a project focusing on local collaborative efforts that deal with environmental and natural resource management conflicts. Your participation is voluntary and anonymous. Your answers are confidential. Thank you for your time and participation.

Part A. Please answer the following questions about a collaborative process.

The questionnaire asks for Likert scale responses to each item:

Strongly disagree 1 2 3 4 5 Strongly Agree

A1. A collaborative process works best if it involves as many different parties or stakeholders as possible.
A2. A collaborative process works best if the right parties or stakeholders participate in the process; are "at the table."
A3. A collaborative process is most effective if it leads to a consensus agreement.
A4. A collaborative process needs to be as open and as accessible to people as possible.
A5. A collaborative process is easier for people to participate in than other public participation processes (such as public hearings, letter writing, open houses).
A6. A collaborative process works best if it emphasizes learning.
A7. A collaborative process is much more time consuming than other kinds of public participation.
A8. A collaborative process is effective if it is ongoing (as opposed to a "one shot" deal).
A9. A collaborative process favors some parties or stakeholders over others.
A10. A collaborative process is most effective when it is local.
A11. A collaborative process works best if participants communicate openly and honestly with one another.
A12. A collaborative process works best if it is facilitated by impartial parties.
A13. A collaborative process is most effective if it influences the final management decision.
A14. Good participation in a collaborative process does not require any particular skills.
A15. A collaborative process is most effective if it deals directly with conflict.
A16. A collaborative process creates false hopes.
A17. A collaborative process works best if it is citizen-driven and not agency-driven.
A18. A collaborative process is most effective if it helps people understand the complexity of the situation.
A19. A collaborative process is effective if it builds a sense of community.
A20. A collaborative process is manipulative.
A21. A collaborative process is most effective if parties are willing to negotiate.
A22. A Collaborative process is more constructive/useful than other public participation processes.
A23. A collaborative process works best if power is shared.
A24. A collaborative process works best if it includes diverse parties and ideas.

Part B. Please answer the following questions about collaboration.

B1. Have you ever participated in a collaborative process that was part of a natural resource or environmental management decision situation? If yes, please describe.
B2. Overall, how do you regard your experiences with collaborative processes? Have they generally been good experiences, pleasant, frustrating, stressful, or a mix of good and bad? Please explain.
B3. Do you see any benefits to having collaboration be a part of natural resource management and environmental decision making? If so, what are they?
B4. Do you see any drawbacks to having collaboration be a part of natural resource management and environmental decision making? If so, what are they?
B5. If collaboration is used in making decisions about natural resources and the environment, what should it look like in practice?
B6. If a collaborative process is "successful," what does that mean?
B7. If a natural resource or environmental policy organization (for example, a government agency or a private company) wants to use collaboration as part of the way in which it makes decisions, are there any obstacles that might stand in the way?
B8. Under what conditions, if any, would you participate in a collaborative process that was part of a natural resource or environmental management decision situation?

C. Please answer some questions about yourself:

C1. Sex M F
C2. Age_____
C3. County of Residence_____
C4. Years living in that County_____
C5. Occupation_____
C6. Employer_____
C7. Do you belong to any natural resource management, recreation, and/or environmental organizations?
_____
C8. If yes, which ones?
_____
C9. What recreation activities do you enjoy?
_____

Constructing Environmental Meaning

Ethos and Effective Environmental Advocacy: Oprah Winfrey to Edward Wilson
Reports survey data on the perceived ethos of public figures and discusses multiple roles and effects for source credibility suggested by the Elaboration Likelihood Model.
Michael S. Bruner 127

The Role of the Activist Scholar: At Work in the Field(s) of Environmental Communication
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Ethos and Effective Environmental Advocacy: Oprah Winfrey to Edward Wilson

Michael S. Bruner
Speech Communication Department
Humboldt State University—Arcata, CA
(1999 Affiliation, Department of Communication Studies, University of North Texas, Denton)

Abstract

Who today can speak credibly and effectively for the environment? This essay attempts to answer that question through an exploration of ethos in environmental advocacy from the point of view of Aristotle and the Elaboration Likelihood Model (ELM). The essay reports survey data on the perceived ethos of public figures in the U.S.A. The essay also presents the multiple roles and multiple effects for source credibility postulated by the ELM. The essay concludes with suggestions for a program for promoting long-term attitude change about the environment.

Introduction

In an astounding and historic turn of events, the U.S. House of Representatives impeached President Bill Clinton for alleged perjury and obstruction of justice; however, the President retained high approval ratings for his work. This remarkable situation prompts serious reflection on the Aristotelian concept of ethos (Kennedy, 1991), the moral character and credibility of a speaker. How can a national leader lie and mislead others and still be perceived in a positive light? What are the connections between character and credibility in the United States today?

For those interested in communication and the environment, these reflections on ethos are critical. According to many experts, the ecocrisis facing all of us simply must be addressed (Brown, Kane, & Ayres, 1993). This sense of urgency drives this study of ethos and environmental advocacy. Who today can speak credibly and effectively for the environment? A meditation on these issues may be useful in understanding how advocates for the environment may become more successful in addressing issues, such as biodiversity (Wilson, 1992), before lay publics in the United States at the beginning of the 21st century.

The essay begins with an examination of ethos and effective advocacy from Aristotle's point of view, as well as from the perspective of the Elaboration Likelihood Model, a modern, social science analysis of source credibility (Petty and Cacioppo, 1986). The insights of Aristotle, Petty, and Cacioppo suggest that ethos continues to be a significant factor in persuasion in some cases. However, the dominance of "the mass media," especially television, coupled with the weakening of democratic sites for public argument (Goodnight, 1990; Riley, Klumpp, and Hollihan, 1996), lead to the possibility that the mass media may have transformed the concept of ethos, on the one hand, and may ignore, trivialize, or co-opt environmental advocacy, on the other hand.

Ethos in contemporary environmental advocacy, therefore, is a complicated variable. This essay tries to make some sense of how and why ethos varies in its effect in different sites of public discourse.

Aristotle on Ethos

Aristotle wrote his treatise *On Rhetoric* during the period 350-335 B.C.E. The treatise remains a central text in Communication Studies, although Cronkhite and Liska (1987) have challenged the usefulness of the text in the contemporary world. I will not enter the general debate about the views of audience psychology in *On Rhetoric*. Instead, I focus on two critical claims about ethos and persuasion.

First, Aristotle elevates the role of ethos. In his words, "character is almost, so to speak, the controlling factor in persuasion" (Book 1, 4). Ethos, for Aristotle, means character, especially "moral character" (see Kennedy's footnote 40, page 37). Aristotle is especially interested in the perceived ethos of a source constructed during a presentation.

To continue the argument, according to Aristotle, "humans have a natural disposition for the true and to a large extent hit on the truth" (Book 1, 11). Aristotle thinks that "rhetoric is useful because the true and the just are by nature stronger than their opponents" (Book 1, 11). Therefore, a source perceived as an honest, sincere, and trustworthy person will persuade. While contemporary readers may find this analysis quaint, Aristotle's remark sounds a hopeful chord for environmental advocacy. Advocates for the environment often would like to think

that they occupy the high moral ground. If so, then audiences may see and respond to the sincerity of the advocate.

Second, in this summary of Aristotle's stance on ethos and persuasion, rhetoric is useful in environmental advocacy, because technical arguments may not resonate with some lay publics. In the words of Aristotle:

> Further, even if we were to have the most exact knowledge, it would not be very easy for us in speaking to use it to persuade some audiences. Speech based on knowledge is teaching, but teaching is impossible with some audiences; rather, it is necessary for persuasion and for speeches to be formed on the basis of common belief. . . . (Book 1, 12)

I will say more later about the relationships among ethos, technical argument, and various audiences. Suffice it to note here that the claim that technical teaching is not useful with some audiences has direct implications for environmental advocacy. If Aristotle is correct; some lay publics do not require data nor technical arguments about the environment. Therefore, the tendency to couch environmental advocacy in scientific terms at times may be counterproductive.

Having completed a brief summary of two of Aristotle's central claims about ethos, let us turn to some contemporary data on ethos. The findings are interesting and beg for interpretation. In an exploration of ethos and environmental advocacy among young adults today, I conducted a survey of 177 university undergraduates in December, 1998. Tables 1 and 2 report the results.

The Student Survey

Students were asked to list and rank from 1 (highest) to 10 (lowest) the ten most credible public figures in the U.S. today. The students nominated a total of 427 persons. The list of the top-ten nominees is reported in Table 1.

TABLE 1
The Ten Most Trustworthy Public Figures in the U.S.

Name	Trustworthiness Average	Total Votes	First-Place Votes
Gov. George W. Bush	3.58	77	19
Billy Graham	3.63	32	13
Colin Powell	4.00	48	12
Oprah Winfrey	4.09	97	23
Pres. George Bush	4.30	54	9
Bill Gates	4.87	30	4
Michael Jordan	5.04	45	4
Al Gore	5.32	37	3
Peter Jennings	5.33	33	2
Barbara Walters	5.53	45	3

Note. December, 1998, survey of 177 university undergraduates. Each student identified ten persons and ranked them from 1 (highest) to 10 (lowest). The Trustworthiness Average is the total score for each nominee, divided by the number of students voting for that person.

The list contains no scientist, engineer, physician, nor professor. The students did not nominate any director of a not-for-profit or advocacy organization. Eight of the nominees are male, while only two are female. Three persons of color made the list, but no Hispanics.

Notice that the list seems to be based on a mixture of name-recognition and perception of trustworthiness variables. Those concerned with the new "mass media society" have some support for their fears. Television is, perhaps, the major factor in constructing the ethos of the nominees. In most cases, we do not really "know" the persons we see on television.

In this regard, the first-place ranking of Governor George W. Bush (now U.S. President) is noteworthy. The survey was conducted at a Texas university. Therefore, the nomination of the state's governor is

not surprising. What is surprising is the high perceived ethos of the Texas governor after a short period in office. Name-recognition, as well as media coverage, have catapulted Governor Bush to the Presidency of the United States. As a commentator on National Public Radio remarked (week of Feb. 1, 1999), Governor George W. Bush may be the "perfect candidate." He is perceived as a good, honest, and sincere person. But we really know very little about him or his qualifications as a national administrator and leader.

Table 2 shows how the students ranked the ten persons they identified as most trustworthy in terms of competence to speak on environmental issues. This time, Oprah Winfrey ranks higher than Governor Bush. Vice President Al Gore moves to third place. The great basketball star and media king, Michael Jordan, drops to tenth place. Billy Graham and General Colin Powell earn solid rankings on both lists.

TABLE 2
The Ten Public Figures in the U.S. Most Competent to Speak on Environmental Issues

Name	Competence Average	Total Votes	First-Place Votes
Oprah Winfrey	3.90	97	19
Gov. George W. Bush	3.99	74	16
Al Gore	4.32	37	12
Colin Powell	4.32	47	9
Billy Graham	4.58	31	7
Peter Jennings	4.63	30	4
Pres. George Bush	5.00	74	4
Barbara Walters	5.36	39	1
Bill Gates	6.37	27	1
Michael Jordan	6.39	43	1

Note. December, 1998, survey of 177 university undergraduates. Students ranked the ten persons they identified as most trustworthy on a competence scale from 1 (highest) to 10 (lowest). The Competence Average is the total score for each nominee, divided by the number of students voting for that person.

The overall strength of Oprah Winfrey (97 total votes; 23 first-place votes on trustworthiness and 19 first-place votes on competence) is amazing. Her demeanor, her film roles, and her television talk-show, with its range of guests and issues, apparently, convince the students that Oprah Winfrey is a credible person. However, further research is necessary to understand her first-place ranking in competence to speak on environmental issues.

Serious environmentalists may be shocked to see Oprah Winfrey and Governor George W. Bush at the top of the list of environmental advocates, because many other persons in the U.S. have better credentials on environmental issues. However, the survey tends to confirm what Infante, Rancer, and Womack (1997) report:

> Over the last thirty-five years, factor approach research has found that the expertise dimension appears to function completely independently from the character dimension. . . . In the case of character and good will, however, the factors are not distinct. They work together. If we believe sources have our best interests in mind, we also perceive them as having good character. If we think they are trying to deceive us, we rate their character poorly. (p. 158)

Ethos in the age of television, especially at the national level, may consist largely of cues and associations, a vague sense that the person is a person of good will.

The modern practice in persuasion research of separating trustworthiness from competence is a natural transition into a discussion of the Elaboration Likelihood Model.

The Elaboration Likelihood Model

Richard Petty and John Cacioppo developed the Elaboration Likelihood Model (ELM) of persuasion during the 1980s. "Elaboration" roughly means engaging in issue-relevant thinking. For example, an advocate for the environment might influence a receiver to think more deeply about maintaining biodiversity or the dangers of global warming.

Defending the model in a 1987 essay against James Stiff's attack (1986), Petty, Kasmer, Haugtvedt, and Cacioppo wrote:

> The Elaboration Likelihood Model represents an attempt to integrate the many seemingly conflicting findings in the persuasion literature under one conceptual umbrella by specifying a finite number of ways in which source, message, and other variables have an impact on attitude change. The ELM is based on the notion that people want to form correct attitudes (i.e., those that will prove useful in functioning in one's environment) as a result of exposure to a persuasive communication, but there are a variety of ways in which a reasonable position may be adopted. (p. 233)

In the present study, I am most interested in what the ELM suggests about ethos, the source variable today commonly called "source credibility." For the sake of clarity, and in keeping with the distinctions made earlier, I will divide source credibility into *trustworthiness* (called *attractiveness* in the ELM) and *competence* dimensions.

A key component of the ELM is the concept that attitudes may be formed or changed via a central or a peripheral route of processing:

> The most effortful procedure for evaluating an advocacy involves drawing upon prior experience and knowledge to scrutinize and elaborate the issue-relevant arguments in the persuasive communication along the dimensions that are perceived to be central to the merits of the attitude object. (Petty, Kasmer, Haugtvedt, and Cacioppo, p. 234)

In contrast, the peripheral route involves less intense scrutiny and may be based on simple associations and inferences. According to Petty, Kasmer, Haugtvedt, and Cacioppo, "Attitudes formed or changed via this peripheral route are postulated to be relatively less persistent, resistant, and predictive of behavior" (p. 234). At first brush, source attractiveness (trustworthiness) and competence seem to belong among the associations and inferences connected to the peripheral (or less intense) route of processing. This peripheral processing seems consistent with the popular appeal of television personalities and sports figures, as well as with the findings of the student survey reported above in Tables 1 and 2.

However, the ELM postulates multiple roles and multiple effects for source credibility. In general, the ELM postulates that source credibility is less important when the receiver has high involvement with the subject. On the other hand, low involvement may mean that a source may be very important, even displace evidence, in some cases, leading to a more peripheral route of processing. This kind of displacement of evidence and extended reasoned discourse may explain Oprah Winfrey's impact on a mass television audience.

However, the connections between credibility and evidence are complicated. In an earlier experiment on evidence and source credibility, Luchok and McCroskey (1976) report:

> The use of good evidence apparently does little to help a moderately high credibility communicator change attitudes, but aids a moderately credible communicator. . . . The results of this experiment suggest, therefore, that a communicator with as little as one-half scale unit of credibility above the neutral points may not be aided by the use of good evidence. On the other hand, a communicator with lower credibility may be aided by the use of good evidence. (p. 382)

Based on this report and other persuasion research, from this point forward I will not compare low with high credibility sources. I will follow the practice of Luchok and McCroskey in comparing moderately trustworthy or competent sources with highly trustworthy or competent sources.

Now let us turn to another, relevant part of the ELM. The ELM attempts to portray the extent or direction of elaboration (issue-relevant thinking):

> When conditions foster people's motivation and ability to engage in issue-relevant thinking, the 'elaboration likelihood' is said to be high. . . . When the elaboration likelihood is high, the probability of a person's following the central route to processing becomes more probable. (p. 234)

Notice the combination of motivation (based on relevance and involvement) and cognitive ability, leading to central processing. This pathway may be the ideal one for long-term, effective environmental advocacy.

If the receiver can process data, if the receiver sees environmental issues as relevant, and if the receiver is personally involved, then the receiver may engage in the type of thinking that leads to deep and long-lasting attitude change about the environment. On the other hand, if the receiver cannot process data, if the receiver does not see environmental issues as relevant, and if the receiver is not personally involved in environmental issues then a media personality may influence short-term, superficial commitment to the environment.

With this background, let us restate the fundamental question, "Who today can speak credibly and effectively for the environment?" in the form, "In environmental advocacy, which source attractiveness (trustworthiness) variables and source competence variables are likely to encourage attitude formation or attitude change?"

In order to answer this fundamental question, we need to review the multiple roles for source attractiveness and source competence in the ELM (see Petty, Kasmer, Haugtvedt, and Cacioppo, pp. 244-247). Two summaries may be useful:

A. Source attractiveness can serve in three roles:
   1. Subjects who are low in need for cognition are influenced by the simple cue of attractiveness.
   2. Under conditions of high involvement, attractiveness may serve as a pertinent argument (associated with the central route of processing).
   3. Arguments are more carefully processed when associated with an attractive source.

In summary, "When the elaboration likelihood is high (e.g., high personal relevance, high knowledge, simple message, no distractions), people typically know what they want and are able to evaluate the merits of the arguments presented and they do so" (p. 245). However, simple attractiveness cues are enough for mass audiences.

B. Source competence can serve in three roles:
   1. When elaboration likelihood is low, source competence is very important. Increasing competence influences attitudes regardless of argument quality.
   2. When elaboration likelihood is moderate, both argument quality and source competence interact.
   3. When elaboration likelihood is high, source competence is less influential. But the quality of the argument is a strong influence.

In short, "Subjects process arguments when it is easy to do so, but use the source as a peripheral cue. When message processing is somewhat difficult, subjects appear to decide to exert the effort necessary mostly when the source is of high competence" (p. 247). What these findings suggest is the difficulty of processing messages may lead receivers to rely on sources. However, if the source is too technical, then the receiver still may not be able to process the arguments. I would assume that, in this case, there is the danger of the receiver "shutting down."

Therefore, the ELM provides no simple answer to our fundamental question, "Who can speak effectively for the environment?" What the ELM adds to the analysis of ethos are theory-based research findings on the many variables related to source credibility. For example, these eight variables may be relevant in any particular case of environmental advocacy:

V1. Does the receiver enjoy thinking?
V2. Does the receiver have the cognitive skills to engage in critical thinking?
V3. Is the environmental issue relevant to the receiver?
V4. Is the receiver deeply involved in the environmental issue?
V5. What is the quality of the evidence and the arguments?
V6. How attractive (trustworthy) is the persuader?
V7. How competent is the persuader?
V8. To what extent can the persuader translate technical material into lay discourse?

The concept of multiple roles and multiple effects for source credibility provides a rich ground for discussion of public argument about the environment. A useful analysis of ethos, or source credibility, in the public sphere must include an analysis of these eight variables (above). In the mass media age, other variables also may come into play. For example,

V9. How hotly contested is the issue?
V10. How public is the debate?
V11. To what extent does a switch in media attention have a *narcotizing effect* on mass lay publics? Do lay publics falsely conclude that problems are solved when the problems receive little or no media attention?
V12. How powerful are the anti-environment forces?
V13. Which structural factors influence the issue?

An example may illustrate the general direction of such an analysis. Let us briefly look at the fur

controversy, through the eyes of G. Thomas Goodnight and Kathryn Olson. Their analysis also opens up a discussion of the public sphere.

The Public Sphere

According to Olson and Goodnight (1994), "An inclusive public space is a commons where human communication emerges." Mass society has not eliminated the public sphere. They contend, in their analysis of the social controversy over fur, that a transformed public sphere is emerging. Their essay is worth quoting at some length here:

> Analysis of oppositional arguments over fur demonstrates how social controversy disrupts the assumptions that keep capitalistic society operating in its usual patterns, assumptions reaching beyond the particular issue or even ecological discourse in general. Capitalism has powerful codes and means of reproduction. However, its very ubiquity creates and connects multiple sites for controversy. Because expressions of capitalism are metonymically connected, struggle at one site speaks to others. (1994, p. 272)

Anti-fur advocates created a public space "in performing objections and blocking enthymemes" (p. 273). In the language of the ELM, a persuader may cause deeper reflection about the use of fur through evidence, arguments, and source credibility.

Olson and Goodnight argue that "ubiquitous and congealed social codes" provide an opportunity for social controversy to emerge. In their words:

> Critical inquiry into the controversy over fur and fashion supplies a reminder that the rise of mass society need not eclipse permanently the public sphere. . . . If one were to judge from the fur controversy, a contemporary public that is brought into being by oppositional argument contests the privatization of common interests, challenges social conventions for justification, and works to expand a sense of shared interests to all affected by common action—the traditional work of the public sphere. (p. 272)

The fur controversy, then, offers an example of the potential interactions between ethos and persuasion at the national level. A particularly credible spokesperson for the environment might call a sympathetic public into being by disrupting assumptions and delegitimizing conventional assumptions.

At this broad level, someone like Oprah Winfrey might be a useful resource for persuasion. Her television talk show could focus attention on one of the emotional aspects of the controversy—cruelty to fur-bearing animals in the name of fashion. For those audience members with a low need for cognition, Oprah Winfrey's attractiveness/trustworthiness may be sufficient to form an attitude against wearing fur. The portrayal of cruelty to animals, coupled with Oprah's credibility, might provide just enough leverage for the beginnings of attitude change.

Critics might respond with three objections. First, attitudes formed through simple associations are not likely to be persistent, resistant, or predictive of behavior. Second, Oprah may not be able to grapple with highly technical issues. At best, Oprah might serve as the translator for a source with superb scientific credentials. Third, if Oprah moves to another issue the next week, viewers may assume that the problem has been addressed. Television, then, becomes part of the problem, not part of the solution. These and other objections lead us to consider another framework.

Another Framework

Before proceeding, let us add that persons appear to be most deeply involved with local or regional environmental issues, rather than national or global issues. Recall, too, the previous conclusion about the central route to processing which is likely to lead to more permanent attitude change: "When message processing is somewhat difficult, subjects appear to decide to exert the effort necessary mostly when the source is of high competence." In this scenario, someone like Edward Wilson may become an influential source. With these points in mind, let us look at Bruce Weaver's study (1998) of advocacy in the case of the Delaware River.

Weaver's fundamental claim is that Nancy Shukaitis and a small group of people stopped the U.S. Army Corps of Engineers' grand plan, the Tocks Island Dam Project, a project which Weaver states had been seen as a "fait accompli" (p. 3). The environmental consequence was that the Delaware remained a free-flowing river.

The key element in the success of Nancy Shukaitis and the Delaware Valley Conservation Association (DVCA), according to Weaver, was "rhetorical legitimation," achieved through a combination of "coactive and confrontational strategies" (p. 13). In the present study on ethos and environmental advocacy, I am most interested in how local leaders (Nancy Shukaitis, Glenn Fisher, Mina Haefle, Joan Mathieson, Professor Francis Trembley, Joseph Maraziti, Christopher Burke, and others identified by Weaver) were able to persuade the public. I believe that the key to success was that moderately credible

spokespersons made strong arguments, such as, (1) the proposed project affects local people directly; (2) the fate of the Delaware Water Gap should be decided at the local level; (3) the U.S. Army Corps of Engineers' plan is based on faulty science; and (4) ancestral land and homes should not be violated (see Weaver, pp. 16-20).

Ethos was a significant factor. However, notice that the moderately credible local spokespersons were able to touch or to construct rhetorically (1) high relevance and (2) high involvement among the local and regional populations. Finally, ethos was one factor in the process of "expanding a sense of shared interests" (Goodnight and Olson).

Implications for Environmental Advocacy

I suppose it would be most satisfying for environmentalists if a highly competent source, such as E.O. Wilson, was heard and heeded throughout the land. However, given (1) the multiple roles and multiple effects of source credibility, (2) the powerful influence of television and the mass media, (3) the transformed character of the public sphere, and (4) the existence of enormous economic and other structural barriers, I propose a more long-term program for effective environmental advocacy.

The key to this program is found in the insights of the ELM. Long-term attitude change requires the ability to think, effortful thinking, the conviction that the issue is relevant, and high personal involvement. Given these factors, as well as the influence on lay people of a source of moderately high credibility, let me propose the following steps:

1. We must mentor our children to experience that thinking is fun.
2. We must teach critical thinking skills to our children.
3. We must concentrate on local and regional environmental issues.
4. We must use local and regional environmental issues to build (a) high involvement and (b) high relevance for national and global environmental issues.
5. We must use television with great care in environmental advocacy. Oprah Winfrey may be useful in a small way. E. O. Wilson may be given more television exposure to introduce concepts in lay language, or to create dissonance as leverage for oppositional argument.
6. We also must use the controversies created in oppositional argument to contest enormous economic and structural obstacles.

This program for effective environmental advocacy may not be so modest after all. Nonetheless, the central claim is modest. We don't need a few environmental superstars. We need numerous parents and teachers to influence the next generation.

References

Aristotle. (1991). *On rhetoric* (G. A. Kennedy, Trans.). Oxford, England: Oxford UP.

Bruner, M., & Oelschlaeger, M. (1994). Rhetoric, environmentalism, and environmental ethics. *Environmental Ethics, 16*, 377-396.

Cronkhite, G. and Liska, J. R. (1976). A critique of factor analytic approaches to the study of credibility. *Communication Monographs, 43*, 91-107.

Goodnight, G. T. (1989). Toward a social theory of argument. *Argumentation and Advocacy, 26*, 60-70.

Infante, D. A., Rancer, A. S., and Womack, D. F. (1997). *Building communication theory* (3rd ed.). Prospect Heights, IL: Waveland.

Olson, K. M. and Goodnight, G. T. (1994). Entanglement of consumption, cruelty, privacy, and fashion: The social controversy over fur. *Quarterly Journal of Speech, 80*, 249-276.

Petty, R. E. And Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 19, pp. 123-205). New York: Academic Press.

Petty, R., Kasmer, Haugtvedst, & Cacioppo, J. (1987). Source and message factors in persuasion: A reply to Stiff's critique of the elaboration likelihood model. *Communication Monographs, 54*, 233-249.

Riley, P., Klumpp, J., Hollihan, T. (1995). Democratizing the lifeworld of the 21st century: Evaluating new democratic sites for argument. In Sally Jackson (Ed.), *Argumentation and Values: Proceedings of the Ninth SCA/AFA Conference on Argumentation* (254-260). Annandale, VA: Speech Communication Association.

Stiff, J.A. (1986). Cognitive processing of persuasive message cues: A meta-analysis of the effects of supporting information on attitudes. *Communication Monographs, 53*, 75-89.

Weaver, B. (1998). *David defeats Goliath on the banks of the Delaware: Rhetorical legitimacy and the Delaware Water Gap National Recreation Area debate.* Paper presented at the annual meeting of the National Communication Association. New York City, November, 1998.

Wilson, E. O. (1992). *The diversity of life*. Cambridge, MA: Harvard UP.

The Role of the Activist Scholar: At Work in the Field(s) of Environmental Communication

John W. Delicath
Department of Communication, Center for Environmental Communication Studies
University of Cincinnati—Cincinnati, OH

Abstract

Environmental communication scholars should follow Andersen's (1993) call for an activist turn and move to conduct research, produce scholarship, and contribute experience, expertise, and communicative resources to directly participate in environmental controversies. Taking the activist turn requires making explicit the ideological suppositions behind our scholarship and taking responsibility for the political consequences of our ideas; looking to expand the possibilities for our research, both within and outside the academy, to address contemporary environmental problems; and committing ourselves to doing work about, for, and with those groups struggling for social and environmental justice, and a safe, healthy, and productive environment.

Quite simply put, the argument advanced in this essay is that there needs to be more activism (scholarly and otherwise) in the field of environmental communication. I argue that environmental communication scholars should take seriously Andersen's (1993) call for an activist turn in communication studies and move to conduct research, produce scholarship, and contribute experience, expertise, and communicative resources to promote those voices in environmental debates that "speak truth to power."

For Andersen, the activist turn comes as "the logical conclusion of the ideological turn"—a body of work that recognized (if not embraced) a view of scholarship as the articulation/performance of a "critical rhetoric" concerned with affecting the material conditions of society and acting as a moral agent to make the world a better place.[1] Andersen (1993) argues that the next step is a "move to political or social activism" recognizing that "once a critic exposes the covert ideological underpinnings of a movement, a speaker, or a policy, he/she has already entered the world of the activist" (p. 248). The activist turn presupposes a certain closure to the debate over the possibility of objective, disinterested, and politically neutral research. The verdict is in: scholarship is inherently political. The question is, "what are we to do now?" The response to this question has generated a less than adequate discussion of how a critic's politics should be revealed, used, or deployed in scholarship, and the extent to which scholarship and other academic work should be committed to advocating a particular political agenda.

In one sense, a gauntlet has been thrown down. Lawrence Frey and colleagues (1996) in applied communication have challenged the discipline:

> We sincerely believe that communication scholars, practitioners, educators, and students alike have much to contribute to the struggle to challenge the norms, practices, relations and structures that promote and maintain inequality and injustice. The question is whether we are part of the problem or part of the solution. (p. 123)

Dwight Conquergood (1995) suggests a similarly stark choice confronts communication scholars working in the current theoretical, cultural, and political milieu.

> The choice is no longer between pure and applied research. Instead we must choose between research that is 'engaged' or 'complicit.'. . . As engaged intellectuals we understand that we are entangled within world systems of oppression and exploitation. Our choice is to stand alongside or against domination, but not outside, above, or beyond it. (p. 85)

In response a collective of applied communication researchers have made a commitment to social justice defined as "engagement with and advocacy for those in our society who are economically, socially, politically, and/or culturally underresourced" (Frey, et al., 1996, p. 11). Star Muir (1997) has asked us to address the practical ways in which our work can "provide communication empowerment for environmental action" (p. 374). Omar Swartz (1997) has gone so far as to argue that "*scholars in our discipline* [communication studies] *have both the obligation and the ability to work toward the condition of radical democracy in the United States*" (italics in original, p. 1). While I applaud such suggestions, we cannot follow them until we take seriously the activist turn and begin to theo-

rize ways of applying our research directly, and articulating our voices actively, in social struggles outside of the academy, and attending to ways in which academic research can contribute to emancipatory social change.[2]

The point of politically engaged research is, of course, to go beyond theory and criticism within the confines of scholarship. Let's face it—the traditional academic work of publishing and teaching scarcely constitutes direct political intervention into the struggles over the fate of the planet. If it is no longer adequate simply to uncover communicative practices that exploit, oppress, and manipulate; if communication scholars must seek to transform them, we must do so with work in and outside of the academy. The failure of scholars to recognize the difference between different types of political work is disconcerting. I find it hard to understand how one could engage in the analysis of environmental controversies and not want to do more than write a scholarly essay. I find it troubling that we could want to articulate our ideas only in academic outlets. In the words of Peter Andersen (1993): "It takes an unusual sense of detachment, however, having illuminated the dark rhetoric of oppression, death, deception, or destruction not to enter the fray outside of the Ivory Tower" (p. 249). Thus my argument is that activist scholarship is not only legitimate; it is also necessary. Communication scholars, and environmental communication scholars in particular, should set about to chart courses of action consistent with the activist turn, grounded in a view of research "as an empowering act, as a way of uniting people working for social change, disrupting restrictive ways of thinking, and transforming the social world" (Ristock and Pennell, 1996, p. 113). To do so requires that we make explicit the ideological suppositions that guide our scholarship and take responsibility for the political implications of ideas that we produce. At the same time it requires that we look to expand the possibilities for our research, both from within and outside the academy, to address contemporary environmental controversies. Furthermore, it requires that we commit ourselves to doing work about, for, and with those groups struggling for social and environmental justice, and a safe, healthy, and productive environment—wherever they may live, work, and play.[3]

The final point I want to make here is that environmental communication scholars, perhaps like few others, are not only uniquely confronted by the challenges posed by engaged scholarship, but are uniquely situated to respond to them in innovative and transformative ways. Unfortunately, I see subtle and some not-so-subtle forces steering environmental communication scholars away from directly entering the fray of environmental struggles.[4]

What's in a Name? Environmental Communication and/or the Discourse of Environmental Advocacy

What I regard as the apolitical nature of environmental communication research is evident in the very choice of terms used to define our field: "Environmental communication." Rather nondescript, don't you think? Indeed, the terms with which we have chosen to institutionalize our work—to carve out a space for this new field—have already lost some of their critical edge and the recognition of the inherently political nature of our work. In its infancy, all of eight years ago, the first conference dedicated to communication scholarship concerning environmental issues was held in Alta, Utah. The title for the event was: "The Conference on the Discourse of Environmental Advocacy." Preceding the conference, in *Ecologue*, a small newsletter for environmental communication studies, was an editorial by Robbie Cox (1990) asking; "What's in a Name?" Cox's thought piece identified the politically charged nature of environmental discourse and suggested that the label "the discourse of environment advocacy" most adequately reflected the nature of research in environmental communication. It both recognized and embraced the inherently politicized nature of the study of environmental rhetorics, reminding us that all environmental communication is at one level a form of advocacy—and that any analysis and criticism of such discourse must necessarily constitute an act of advocacy. While Cox recognized there are important questions about "the role of the scholar/critic as 'advocate'" he merely identifies the issue as a topic for future discussion. It appears we never really got around to having the conversation.

Something interesting has happened though, as we have adopted another set of terms for what we study and employed a different title for our biennial conference. First, our bi-annual gathering was renamed the "Conference on Communication and Our Environment." The issues suggested by such a description "communication and our environment" immediately raised questions like: when we say "our" environment, whose environment are we talking about? Do we mean the environment of the factory worker in a chemical manufacturing plant? Do we mean inner city community gardens, or even something like Central Park? Do we mean the "environment" of pristine wilderness and places of awe-inspiring majestic beauty? As well, does not the idea of "our" environment imply some kind of dominion and control over the natural world—arguably assumptions at the root of the environmental crises facing the planet? Perhaps this has something to do with the decision to drop the word "our" and hold simply the

Fourth "Conference on Communication and Environment."

Second, we have institutionalized the study of "environmental communication." In conjunction with the formation of the Environmental Communication Commission within the National Communication Association have come courses in environmental communication, literature reviews cataloging work in the field, and talk of textbooks and a journal for the publication of our work.

There remains, however, both an implicit and explicit absence, a blind spot, that has hindered the discussion of an activist role for environmental communication scholars. At the 1997 annual convention of the National Communication Association in Chicago, some of the earliest and most active practitioners in environmental communication spoke on a panel entitled "Where Have We Come and Where Do We Go From Here? Environmental Communication as a Research Focus." Not one participant addressed the political nature of the work in environmental communication; no one spoke to the relationship between a critic and a social movement. No one suggested a more activist role for environmental communication scholars. No one suggested writing for wider audiences, contributing to a social movement, or advancing discourses that called into question the various forces contributing to the ecological destruction of the planet. And at the same time, we implicitly sought to discipline activist voices and politicized scholarship out of concerns over institutional legitimacy and the perception of the newly established Environmental Communication Commission It was suggested in business meetings that we need to maintain quality control over what was accepted for presentation at the following year's convention as these were to be the first panels and papers affiliated with the new commission. Some expressed concern that the commission would appear to be an attempt by tree huggers and activists to find a place for their work. In so doing, in adopting particular labels for what we do, and in our concern with institutional legitimacy, we have failed to discuss ourselves as agents producing a discourse of environmental advocacy.[5] And, I do not mean lip service to the obvious fact—we are all too quick to throw out in passing—that evaluating communication that lays claim to the meanings, values, and uses of nature is an inherently politicized act. We have no problem making this observation. The question is whether we take the implications of it seriously. It is my opinion that the work in environmental communication, and communication studies as a whole, does not, and has thus far failed to take seriously the challenge to find ways for our research to make a difference. While many examples of politically engaged scholarship exist we have dropped our emphasis on advocacy and have failed to make a collective commitment to advancing alternative, democratic, environmental futures.

The differences suggested by the study of "environmental communication" compared to "the discourse of environmental advocacy" are significant. Clearly, a conference on communication and environment stakes out a different intellectual and political space than does the study of environmental advocacy. It is for this reason that I want to return to a discussion of the terms prominent in the description of our field and trace the absence of serious discussion of the role of advocacy in our work. Interestingly enough, the move away from advocacy (both as a term and a practice of the scholar taking part in environmental controversies) begins with the publication of the proceedings of the first conference. In what is ultimately a confusing and contradictory preface, Christine Oravec and James Cantrill (1992), the editors of the proceedings, discuss the notion of "advocacy." The conversation, if not contradictory, is uneasy in its treatment of the term. Oravec and Cantrill make a number of observations about the notion of advocacy: they recognize the term's complexity; suggest it is broadly conceived, and the least descriptive of the terms of the conference; they recognize its significance for understanding the persuasive forces of environmental communication (in its many forms); and they critique its conflictual and masculinist model of communication. I want to explore, in some detail, the editors' discussion of term "advocacy" as both a means to identify the blind spot in our field that prevents us from taking seriously the activist turn, and to argue for the centrality of advocacy to the enterprise of environmental communication.

Oravec and Cantrill begin by recognizing that "'Environmental advocacy' is a [an even more] complicated concept'" (p. v). They go on to suggest that the notion of advocacy is "too broadly conceived by the contributors to the conference" (p. v). They never explain, however, why a broad conception of advocacy is a problem. Meanwhile, the authors state that "even a static or visual depiction of the environment can function to advocate" (p. v). Additionally, Oravec and Cantrill point out that "advocacy can function extremely subtly, in forms that mask its suasory intent" (p. v). Thus, while the authors find the term "advocacy" too broad and complicated, they nevertheless suggest that environmental communication is a complex and broad phenomenon. While it would doubtless require broad horizons (of visual-discursive-bodily rhetorics, and implicit and explicit persuasion), the term environmental advocacy, it would appear, calls our attention to more than simply communication.

Indeed, if images of nature implicitly advocate environmental ideals, and environmental advocacy can be subtle in masking its persuasive intent, then it would appear that environmental advocacy is indeed an apt description for what many of us are (and should be) study[ing].

Oravec and Cantrill go on to critique the moniker "environmental advocacy" by arguing that it suggests the image of a litigator doing battle—a model that is "conflictual, aggressive, and not coincidentally, male in its connotation" (p. v). Furthermore, they suggest (following Piasecki & Asmus 1991) it is a model that "'promotes a rhetoric of blame'." While I recognize the editors were limited in the space for their preface to the proceedings—their objections to the term advocacy require elaboration. It is unclear why advocacy necessarily suggests a litigious model of environmental communication. Certainly many other models come to mind, many of which are readily apparent in the traditions of our field and the discourses surrounding environmental matters. Advocacy is a practice that follows many "models": advocacy in the legislature over public policy; the advocacy of social movements struggling for environmental justice; the advocacy of citizens in public deliberation. Indeed, Cox (1990) argues that advocacy is a useful term precisely because it offers a model not of the litigator, but of the public as citizens taking part in debate and deliberation. Cox supports the term advocacy because it "retains our discipline's historical (even classical) concern for the problems of the public, and it designates the human mode 'citizens' have used in mediating power and social change in democratic governance" (p. 3). While there may be controversy, conflict, and perhaps even aggression in such a model, I find it most apt for examining the rhetorics, practices, and policies that matter most in determining the fate of the planet.

The task of environmental communication should be to study specific examples of advocacy and their function in public debate. Advocacy can be in concert and/or in conflict with other discourses. It can promote the common good; serve the ends of corporate greed; justify narrow and discriminatory standards for risk; or defy notions that Nature is merely a storehouse of natural resources. Additionally, while we should not (always) embrace conflict neither should we universally promote, accept, or expect cooperation, accommodation, and harmony. There will be controversy in environmental matters—we should take this as a healthy sign of public deliberation.

As for the notion that advocacy is masculinist; it should require more than a passing accusation to explain why conflict and aggression are "male characteristics." While I would readily agree that certain modes of advocacy reflect gendered assumptions (fully developed articulations of this argument exist) I see little reason to suggest that advocacy is inherently masculinist. Instead, I would argue that it is the task of environmental communication scholars to critique modes of advocacy that privilege rationality and instrumental reasoning at the expense of other ways of knowing and valuing nature, and that sustain relations of domination in human-human, and human-nonhuman relationships. Environmental communication scholars should also seek to promote notions of advocacy that recognize the right of every citizen to participate in the decisions affecting their environmental futures; that encourage and respect a diversity of voices; that constitute forums for dialogue and deliberation that is inclusive, open, and frank; and that make room for the power and possibility of corporeal connections with the natural world (Houde, 1999) and transhuman communication (Rogers, 1998).

Furthermore, I see no reason to suggest that advocacy necessarily promotes rhetorics of blame. Advocacy entails the identification of problems, the articulation of potential solutions, the deliberation over courses of action, as well as the assessment of blame. While advocates may locate the cause of environmental problems and assess blame—this by no means encourages conflict and aggression. Indeed, is it not necessary to identify the cause of environmental deterioration and hold those responsible accountable? Locating blame, or identifying the cause of, and responsibility for, environmental degradation is a necessary trope of social movement rhetorics and plays an important role in transforming perceptions of reality, prescribing courses of action, and mobilizing participation in social movement activities (Stewart, Smith, & Denton, 1994)

In their final move, despite their problems with the term, Oravec and Cantrill conclude that the notion of advocacy "most reflects the participants' commitment to articulating a voice of and for the environment" (p. v). The problems with this conception of advocacy are, I think, obvious. Indeed, this articulation of our commitment to environmentalism represents exactly the kind of lip-service to advocacy that I find problematic.

First, this notion of advocacy takes the environmental/political commitments of the scholar as nonproblematic. Are we a voice for the environment simply because we study environmental communication? In one important sense, we are. However, the question is, "what does that mean?" Surely, we do not all share the same ideological commitments, nor are we likely to agree on specific responses to environmental controversies. Articulating a voice of and for the environment does/should/can not constitute a uni-

versal, vague expression of a desire for a cleaner environment and healthier ecosystems. We can't simply be a voice for the environment—we can only be voices for particular environments, and particular environmental futures. Texaco Oil, Dow Chemical, Ford, the nuclear energy industry as well as the Sierra Club, Earth First! and Wise Use groups all claim to be a voice for the environment. By declaring that all communication scholars are voices for the environment we obfuscate the need to make explicit the philosophical assumptions and ideological orientations from which we articulate particular ecological ideals. This conception of advocacy fails to take responsibility for the political commitments of the scholar/critic and leads us to believe we are all set about the same task. In essence, this articulation fails to address the issues of how the critic's politics should be revealed, used, or deployed in their scholarship.

Secondly, and perhaps more importantly, by taking for granted the environmental commitments of the environmental communication scholar and ignoring the inherently ideological character of environmental discourse, we have failed to discuss how we might exercise a voice for the environment. Surely, if we are to make a commitment to be a voice for the environment—we have to do so in more ways than study environmental communication, write essays about environmental matters, and engage one another at bi-annual conferences. We have to accept the responsibility to be environmental advocates.

I know there are some who would, and have, disagree[d] with my characterization of the status of advocacy in the field. However, I see absent from our discussions and our work the practices reflective of active political engagement. This is not to say that politically engaged work is non-existent. To be sure, there are excellent examples of the possibilities for activist scholarship embodied in the work of some of the earliest practitioners of environmental communication studies, to cite just three. Robbie Cox has served as President of the Sierra Club. Sue Senecah has worked for several years with the New York State legislature on environmental conflict management and dispute resolution. Gregg Walker has worked on a number of occasions with the U.S. Forest Service to promote effective public participation in land use decisions. So, I am not out to prove that no one is doing the kind of work for which I am calling. I hope that there are more people doing work consistent with the activist turn. I hope to discover that this indeed is the case at our roundtable discussion tonight concerning "what makes environmental communication unique."[6] I would hope that many of you are too busy trying to change the world, and simply haven't had the time to tell me about it.[7]

Taking the Activist Turn in Environmental Communication Studies

The point of all of this, I want to suggest, is that whatever the status of engaged scholarship in our field, the activist turn opens up possibilities for engaged social practice which have yet to be fully explored. In an attempt to explore such possibilities I identify three broad strategies for taking the activist turn and ways that environmental communication scholars can more directly participate in the struggles to shape our environmental futures. I explore the following paths to the activist turn: (1) activism in scholarship—activist theory and criticism; (2) activism outside of the academy—taking it to the streets; and (3) activism within the university—engagement with stakeholders in environmental controversies.

Activist Scholarship: Theory and Criticism

Theory can be more or less politicized, but theoretical assumptions intended to produce knowledge cannot avoid having political currency. Embracing the political implications of theoretical work, the activist scholar holds "theory accountable to the demands of political practice" (Fraser, 1989, p. 2). That is, theory is driven by concerns over transforming political conditions. The point of activist theory is to find viable ways for transforming the terrain of public argument so as to make possible new ways of seeing, knowing, and being. As Nancy Fraser (1989) argues, "theory is elaborated with the 'practical intent' of promoting emancipatory social transformation" (p. 7).

Two recent examples of politicized theory will suffice to show what is possible under the rubric of activist theory. Richard Rogers' (1998) essay arguing for a transhuman, materialist theory of communication, is an excellent example of the subtle, yet inherently political nature of theory. His theoretical account of materialist communication is political in that Rogers seeks to open up possibilities for alternative environmental futures. He suggests a concern for the political benefits of a transhuman dialogue and his critique is directed at constitutive theories of communication that may be complicitous with environmental violence (p. 245). To critique the material consequences of communication is a political act. To advance a transhuman, materialist theory of communication to decenter humanism, and contain environmental violence is to articulate a discourse of environmental advocacy.

A second example of politicized theory is DeLuca's (1999) recent account of the dramatic acts of protest staged by radical ecology and environmental justice groups. DeLuca's attempt to explain the actions of ecology groups as not the last ditch efforts of

the rude and crude, but rather the central rhetorical activity of subaltern counterpublics is a theoretical account of the legitimacy of critique performed through spectacle. Furthermore, his commitment to explain the meaning of these "image events" is a theoretical exercise guided by the political belief that such rhetorics are important because they challenge the dominant and ecologically destructive articulations of Nature, Progress, and Humanity, which underpin Western capitalist societies.

Other important possibilities await environmental communication scholars who would theorize: mechanisms for more democratic public participation in environmental decision-making; strategies for communication campaigns that would help change destructive practices; ways in which media can more effectively report on environmental issues; and ways to overcome the disjuncture between people's verbal commitment to environmentalism and their willingness to act to affect environmental change. The list could go on and on. The point is that developing the communicative practices capable of responding to environmental degradation, and cultivating the rhetorics of alternative, democratic environmental futures requires theoretical projects capable of sustaining such endeavors.

Activist criticism is perhaps the most readily identifiable form of political scholarship and is certainly part of the existing tradition of environmental communication research. Activist criticism takes a number of forms, but generally involves the analysis and criticism of discourses responsible for environmental deterioration or the praise of discourses of environmental salvation. Consistent with such mode of scholarship—I argue we need activist criticism that: (1) uncovers and exposes the role that communication plays in sustaining the political and economic relations of an anti-ecological society; (2) targets and confronts the forces despoiling the planet, erasing biological diversity, exterminating wildlife, and poisoning human beings; (3) counters systematic attempts to distort public debate and to manipulate the forums of public deliberation; and/or (4) recovers, gives voice to, takes up, extends, or speaks for otherwise marginalized voices in environmental disputes.

While activist criticism may make explicit the fact that it approaches discourse as something to be interrogated, not read objectively and make evident the fact the critique is done to extend, diminish, or debunk particular rhetorical depictions of reality, it may nevertheless fail to take seriously the political commitments of the critic. Activist critics confront a number of challenges if this line of scholarship is to be effective. First, as I argued earlier, activist scholarship must find ways to reveal and employ its political biases when articulating socio-political critique. The rhetorics of Greenpeace, green consumerism, nor the EPA can be evaluated from an unstated position of ecological integrity. It is only when ideological criticism cultivates and deploys its activist voice that such work can be taken seriously as either scholarship or political praxis.

Second, those scholars who would emphasize giving voice to and speaking for advocates in environmental controversies must respect the fact that environmental activists can, and should, speak for themselves. Our desire to advocate for those underresourced in environmental struggles must be informed by a notion of helping others to speak most effectively on their own behalf. Activist scholars should operate to speak with, and not for, environmental advocates. In suggesting that communication scholars speak with, but not for environmental citizens, we recognize that members of social movements, counterpublics, and oppressed or marginalized groups speak for themselves. Consistent with Fraser's (1989) views of activist scholarship—our work should assist in the articulation of a "rhetoric of resistance that could promote the struggles and wishes of contemporary social movements" (p. 4). At a minimum, this requires that we do work about and for those groups who speak truth to power—who articulate alternative, democratic environmental futures.

Third, activist scholars confront the challenge of doing something about the problems or promise they uncover in their analyses of environmental communication. If critics are moral agents who seek to make the world a better place, then clearly they must recognize that a scholarly publication or presentation will have little affect in this regard. None of the four tasks of activist criticism can be achieved if the criticism is articulated solely in academic venues. The voices being debunked or promoted by activist criticism will scarcely notice if all one does is talk about them in scholarly contexts. Truly engaged scholarship requires that one employs his/her research to directly enter struggles outside the Ivory Tower.

Activist Work Outside of the Academy: Taking it to the Streets

Here I want to suggest that we take seriously the most radical dynamic of the activist turn. That is, taking it to the streets—employing our research and experience to directly enter the fray of public environmental controversies. Here too, there are many paths made possible by the activist turn. But first, I must begin with a caveat. Taking it to the streets does not necessarily mean leading the way. Again, the vision of activism advanced here is not to speak for environmental advocates or to regard the scholar as expert

delivering the answers to the world's environmental problems. We are not coming down from the Ivory Tower armed with the wisdom and insight that others need adopt. The learning process will most certainly be a two-way street as scholars will quickly discover from their interactions with those who have their own unique experience, insight, and vision, as well as cultural resources for making their opinions known. So if not leading the way, what is it that scholars would do outside of the academy?

Taking it to the streets involves, at a minimum, an obligation to enter the public dialogue outside the halls of the academy and advocate positions on environmental matters. In a democracy, the intellectual's role is to help promote sustained public dialogue on matters of public importance. As Jeffrey Goldfarb (1998) argues, "reasonable, sustained, consequential discussion about complicated social, political and cultural problems is a key component of an intellectual's role, particularly as he or she contributes to the constitution of democratic life" (p. 4). To make a difference with regards to the constitution of democratic life clearly requires scholars to address more public audiences. I agree with Nancy Fraser (1989) that "as critical public intellectuals we [must] try to inject our perspectives into whatever cultural or political public spheres we have access to" (p. 11). This requires, that at a minimum, we should attempt to write for wider audiences, speak in public forums, and find ways to inform policy making.

If we are to take seriously the notion that we are moral agents who seek to promote communicative practices to make the world a better place—or as some have suggested, to speak as voices for the Earth—we must surely recognize that we must create ways for our work to make a difference. We are not likely to affect environmental debates by writing in academic journals. Environmental communication scholars should be writing op-ed pieces for major regional and national newspapers, submitting critical essays to environmental and other popular periodicals, speaking in public forums, and otherwise expanding the arenas in which we contribute to civic discourse on environmental matters.

Furthermore, we should be more active in contributing to policy discussion and development. Again, as Goldfarb (1998) reminds us, "the end of intellectual intervention is to inform public debate and policy discussion" (p. 15). It seems only logical that those analyzing policy regarding specific environmental issues (environmental justice, nuclear energy, wilderness preservation, global warming, etc.) should seek to play a role in the formation of public policy. How is it that we could research in order to develop specialized opinion about policy issues and not seek to apply that knowledge to particular environmental controversies? Writing about environmental policy issues in academic journals will not change public policy. If in no other forum, environmental communication scholars should contribute to the public comment periods for proposed environmental policy decisions. Environmental communication scholars should, however, seek more direct means of participating in policy formulation and implementation. Systematic attempts to engage policy makers and other stakeholders may produce opportunities to participate on committees, advisory groups, or review panels—as well as cultivate rewarding partnerships with environmental advocates.

I would like to discuss, briefly, one specific example of the opportunity for environmental communication scholars to contribute to public policy. It concerns the development of models, mechanisms, processes, and forums for more meaningful and effective public participation in environmental policy making. There exists a growing body of literature in environmental communication dedicated to the analysis, criticism, and theory of public participation.[8] I believe this to be a highly important issue where some of our best work is being done. Our efforts should not stop at theorizing models of participation and risk communication. We should seek direct ways for this research to matter and to affect the way government agencies solicit and employ public participation. Scholars' suggestions for reforms and even alternative models of democratic participation need to be discussed with elected representatives, agency officials, policy makers, and environmental stakeholders, so that they may be transformed into concrete mechanisms for promoting informed and empowered public deliberation.

Activist Work Within the University: Engagement with Environmental Stakeholders

Although I have argued that academics "take it to the streets" and work outside of the academy, I do not want to give the impression that there exists a rigid division between scholarship and activism, or the academy and the "real world."[9] Environmental communication scholars should not abandon activism within their scholarship and their work as academics to join the revolution. The academy is an important site from which to engage in political struggle. Perhaps two of the more important means of doing activist work within the academy are to help open up the university as a space for dialogue on environmental matters, and to help make available resources of the academy to groups struggling for social and environmental justice. In what I regard as a very healthy sign and important opportunity for scholars, academic institutions have been identified as vital stakeholders

in the public dialogue about environmental justice and brownfields. Activist work within the academy would consist of ways to honor the National Environmental Justice Advisory Council's (1996) call to "strengthen partnerships between communities and academic institutions as part of efforts to help communities achieve the skills necessary for self-advocacy, increase access to information, and provide a forum for the exchange and testing of innovative ideas" (p. 49).[10] In the search for novel forums for public participation and ways of contributing to a larger civic dialogue on environmental matters, environmental communication scholars can and should "support efforts to establish local-based environmental roundtables dedicated to addressing issues of achieving healthy and sustainable communities" and "play a role in bringing together multiple stakeholders [and] amplifying the voice of the community" (NEJAC, 1996, p. 49).

It is increasingly clear that there needs to be more forums for public participation in environmental decision-making. Environmental communication scholars can help in this regard by thinking about ways to open up the university as a place and a space for public dialogue on environmental issues. The possibilities for employing the university as a space for dialogue are countless. Campuses can serve as sites for stakeholder workshops, roundtable dialogues, and public debates. As well, productive relationships between universities and their communities can play important roles in building community capacity for participation in its own future by providing access to computer resources and research; providing technical assistance with managing environmental information; and cultivating relationship with university personnel.

More specifically, environmental communication scholars are uniquely qualified to assist in building community capacity through workshops designed to hone and improve public speaking and argumentation skills. When it comes to helping not only students but larger groups of citizens cultivate the skills necessary for effective deliberation and advocacy—there is no better means of responding to Salvador and Sias's (1998) challenge "to develop more capable citizens and a more democratic public voice for the twenty-first century" (p. 10).

Another innovative way of developing capable citizens as well as establishing productive relationships with community organizations involves exploring approaches to service learning within environmental communication courses. Service learning initiatives are fairly new, but already there is recognition of the unique relationship between communication and service learning. Consistent with our discipline's emphasis on developing citizens equipped with the skills necessary to participate in public life, service learning "engages students in volunteer activities," "is conducted in and meets the needs of a particular community or public," and "helps foster civic responsibility and critical examination of the rights and responsibilities of citizens in a democratic society" (Morreale & Droge, 1998). The potential applications of service learning to modes of advice and activism are readily apparent. Service learning constitutes a way to contribute communicative resources to marginalized and under-resourced groups while providing students with an absolutely unique vantage point from which to learn about the communicative practices of public advocacy organizations.[11] Service learning can combat civic isolation and cultivate productive and rewarding relationships between academic institutions, students, and community organizations. In a larger sense, the efforts to open up the resources of the university to promote sustained civic engagement may serve as opportunities to change the mission of universities and to radicalize how we conceive of service and community outreach. Following the activist turn within the academy involves efforts to re-think the nature and obligations of membership in a human and ecological community. Activism in the academy would seek to move universities toward being more responsive to the needs of the particular local and regional communities in which they reside. The activist turn within the academy should be directed toward cultivating an educational mission that emphasizes meaningful and productive partnerships between the university and local constituencies. More specifically, as those applied communication scholars in committing themselves to social justice have made clear, scholars/public intellectuals have an obligation to do research about and for "those individuals and groups who are most underresourced and in need of advocacy"—whose voices need amplification or who lack communicative resources for effective self-advocacy. In committing itself to the goal of social justice and finding ways of contributing communicative (and other) resources to those groups struggling for ecological democracy, environmental communication can affirm its commitment to the traditions of democratic pedagogy and emancipatory social change.

This discussion would not be complete if I did not address some of the broader discourses currently discussing the political uses of the academy. Institutions of higher learning play significant roles in our collective political and ecological futures. In almost every sense of the word—the academy is already highly politicized. And while multi-vocal conservative discourses would have us believe the Ivory Tower is dominated by radical, left-wing ideologues, we should not fail to recognize that accusations of partisanship are leveled "against those who challenge, but rarely

against those who reinforce prevailing orthodoxies" (Parenti, 1995, p. 196). For anyone still wondering about ethicalness of political research and the legitimate use of the Ivory Tower for political ends, I must refer you to Michael Parenti's (1995) observation that:

> Within U.S. universities there are people who do 'risk analysis' to help private corporations make safe investments in the Third World. Others work on consumer responses to marketing techniques, labor unrest, and union busting. Still others devise new methods for controlling rebellious people at home and abroad, new weapons delivery systems and technologies for surveillance and counterinsurgency. Whether studying Latin American villagers, inner-city residents, or factory workers, for handsome fees these scholars and scientists offer bright and often ruthless ideas about how to keep the world safe for those who own it. (p. 175)

While clearly there are dangers facing one who engages in progressive political praxis within the halls of the Ivory Tower—environmental communication scholars would seem to be uniquely obligated to challenge existing orthodoxies and move the academy in the direction of sustainable, democratic futures.

Conclusion

I want to conclude here with a few brief remarks concerning how we might proceed with institutionalizing the field of environmental communication. I would hope that we recognize the moment at hand. We have the opportunity to do something unique here. Not everyone has the ability to participate in the formulation of an emerging discipline, let alone one as dynamic and important as this one. Before we become just another sub-discipline or area of specialization within communication studies let us proceed with a spirit that takes seriously the challenge to produce novel and innovative examples of scholarship. We can make this field of study what we want. We can shape its content, establish its central concerns, and develop unique approaches to environmental matters. As we discuss what it is unique that we do as environmental communication scholars let us commit ourselves to ways of thinking and working that reflect the dynamic and transdisciplinary nature of environmental matters. Adopting the ecological metaphors of diversity, complimentarity, and cooperation, we can establish environmental communication as a vibrant and unique area of inquiry. However, before we institutionalize the study of environmental communication let us pause to consider the opportunity before us.

Let's not become just another element of the "greening of the humanities." I would encourage us to approach our research and our role in environmental controversies in ways that are as diverse, innovative, and radical as possible. Let us take whatever paths we find most fruitful to exploring the centrality of communication and rhetoric in environmental matters. Let us emphasize diversity and interdisciplinary with regards to methodology. Let us emphasize cooperation, interaction, and experimentation with regards to modes of research. Let us explore advocacy, activism, and other modes of engaged scholarship. Following Herndl (1997), I see the study of environmental controversies as a valuable opportunity to participate in social projects in unique ways and to "move Rhetoric and Communication studies closer to a model of engaged social praxis" (p. 374).

I believe that the activist turn is one step in this direction. As a community, and as scholars within somewhat specialized and particular niches with regard to the investigation of particular forms and aspects of communication, we can bring a diversity of voices to develop alternative, democratic, environmental futures. There is no one path to walk once one has taken the activist turn. I believe there are many different projects through which environmental communication scholars can more directly enter the fray in the rhetorical struggles over the fate of our communities and the planet. My point here is simply that they should.

Environmental communication does not have to be an enterprise devoted solely to ecological advocacy and activism—but activist communication scholarship and pedagogy should be at the heart of a field dedicated to the study of environmental advocacy. When we take seriously the inherently political and moral implications of environmental communication research, nothing else is possible. When we take seriously the multiple threats to human and ecological health posed by current political, economic, and cultural practices, nothing less is acceptable.

Notes

1. See Condit (1993), Delicath (1994), Klump & Hollihan (1989), McKerrow (1991), Ono & Sloop (1992), Wander (1983, 1984), and Wander & Jenkins (1972).

2. This discussion runs headlong into larger conversations about the crisis within the academy over questions concerning the social role and political function of intellectuals; the mission

and responsibility of universities (especially public ones) to the communities in which they reside; the utility of research and scholarship; and the ends to which we generate knowledge.

3. Let me clarify my intention and position by making two points. First, I do not mean to suggest that all environmental communication scholars must engage in activist scholarship. It is not my intention to judge someone as inferior or inadequate because s/he does not direct research and scholarship toward political ends. Rather, my goal is to encourage those who are interested, to commit themselves to engaged research and political applications of their work, and to carve out the institutional space for the legitimate pursuit of engaged research and scholarly advocacy. Second, I recognize that those who would take the activist turn face many challenges. It will take a concerted effort for many of us to find the time to engage in activism and advocacy given the demands of teaching, service, and research. Following the activist turn will also require taking professional risks given the bias against politicized scholarship and the inadequacy of re-appointment, promotion, and tenure criteria to adequately reward scholars involvement in matters of politics and public policy.

4. This account will, of course, tell only part of the story. There are much broader forces inside and outside of the academy that work to steer all academics, not just scholars of environmental communication, away from active involvement in contemporary political struggles.

5. It should be noted that I regard the concerns for institutional legitimacy to be legitimate.

6. Here I refer to a session for Sunday evening (7/25) where Mark Meister served as moderator of a roundtable discussion about "the types of Environmental Communication scholarship that will benefit our applied community outreach activities" (see conference program). Speaking on the panel were James Cantrill, Robert Cox, Susan Senecah, and Ben Tyson. Having had the opportunity to revise my paper, I can report that while Senecah described her involvement with policy development and public participation in the New York State legislature, the panel generated virtually no discussion of an activist role for environmental communication scholars.

7. I have posted requests on the COCE listserv asking anyone and everyone to inform me about aspects of their work that might be described as applied, engaged, or activist, including consultation, policy formulation, negotiation/mediation, advocacy training, and the like. So far, I have heard from only a small handful of individuals. If you would care to share your experiences with me, I am still interested in hearing from folks. Contact me by email: delicajw@email.uc.edu

8. A second paper I presented at the conference deals directly with these questions. See Delicath, "Re-invigorating the Public Sphere, Reviving Democratic Praxis: Environmental Justice and the Demand for Public Participation" (this volume, pp. 32-44).

9. A false dichotomy between academic and non-academic research is itself partially responsible for the failure of academics to take seriously interventions into the "real world."

10. All references attributed to NEJAC, the National Environmental Justice Advisory Council, are from the Report, *The search for authentic signs for hope*, EPA Publication No. (EPA 500-R-96-002). The full citation listed on the reference page is as follows: United States Environmental Protection Agency (1996), *Environmental justice, urban revitalization, and brownfields: The search for authentic signs for hope.* A report on the "Public Dialogues on Urban Revitalization and Brownfields: Envisioning Healthy and Sustainable Communities." National Environmental Justice Advisory Council Waste and Facility Siting Subcommittee. Charles Lee, Chair.

11. While there are multiple important and difficult issues raised by the notion activist pedagogy they are beyond the scope of this essay. I have chosen to focus here on service learning as merely one possible pedagogical effort at directing the university toward community needs, and wish to bracket larger discussions about the ideological dimensions of particular pedagogical practices and ideological work in the classroom. I should note, however, that in the Q&A period after this presentation I made clear that, for me, the activist turn in the classroom is the most problematic. When I teach I choose not to make explicit my eco-political views and avoid arguing that students embrace any particular ecological politics. I see it as my task to present students with radical ecological discourses that ask

difficult questions about the present state of affairs and the possibilities for effectively responding to them within current social, economic, and political frameworks. I usually try to avoid telling students what to think about them.

References

Andersen, P. A. (1993). Beyond criticism: The activist turn in the ideological debate. *Western Journal of Communication, 57,* 247-256.

Condit, C. M. (1993). The critic as empath: Moving away from totalizing theory. *Western Journal of Communication, 57,* 178-190.

Conquergood, D. (1995). Between rigor and relevance: Rethinking applied communication. In K. N. Cissna (Ed.), *Applied communication in the 21st century.* Mahwah, NJ: Lawrence Erlbaum.

Cox, R. J. (1990, Winter). *Ecologue: Newsletter for environmental advocacy, 1,* 3-4.

DeLuca, K. M. (1999). *Image politics: The new rhetoric of environmental activism.* New York: Guilford.

Delicath, J. W. (1994). The rhetoric of green consumerism: A social ecological critique. *Speaker & Gavel, 31,* 2-26.

Delicath, J. W. (1999, July). *Re-invigorating the public sphere, reviving democratic praxis: Environmental justice and the demand for public participation.* Paper presented at the Fifth Biennial Conference on Communication and Environment, Flagstaff, AZ.

Depoe, S. (1997). Environmental studies in mass communication. *Critical Studies in Mass Communication, 14,* 368-371.

Fraser, N. (1989). *Unruly practices: Power, discourse, and gender in contemporary social theory.* Minneapolis, MN: U of Minnesota P.

Frey, L. R., Pearce, W. B., Pollock, M. A., Artz, L., & Murphy, B. A. O. (1996). Looking for justice in all the wrong places: On a communication approach to social justice. *Communication Studies, 47,* 110-127.

Goldfarb, J. C. (1998). *Civility and subversion: The intellectual in democratic society.* New York: Cambridge UP.

Herndl, C. G. (1997). Response to Professor Depoe. *Critical Studies in Mass Communication, 14,* 373-374.

Houde, L. J. (1999, July). *Are there 'wild' spaces and places in cultural studies? Exploring the limits of David Chaney's The Cultural Turn from an ecofeminist perspective.* Paper presented at the Fifth Biennial Conference on Communication and Environment, Flagstaff, AZ.

Klumpp, J. F. & Hollihan, T. A. (1989). Rhetorical criticism as moral action. *Quarterly Journal of Speech, 75,* 84-97.

McKerrow, R. E. (1989). Critical rhetoric: Theory and praxis. *Communication* Monographs, 56, 91-111.

Morreale, S. P., & Droge, D. (1998, November). Service learning grows in popularity and enhances communication study in higher education. *Spectra, 34,* 6, 12.

Muir, S. A. (1997). Difficult questions about environmental communication. *Critical Studies in Mass Communication, 14,* 374-376.

Ono, K. A. & Sloop, J. M. (1992). Commitment to *telos*: A sustained critical rhetoric. *Communication Monographs, 59,* 48-60.

Oravec, C. L. & Cantrill, J. G. (Eds.). (1992). *The conference on the discourse of environmental advocacy.* Salt Lake City: U of Utah Humanities Center.

Parenti, M. (1995). *Against empire.* San Francisco: City Lights Books.

Piasecki, B. & Asmus, P. (1990). *In search of environmental excellence: Moving beyond blame.* New York: Simon and Schuster.

Ristock, J. L., & Pennell, J. (1996). *Communication research as empowerment: Feminist links, postmodern interruptions.* Toronto: Oxford UP.

Rogers, R. A. (1998). Overcoming the objectification of nature in constitutive theories: Toward a materialist, transhuman theory of communication. *Western Journal of Communication, 62,* 244-272.

Salvador, M., & Sias, P. M., (Eds.). (1998). *The public voice in a democracy at risk.* Westport, CT: Praeger.

Stewart, C. J., Smith, C., & Denton, Jr., R. (1994). *Persuasion and social movements* (3rd ed.). Waveland.

Swartz, O. (1997). *Conducting socially responsible research.* Sage: Thousand Oaks, CA.

United States Environmental Protection Agency. (1996). *Environmental justice, urban revitalization, and brownfields: The search for authentic signs for hope.* A report on the "Public Dialogues on Urban Revitalization and Brownfields: Envisioning Healthy and Sustainable Communities." National Environmental Justice Advisory Council Waste and Facility Siting Subcommittee. Charles Lee, Chair. (EPA Publication No. EPA 500-R-96-002).

Wander, P. (1983). The ideological turn in modern criticism. *Central States Speech Journal, 34,* 1-18.

Wander, P. (1984). The third persona: An ideological turn in rhetorical theory. *Central States Speech Journal, 35,* 197-216.

Wander, P. & Jenkins, S. (1972). Rhetoric, society and the critical response. *Quarterly Journal of Speech, 58,* 441-450.

Are There "Wild" Spaces and Places Within Cultural Studies? Exploring the Limits of David Chaney's The Cultural Turn From An Ecofeminist Perspective

Lincoln J. Houde
Department of Communication
University of Utah—Salt Lake City, UT

Abstract

This essay attempts to identify and transgress the ecological limits of cultural studies from an ecofeminist perspective. While this field tends to be limited by the culture-nature and human-animal dualisms of Western thought, ecofeminists can help expose and move beyond those ideological blind spots. In particular, I explore two dimensions of ecofeminist philosophy that promise to enrich cultural studies. The first dimension celebrates the eco-logic of going "wild" and the second emphasizes the need for theorizing/engaging non-human agency/agents.

The field of cultural studies and ecofeminists tend to negotiate the culture-nature and human-animal dualisms of Western thought differently.[1] As a student of, and participant within, both cultural studies and ecofeminism, I find that cultural studies, in general, overemphasize culture and humanness at the expense of nature and our animality. Ecofeminists, in contrast, are trying to recover and liberate what is violently repressed and oppressed by re-inscribing those culture-nature and human-animal dualisms. By juxtaposing the theory and politics of cultural studies with ecofeminism, and exploring the ideological and ecological consequences of those differences, I argue that cultural studies remains trapped within patriarchal logics of humanism (Haraway, 1992b; King, 1989; Plumwood, 1993). In particular, patriarchal logics of humanism are reproduced by privileging cultural and discursive aspects of the human while avoiding ecological aspects of the self, including our corporeality and "wild" animality. Ignoring and attempting to "domesticate" or control our corporeality and "wild" animality, however, undermines the earthly significance of the body, and severs our vital inter-subjective connections with non-human animals and nature (Bigwood, 1993; Cheney, 1989, 1990, 1994; Diamond, 1994; Gaard, 1997b, Gearhart, 1979a, 1979b; Gray, 1979; Griffin, 1978, 1994, 1997; Haraway, 1988; Heller, 1993a, 1993b; Payne, 1994; Slicer, 1998; Spencer, 1996; Spretnak, 1991).

For many ecofeminists, nature is conceptualized within the frame of a culture-nature paradox where nature is understood as both artifactual and not reducible to cultural and discursive containers. I use the frame of paradox to emphasize that the problematic of culture and nature need not be understood only in conflicting and antagonistic terms, but can remain open in and through continual inter-play, and is therefore, ultimately, un-resolvable and un-fixable (Bigwood, 1993; Sandilands, 1994). Moreover, humanness is re-conceptualized as cultural and natural, situated within our animal bodies, and contextualized in and through our political and feral relationships with the more-than-human lifeworld (Diamond, 1994; Luke, 1995; Murphy, 1992, 1994, 1995; Sandilands, 1995, 1997). Since humanness has been significantly formed over and against what the non-human is defined as by dualistic comparison, radically re-inventing what it means to be human also means radically re-inventing our understanding of the more-than-human (Haraway, 1991b; Heller 1993a, 1993b). In this case, ecofeminists attempt to move beyond objectifying modes of perception and relation by engaging non-humans as subjective agents, or co-constructing co-participants.

In this paper, I explore the ideological and ecological limits of cultural studies by critically engaging David Chaney's (1994) book, *The Cultural Turn: Scene-Setting Essays on Contemporary Cultural History*, from an ecofeminist perspective. Chaney's work identifies and traces dominant assumptions within cultural studies, and because it articulates common positions of the field it is a useful paradigm case and text to engage critically. Chaney's articulation of an "ecology of culture" is also of particular relevance for environmental communication studies because it opens a space and place for exploring cultural and discursive processes within a more-than-human world,[2] and potentially offers a valuable resource for enriching our praxis. However, as insightful as Chaney's text is about cultural and discursive processes, his "ecology of culture" still embodies a dua-logic rather than an eco-logic, and fails to offer an adequate account of an embodied ecological self.

By dua-logic I am referring to dualism as a mode of ordering the world. Dua-logic, or dualism, reduces complexity by dividing many interconnected phenomena into mutually exclusive opposites. Moreover, logics of domination are enacted by separating phenomena and groups of beings into two supposedly oppositional poles and assigning value to those differences in terms of hierarchy (Warren, 1994, 1996, 1997). For instance, ecofeminists have developed critiques of the structures and discursive logics of Western culture that contribute to the ongoing domination of the human and non-human lifeworld. Val Plumwood (1993) draws attention to a "gendered reason/nature contrast" as a crucial configuration in Western culture, especially as it is articulated in and through such binary structures as culture/nature, mind/body, and male/female (pp. 41-68). Or, as Charlene Spretnak (1997) observes, "femininity/nature/body/emotion/connectedness/receptivity/the-private-sphere are devalued. . . and considered to exist in service to their 'superior' counterparts. . . masculinity/culture/mind (spirit)/reason/autonomy/aggressiveness/the-public-sphere" (p. 425). One critical task of ecofeminists has been to expose the dualistic structures and discursive logics of domination, and the ways in which these processes have served as a justification for the oppression of "inferiorized" groups. Since discourses of domination often rely on a dualistic foundation of logocentric reason that identifies male humans with the sphere of culture while associating groups such as women and animals with the "inferior" terrains of erotic bodies and nature, these dualistic structures and discursive logics merit critical attention (Spelman, 1982).

By eco-logic, or thinking ecologically, I mean a sense of complexity which emerges from an awareness of the interconnection and interdependence of life. As Chaia Heller (1993b), explains:

> A radical ecofeminist revolution begins by moving from dua-logic to eco-logic. To go beyond dualism, feminists must enhance the complexity of our own thought structures. We need to realize that historically, we as a species have not as yet fulfilled our potential to enhance the interconnectedness of the natural world. . . . Radical ecofeminism entails a revolution in the way we think about nature. . . . Radical ecofeminism goes beyond dualism by seeing culture not as separate from nature, but as a development out of nature. . . . Human beings are born of and live in the natural world. . . . Our evolution is inextricably interconnected to the evolution of all other subjects in the world. Thinking through and beyond dualism means realizing that nothing is separate from the "natural world." (Heller, 1993b, pp. 87-89).

Part of moving from dua-logic to eco-logic is a recognition that the human self is also embodied within a lifeworld rich with human and non-human diversity. As Greta Gaard (1997a) observes:

> An ecofeminist version of an ecological, relational self needs to acknowledge the way that human identity is shaped not only in relationship with other humans, but also in relationship with other animals and with nature. . . . The recognition of nature's shaping influence on human identity is a fundamental recognition, one that is shared by many non-Western cultures. Severing or denying human dependency on our relationship with nature is necessary only to the construction of the master identity, which lies at the center of alienation of Western culture; renewing a recognition of human's relationships with nature is an essential part of an ecofeminist ecological self. (Gaard, 1997a, pp. 14-16).

When cultural studies foregrounds cultural and discursive processes, and fails to consider how those processes, such as identity formation, interrelate with subjective agents in the more-than-human lifeworld, they embody a dua-logic rather than an eco-logic, and thereby undermine the radical potential of cultivating an embodied ecological self (Cheney, 1989, 1990, 1994; Kheel, 1991; Plumwood, 1993).

While I see serious difficulties within Chaney's (1994) cultural approach, I embrace his move to interrogate the cultural turn, in part, because it opens a space and place for trying to cultivate an "ecology of culture." In this paper, I maintain that ecofeminist insight can help "green" cultural studies and Chaney's "ecology of culture" by foregrounding eco-logic and the ecological self embodied in and through dialogic relationships with non-human subjective agents. When cultural studies and ecofeminism are brought together in a theoretical and political partnership, their critical work interrogating the turn to culture can help to de-center a privileged view of culture, where the non-human lifeworld is excluded and erased by an account of culture that is too strongly deterministic, without denying the productive and constitutive importance of culture (Jagtenberg & McKie, 1997; Rogers, 1998). Moreover, to explore the power and promise of ecofeminist cultural studies, I work in and through an example from my childhood.

Critically considering specific examples helps to identify, and therefore resist, the cultural and discur-

sive mechanisms of a patriarchal human center and enable the growth of an embodied ecological self. By using an example from my daily interactions, I hope to reveal the prevalence and functioning of a patriarchal human center that undermines the cultivation of an embodied ecological self necessary for radical change. Before turning to a critique of cultural studies and Chaney's "ecology of culture," I would like to address the possibility that my inclusion of a story from my childhood may be discounted as "trivial" and "confessional." In particular, I argue that an ecofeminist sense of corporeality, one that is sensitive and attentive to our experiences within the more-than-human world, is an ecologically significant basis for criticism.

Ecofeminist Corporeality as a Basis for Criticism

If we are to reconnect with our embodied selves and with nature, we must open spaces and places for encouraging these practices and learning from each other's experiences in and with the more-than-human world (Murphy, 1995; Slicer, 1998; Spretnak, 1991). Identification and empathy with other animals and nature, and accounts of those experiences, may be dismissed by rationalists as "sentimental" and "feminine" (Adams, 1990, 1994; Adams & Donovan, 1995; Birkeland, 1993; Donovan, 1990, 1996; Donovan & Adams, 1996; Gray, 1979; Haraway, 1989; Noske, 1989; Rogers, 1998; Spretnak, 1991). However, human reason functions violently, in this case, through abstraction from ourselves and the more-than-human lifeworld. In other words, de-valuing deep personal experience and local bio-regional narratives is complicit in the control and domination of human and non-human nature (Cheney, 1989; Diamond, 1994; Gray, 1979; Griffin, 1978, 1994, 1997; Haraway, 1988, 1991a, 1991b, 1992a, 1992b; Rogers, 1998; Sandilands, 1994, 1995, 1997; Spencer, 1996). Privileging abstract reason unacceptably forfeits and shifts critical work from embodied knowledge acquired in and through sensuous experience, where human subjectivity is open to human and non-human nature. Moreover, an over-emphasis on abstract reason severs our ties from ourselves and to the natural world. In order to disengage from a cartesian masculinization of thought, with violent dis-embodying and dis-embedding mechanisms, it is necessary to engage in a complex praxis that celebrates and explores our embodied co-participation with non-human subjective agents.

If we do not guide our intellectual and political efforts to address the questions and challenges raised by being embodied in and with nature, we will never cultivate the ecological sensibilities needed for achieving the liberating potential of this corporeality. As Spretnak (1993) observes:

> Since modern socialization has taught us to deny subtle perceptions that do not fit within an objectivist, mechanistic model of existence, how are we supposed to develop our atrophied sensitivity in order to grow in awareness of the intricate, moment-to-moment dance of creation, disintegration, and recreation? . . . Since intimacy with the material world is fearful to modern, industrialized society, how can we hope to enter into conscious relationship with the unitive ground of the astonishing range of spontaneous subjectivity that is in and around us? How can we expect to achieve such a fundamental deepening of our modes of comprehension without cultural practices that encourage us to grow in awareness? How can we come to realize that we live in a participatory universe—that each of us, each minute part of us, is a node within a vast network of creative dynamics—unless we engage in practices that awaken our minds to the realities of such participation? . . . How can we know the unitive dimension of existence as a felt reality, rather than an abstract concept, unless we experience subtle mindfulness of flux, the palpable connectedness within ritual space, or the music, dance, or drama that activates in us deep awareness, wonder, and awe? (Spretnak, 1993, pp. 264-265).

A critical task of this ecofeminist corporeality is to help facilitate earthly sensibilities in a culture where sensuous and emotional connections have weakened. As Catriona Sandilands observes (1997), "To many ecofeminists, this process of alienation of humanity from the 'natural' aspects of itself lies at the basis of humanity's alienation from, and domination of, non-human nature" (p. 144). The healing and liberatory power and promise of an ecofeminist corporeality is in its ability to strengthen our bonds to ourselves, to each other, and to the earth. As Susan Griffin (1994) notes, "What is lost to public awareness is a strong visceral reaction to environmental disaster, the bodily intelligence necessary to survival" (p. 44).

Ecofeminists integrate the erotic with the ecological and open human subjectivity to nature, both internal and external. "The very word erotic comes from the Greek word eros, the personification of love in all its aspects—born of Chaos, and personifying creative power and harmony" (Lorde, 1984, p. 55). As "an assertion of lifeforce" (p.55), the erotic refers "not exclusively to sexuality but also in a more general way to sensuality, spontaneity, passion, delight, and pleasurable stimulation" (Gaard, 1997b, p. 133). As Audre Lorde (1984) puts it, "recognizing the power of the erotic within our lives can give us the energy to

pursue genuine change within our world, rather than merely settling for a shift of characters in the same weary drama" (p. 59). For instance, "our erotic knowledge empowers us, becomes a lens through which we scrutinize all aspects of our existence, forcing us to evaluate those aspects honestly in terms of their relative meaning within our lives" (p. 57). Lorde refuses to separate the spiritual from the political, and maintains that the erotic mediates both realms. "The dichotomy between the spiritual and the political is also false, resulting from an incomplete attention to our erotic knowledge. For the bridge between them is found by the erotic—the sensual—those physical, emotional, and psychic expressions of what is deepest and strongest and richest within each of us, being shared: the passions of love, in its deepest meaning" (p. 56).

Ecofeminists explicitly integrate the erotic with the ecological, which provides a basis for solidarity within and between the species. Integrating the erotic with the ecological "means drawing on the erotic energy of connection to develop relations of care-filled affection and respect with other parts of the natural world" (Spencer, 1996, p. 323). An erotic connection with other animals and nature, in other words, is an awareness of inter-subjective life energy animating the human and non-human lifeworld. In this sense, an erotic mode of perceiving and relating with nature, is on an embodied and emotional level rather than through the subject-object structures of domination. In their searches for non-objectifying modes of perception and ways of relating, ecofeminists offer an account of ecological bodies that matter in culture and nature. This account of an ecofeminist corporeality integrates the erotic with the ecological, and re-opens human subjectivity to both internal and external nature, and is of vital importance because erotic bodies, erotically empowered, not only re-connect people with themselves and each other, but also with non-human nature (Abram, 1996; Bigwood, 1993; Diamond, 1994; Gaard, 1997b; Gray, 1979; Griffin, 1994; Heller, 1993a; Lorde, 1984; Spencer, 1996). Ecofeminists, then, offer an account of corporeality with an erotic ecological sensibility that works against intra- and inter-species violence.

Ecofeminist corporeality challenges the epistemological and ontological conditions of modernity, and in particular, the cartesian masculinization of thought characteristic of the scientific revolution that keeps humans and their bodies isolated from their natural and animal bodies in a more-than-human lifeworld. Many feminists and ecofeminists, such as Susan Bordo (1986) and Josephine Donovan (1990), argue that cartesian objectivism has furthered the masculinization of thought and the flight from "feminine" modes of knowing and becoming with problematic consequences. This denial and subjugation of the body's wisdom and connection with other animals and nature has propelled and magnified the hidden agenda of modernity. As Donovan explains, "The relegation of women, emotions, and values to the private sphere, to the margins, allowed. . . masculine practices in the public political and scientific sphere to proceed amorally, 'objectively,' without the restraint of 'subjective' relational considerations" (p. 363). The historical and philosophical division between the "intellect" and "senses" not only splits and distorts human consciousness, but "destroy[s] his or her (the modern person's) ability to relate to the world through any other mode of perception other than rationality" (Willoughby, 1993, p. 141). This mind-body dualism is deeply problematic. It "militates against the possibility of an alternative morality based on empathy and cooperation" (Birkeland, 1993, p. 30). In addition to these impediments blocking the recovery of "masculine" and "feminine" modes of knowing and becoming within our selves and society, instrumental rationality colonizes the body and nature, and therefore serves to weaken our various erotic and ecological connections. This colonization is of concern, in part, because numbing and de-sensitizing the body blocks a relational and caring self (Adams & Donovan, 1995; Donovan, 1990; Donovan & Adams, 1996; Noske, 1989; Plumwood, 1993; Spencer, 1996). An erotic and ecological transformation in human nature, however, may provide a new consciousness rooted in culture and nature, and supply a barrier against cruelty and violence.

Ecofeminists have been particularly concerned with instrumentalizing and objectifying modes of perception and relation, and work to overcome the subject-object split by encouraging sensuous and empathic relationships with other animals and nature. Sensitivity to one's erotic and ecological corporeality provides a source of resistance to well-intentioned reformism. Despite political and psychological conditions which keep reason and rationality estranged from emotion and passion, Spretnak (1990) observes that "it is our refusal to banish feelings of interrelatedness and caring from the theory and practice of ecofeminism that will save our efforts from calcifying into well - intentioned reformism, lacking the vitality and wholeness that our lives contain. We need to find our way out of the technocratic alienation and nihilism surrounding us by cultivating and honoring our direct connections with nature" (p. 13). Erotic and ecological corporeality is not only a crucial form of radicalism generally lacking in Western culture and academe (McKerrow, 1998), but it offers a source of resistance to being easily co-opted (Bigwood, 1993; Spencer, 1996). If the liberation of the human and non-human

lifeworld depends on a new embodied sensibility—as a vital bond of solidarity that both repels violence and may be resistant to cooption—then cultivating erotic and ecological bodies may be just what is needed in order to contribute to and even sustain our collective liberation efforts. As Heller (1993a) puts it, for:

> an anti-erotic society which hates the idea of the body, for the body represents the borderless zone which it cannot control. . . a reclamation of the erotic has tremendous political implications. The erotic body, as a body of desire, represents the opposite of social expediency. A body that is well tuned to the strong pitch of its own desire, a desire for autonomy and authentic connection, is a body that is likely to resist authority. A body that is responsive, capable of passionate empathy and a depth of feeling is less able to turn its cool shoulder on the suffering or injustice of another. . . . A liberatory erotic emotionality is a kind of emotional empathy, a kind of social resonance which enables us to be responsive and resistant to social and ecological injustice. (Heller, 1993a, pp. 149-150)

In a somata-phobic and anti-ecological cultural context (Gaard, 1997b; Spelman, 1982; Spencer, 1996), ecofeminists have argued for moving from dua-logic to eco-logic, and from the disembodied human center to a corporeal ecological self (Gearhart, 1979a, 1979b). Moreover, ecofeminist corporeality offers an important erotic and ecological basis for eco-criticism, and provides the theoretical and political "grounds" for my critique of cultural studies and Chaney's articulation of an "ecology of culture" in particular.

My concern is that human-centered constructivism and epistemology are embodied within cultural studies and Chaney's "ecology of culture." For instance, I find the notion that the ecological self is primarily, or most importantly, mediated in and through culture and discourse to be too simplistic, and even dangerous. Privileging constructivist assumptions not only subsumes the question of an ecological self by confining it to an overly narrow symbolic frame of knowing, but it denies consideration of other dimensions of being and experience, and therefore truncates the field of possible knowledge. Or, as Mark Seltzer (1992) notes, when cultural theorists are "confronted by the nature/culture opposition, critics choose the culture side, as if to eliminate the first term and inflate the second" (p. 155). Rather than accept and perpetuate a perverse turning away from nature, as if culture is everything and nature is nothing, an ecology of culture may help to re-negotiate this dualistic logic of separation and subjugation by constantly assessing discourse and critically considering identity within co-evolving logo- and eco- spheres (Murphy, 1995; Jagtenberg & McKie, 1997).

At this moment in the history of modernity, what is as important as what humans can and do know, is what they cannot and do not know. In other words, instead of using reductionistic discourses that overly familiarize our relationships with other animals and nature, it may be necessary to celebrate a mysterious strangeness with non-humans in order to counter a Western epistemological tradition that violently claims to discover and know the "secrets" of other animals and nature. Seeing the non-human world as something we will comprehend, even in limited symbolic ways, still accepts an attitude of trying to discover the secrets of, and master, nature.[3] As I critically engage accounts of identity formation within cultural studies and Chaney's "ecology of culture," I will attempt to dis- and re- articulate the tendency to privilege constructivism and epistemology from an ecofeminist location.

A Critique of the Dua-Logic within Cultural Studies and Chaney's "Ecology of Culture"

Chaney's (1994) consideration of the turn to culture emphasizes the interrelationships of representations and identity, and the formation of identity in and through various performances. Identities are constituted in and through performances that are simultaneously enabled and constrained by the perceived expectations of fellow participants within a given interaction, and the location, or space and place, of that dramatic action. As Chaney explains:

> In the paragraphs that follow I shall switch between levels and modes of performance. I shall begin by looking at representation as integral to any adequate account of identity. The reason for this is that whether we are thinking of personal, social, cultural, or some other mode of identity (perhaps ecological?), the relationship between actor and social category is always two-sided. The outsider (you) uses an identity categorization in relation to the performer (I) based on some set of what seem relevant characteristics. On the other side performers being aware of ascriptive criteria can play more or less willingly and with a variety of degrees of sophistication with others' expectations. (Chaney, 1994, p. 69).

While "all social life can be seen to be patterned in forms of performance" (p. 198), nature is positioned as a non-performing non-actor, and irrelevant to these

processes of identity formation. In one description, for example, nature is reduced to a stage where human dramas unfold, ideologically isolated and confined to the margins outside of human culture and subjectivity (p. 145).[4]

Chaney (1994) advocates that the physical terrain of cultural studies be understood as a stage: "My purpose in these notes is to recommend that we conceptualise the space for social action as a malleable sphere rather than as a fixed terrain. One way of describing this approach is to contrast the 'space' of the cinematic image with that of the theatrical stage" (p. 149). Underlying this notion of a stage is a position centering "the social construction of the environment" (p. 154), where humans are social and cultural, and non-humans are "pre" or "anti" social, and therefore, natural (p. 94). While Chaney is aware and concerned that nature has been, and continues to be "seen as the other or negation of civilization" (p. 94), nature is denied subjective agency, and continues to remain a radical other within his consciousness and discourse (Plumwood, 1993). What is key in the turn to culture for Chaney is the discursive mediation of nature, and social performances on those stages.[5] However, human agents and their cultures are positioned as the sole measure of importance when Chaney claims "the real world no longer exists in its own terms, but only as it is staged, performed, enacted, imagined in cultural form" (p. 182). While Chaney is sensitive to the exploitation of nature, I believe his account of cultural studies and the human self could be more ecological, but, before I can get to this point, it is only fair to consider what he means by an "ecology of culture."

Although Chaney (1994) explicitly opposes the domination of non-humans, his account of an "ecology of culture" is defined by, and subsumed along, an anthropocentric turn to culture. For instance, instead of considering how ecology exposes crucial anthropocentric pitfalls in the turn to culture, Chaney's account of an "ecology of culture" is still culturally centered. Chaney writes:

> there is a necessary ecological impulse in a turn to culture. This is in part reclaiming an original dimension to the meaning of culture, as Williams insisted from the beginning: that of cultivation or productive engagement with a terrain. To insist that forms of collective life are grounded in representations which are a productive engagement with a terrain is therefore an appropriate recognition that turning to culture necessitates an ecological consciousness. To see this as sociology climbing on the 'green' bandwagon is to miss the ways in which the bandwagon is itself a popular form of the turn to culture. (Chaney, 1994, p. 157).

In Chaney's focus on nature as culturally and discursively mediated,[6] and argument for an ecological consciousness within the turn to culture, I do not find a consideration of environmental ethics or radical ecologists critiquing the turn to culture for ignoring and denying the presence and agency of non-human subjects (Light and Smith, 1997; Manes, 1992).

Since nature is not only a human construction and stage upon which the human drama unfolds in radical separation from non-humans, cultural studies must find and cultivate additional conceptualizations for and modes of engaging with other animals and nature (Noske, 1989). However, these alternatives critiquing the turn to culture are not really offered or explored by Chaney. Instead, nature gets absorbed into culture and radically excluded. Chaney also dissolves the differences among environmentalisms with a sweeping claim that denies critical distinctions among different ecologies, and between cultural studies and various environmentalisms. To merely describe "the ecological consciousness of new social movements as deeply cultural" (Chaney, 1994, p. 193), is to falsely universalize that consciousness, and in so doing overlook additional ways of interpreting and evaluating culture (Abram, 1996; Barad, 1996; Bennett & Chaloupka, 1993; Bird, 1987; Cantrell, 1996; Conley, 1997; Darnovsky, 1991; Gearhart, 1979a, 1969b; Glotfelty & Fromm, 1996; Griffin, 1978, 1994, 1997; Haraway, 1991a, 1991b, 1992a, 1992b; Hawkins, 1998; Hayles, 1995; Jagtenberg & McKie, 1997; Lahar, 1993; Manes, 1992; Merchant, 1980, 1989, 1996; Rogers, 1998; Sandilands, 1994, 1995, 1997; Penley & Ross, 1991; Plumwood, 1993, 1997a, 1997b, 1997c). Given that Chaney's stated purpose is to map the field of cultural studies, and not to engage the poly-vocal terrain of eco-politics, this critique may not be fair. However, I am concerned about moves that conflate or elide differences because they ignore and silence pivotal critiques of radical ecologists, and in particular, ecofeminists.

While many ecofeminists share Chaney's notion of identity formation, his account of the self is inadequate because it fails to consider an ecological aspect as well. As Chris Cuomo (1998) argues:

> Our very selfhood and moral capacities are formed within and by social and ecological networks of dependence, interaction, meaning, material exchange, opposition, affection, and power. Ecological feminists see human ethical and political agents as primarily, necessarily, and intrinsically social, in a broad, cultural

> sense. In addition, ecological feminists conceive of human selves as social and ecological, as necessarily and significantly participating in/as nature as well as human social reality. . . . Ecological feminist desire to incorporate factors such as gender, race, economic status, sexuality, historical and geographical location, into a loose, critical, mutiplicitous conception of human selves renders uncritical, liberal conceptions of the self that misconstrue the extent to which we are socially and culturally constituted as at once natural and 'more than' natural. (Cuomo, 1998, p. 100).

Since the culture-nature dualism is a fiction, largely of Western culture, cultural studies and Chaney's account of an "ecology of culture" are not inevitably locked into the binary opposition between culture and nature, and subjects within cultural orders and objects within natural orders. As Cuomo (1998) explains, "conceiving of and responding to natural beings and communities as active, rather than inert, calls to attention qualities and potentialities that will otherwise remain unseen. Philosophical work in environmental ethics requires such interrogations, especially because as we determine how to reconsider our actions and relations with nature, we inevitably reinvent nature and ourselves" (p. 29). Instead of a sole or exclusive focus on the cultural and discursive dimensions of the politics of everyday life, separated from an embodied ecological context and non-human subjective agency, ecofeminist work may help develop cultural studies by providing a consideration of the importance of other animals and nature, as well as non-cultural and non-discursive moments. While culture and discourse are significant, it is also important to consider critically our embodied experiences with non-human subjective agents.

By exposing and de-centering the over-emphasis on the cultural and discursive within cultural studies, ecofeminist theory and politics opens a space and place for embodied eco-logical work to be done. From an ecofeminist perspective, there is a critical difference between saying we can only know nature in culturally and discursively-mediated ways, and saying that while the ways we know nature are meditated, what is also important is what we cannot and do not know. Not only is the non-human ultimately not reducible to culture and discourse for ecofeminists, but their theories of culture and discourse offer an ecological sense of social and linguistic finitude lacking in cultural studies and Chaney's (1994) "ecology of culture" (Bigwood, 1993; Cantrell, 1996; Griffin, 1978; Sandilands, 1994, 1995, 1997). Ecofeminists draw attention to human limits to correct for anthropocentrism and to open a space and place for including the more-than-human world. Acknowledging human limits and humility can help foster an awareness of the non-human other as another, and inspire a radical reinvention and re-articulation of the self as social and ecological within culture-nature relationships. Because the ecological crisis has been partially enabled by denying our dependency on, and various interconnections with, nature, in addition to excluding and back-grounding the presence and moral considerability of non-humans, emphasizing limits and humility, and re-opening our subjectivity may be a necessary for maintaining radical change (Plumwood, 1993, 1997a). If our privileged status as humans, or humanness in relation to non-humans, remains unmarked and unquestioned, we will continue to serve as agents of those very anthropocentric ideologies (Haraway, 1989). From an ecofeminist perspective, then, ecological reflexivity entails interrogating and re-engaging the construction of species and species boundaries by foregrounding patterns of thought and habits of action that have contributed to the radical othering of non-humans, and actively seeking alternatives to those traditions of non-human domination. In the rest of this essay, I will explore one possible alternative, that is, the eco-logic of simultaneously going "wild," and theorizing/engaging non-human agency/agents within those "wild" spaces and places.

The Eco-Logic of Going "Wild"

Western culture is, in general, disembodied and disconnected from nature. As Deborah Slicer (1998) observes, "we are a culture generally deaf to both our bodies and the rest of material life, deaf at an increasing cost" (p. 61). The notion that the rational mind can and must overcome the limitations of the body and nature is at the basis of Western culture and still influences humanistic disciplines such as cultural studies. The domain of the sensuous has been and continues to be understood as hostile and detrimental to reason (Abram, 1996; Bigwood, 1993; Diamond, 1994; Gaard, 1997b; Gray, 1979; Lorde, 1984; Spencer, 1996). However, in this culture, anything considered to be antagonistic to reason is subjugated and controlled. Moreover, culture is traditionally conceived and construed as a vehicle by which humans transcend both internal and external nature, and perpetuates a notion of a disembodied Western subject that is also alienated from nature. In other words, nature has been constructed as lacking the civilizing forces and protection of culture, and Western culture believes it must rise above the "laws of the jungle," at the expense of nature, in order to prevail. In contrast to the "oppressive" constraints of the body and nature, reason and

culture represent the domain of freedom for the autonomous rational subject of the Western world.

At least since Aristotle's "Great Chain of Being," humans have used their abilities to reason and communicate hierarchically, as distinctions that separate people from and place them above other animals and nature. Levis-Strauss notes that "the emergence of language which accompanies the shift from animality to humanity, from nature to culture, is also a shift from affectivity to a state of reasoning" (cited in Leach, 1974, p. 37). The transition into an "enlightened" modern science led to an inflated sense of human importance, the "disenchantment" and "rationalization" of the embodied lifeworld, and the quest to dominate human and non-human nature.

Andro- and anthro- centric logics of domination, for example, deny human continuity with our animality and dependence on nature (Hawkins, 1998; Noske, 1989; Plumwood, 1993, 1997a). As Marilyn French (1985) explains:

> patriarchy is an ideology founded on the assumption that man is distinct from the animal and superior to it. The basis for this superiority is man's contact with a higher power/knowledge called god, reason, or control. The reason for man's existence is to shed all animal residue and realize fully his 'divine' nature, the part that seems unlike any part owned by animals—mind, spirit, or control. In the process of achieving this, man has attempted to subdue nature both outside and inside himself; he has created a substitute environment in which he appears to be no longer dependent upon nature. The aim of the most influential human minds has been to create an entirely factitious world, a world dominated by man himself would be entirely in man's control (even weather, disease, and death), and man himself would have eradicated or concealed his basic bodily and emotional bonds to nature. (French, 1985, p. 341).

The rational autonomous subject of Western culture has worked to overcome immersion in the pleasures of animal life by controlling animal instincts, and in the process, has become alienated from their erotic bodily pleasures, other humans, and non-human animals and nature (Diamond, 1994; Luke, 1995; Sandilands, 1994, 1995, 1997; Spencer, 1996). Moreover, this masculinist subject is constituted and achieved in and through the violent repression of internal and external nature. In this case, the attainment of masculinist manhood is necessarily at the expense of all that is "other" in Western culture (Kheel, 1995). Ecofeminist logic, subjectivity, and corporeality, however, works to de-center culture and discourse while re-connecting humans with their bodies and the non-human by emphasizing both our human "wild" animality and the subjective agency of non-humans.

For example, ecofeminists drawing on a Lacanian version of the Real, such as Sandilands (1997), attempt to articulate the boundaries of knowing nature in and through culture and discourse in order to open a space and place for respectfully engaging non-humans. The knowable limits of culture and discourse are marked by the Lacanian sense of the Real. In this context of human finitude, "the Real is the unrepresentable kernel of death and elation and awe around which language flows but which it can never represent" (Sandilands, 1997, p. 136). Moreover, this sense of cultural and discursive finitude is potentially borrowed and adapted by ecological movements as a way to de-center anthropocentrism informing our theories of social and linguistic processes, and simultaneously to open a space and place for respectfully engaging other animals and nature in morally considerable ways. "For ecological politics, this 'empty space' at the center of democratic discourse signals an opening for a crucial part of nature to appear" (Sandilands, 1997, p. 136). An acknowledgment and celebration of the Real and human humility by comparison, might help resist the colonizing moves of trying to force non-humans into cultural and symbolic containers according to human cognitive and emotional dispositions and needs.

Within these wild spaces and places, where nature is not representable but still is an active participant, there is a profound sense of "strangeness." As Sandilands (1997) notes, strangeness is a

> moment of the human linguistic unknowability of nature (always and necessarily including aspects of ourselves), must be preserved and fostered. Not only is it a moment of human humility, but it is a moment that valorizes human incompleteness, a limitation of 'the social,' a moment where the so-called rational mind has not completely colonized the impulse, the spirit, or the body any more than it has completely domesticated the nonhuman animal. (p. 138)

Celebrating "strangeness," then, may be necessary to resist the Western legacy of colonizing human and non-human bodies, or subjective agents (Diamond, 1994).

In this ecofeminist account of knowing and not knowing humans, humans and non-human nature are partially feral or "wild" (Luke, 1995). Within this ontological notion of the "wild," nature is a space and place

> which the Symbolic can never represent as much as we might desire it to do so. The Real is discursively impossible, always something other than the language that attempts to domesticate it. This wildness is unspeakable and calls attention to the limits of human speech itself. . . . The Real runs through nonhuman nature as it runs through humanity, but strangeness is a constant, anarchic part of both realms. (Sandilands, 1997, pp. 138-139).

A move to accept and foreground the un-representable, or "anarchic strangeness," where nature is also a space and place where human speech cannot reach, may help subvert the hegemony of the human center and work to resist ideological closures (Sandilands, 1995). "If part of nature can be a mark of human lack, then nature can appear in democratic discourse; it is the experience of the limit that prevents ideological totality" (Sandilands, 1997, pp. 142-143).

An ecological ethics of the Real has two simultaneous goals based on the recognition that social and ecological liberation cannot be isolated from each other, but rather, are inseparably connected to one another so that one cannot be fully liberated without the simultaneous liberation of the other:

> One is to articulate liberatory discourses around nature with struggles for social justice, as a way of continuing and deepening a democratic and emanicipatory project; the other is to show the limits of that discursive project as a way of fostering forms of experience that are not readily absorbable by an anthropocentric reliance on 'speech.' Democracy thus seems to require a sense of linguistic limits; it is not only that we need to speak differently, in a way that fosters the democratic appearance of nature, but that we need to remember the limits of precisely that speech as a way of preventing an ideological (especially racist and sexist) relation to nonhuman nature. (Sandilands, 1997, p. 143).

It must be noted that this attempt to theorize and experience the limits of culture and discourse does not ignore the importance of these processes in the domination of humans and non-humans, nor de-politicize cultural studies. As Sandilands puts it, "if part of nature is unspeakable, it is even more important to link struggles over nature with struggles for social justice and to think carefully about the appearance of nature in discourse, as any authorization we might look for in the truth of nature is epistemologically and politically suspect" (p. 139). However, concern for the "wild" seems largely absent from cultural studies. While cultural studies may overlook "wild" spaces and places, ecofeminists are more sensitive and attentive to this "strange" experiential theory and politics. Ecofeminist work and familiarity with this "strange" experiential theory and politics puts this group of scholars and activists in a position to enrich cultural studies and Western culture.

As humanness changes and is reorganized around an embodied ecological self, our relationships with non-humans will change radically as well. Change requires more than cultivating ecological consciousness, it depends upon ecological agency. As Patrick Murphy (1992) explains:

> An ecological agency would mean volitional interdependence, the appreciation of individual and community opportunities within an increasing awareness of necessities required by interrelationships with the non-cultural systems of the physical world. . . . Ecological agency is based on the premise that we do have choices and that we do exercise volition in terms of our behavior in relation to ecosystemic interdependencies, with all actions producing reactions of one kind or another. . . . A theory of ecological agency would say: we do not have to accept the present situation; based on what we understand, perceive, and feel, we can seek to become something more 'another' rather than 'Other' to the rest of the world. (Murphy, 1992, p. 315)

From an ecofeminist perspective, then, the key consideration for interpreting and assessing the ecological health of a given culture, or the adequacy of an account of an ecology of culture, is how it constitutes the self and ethical conduct within human and non-human relationships (King, 1989; Payne, 1994). Moreover, ignoring or denying the importance of embodied human and non-human interactions truncates the field of possible knowledge, and directs attention away from cultivating ecological selves, and, by extension, fields of ecological inquiry. In addition to going "wild," which celebrates our corporeality and animality in a more-than-human world, there is also transformative eco-logic in theorizing/engaging non-human agency/agents.

The Eco-Logic of Theorizing/Engaging Non-Human Agency/Agents

Not only has theorizing agency been an important part of cultural studies, at least for critical work concerned with self-reflexivity and ethical conduct (Slack, 1994; Slack & Whitt, 1992), but the concept of agency has been interpreted and contested from multi-

ple perspectives. For example, within Chaney's (1994) account of the turn to culture and "ecology of culture," agency is located exclusively with humans on non-human stages. In contrast to this more typical account of human agency within cultural studies, James Clifford (1997) questions human-centered articulations by exploring both non-human subjecthood and agency (pp. 299-347). In particular, Clifford not only considers how other animals and nature are important figures and participants within human and non-human dramas, but also wonders about non-human historical consciousness and action. What is at stake in these different accounts of subjecthood and agency?

This part of my paper explores human and non-human subjecthood and agency within cultural studies. To do this, I will briefly explicate this problematic of differing accounts of subjecthood and agency, and the domain of that consciousness and action, from an ecofeminist perspective sharing Clifford's position. To help situate and contextualize this problematic within the politics of everyday life, I will share my experience of urban snake hunting, which will also be used to reconsider dominant views of subjecthood and agency within cultural studies and Chaney's "ecology of culture."

Cultural studies and ecofeminists, in general, offer different accounts of what it means to be an agent. For cultural studies, while there is considerable variation in the degree and nature of agency, agency and the domain of that action are confined to humans within culturally and discursively mediated contexts. For ecofeminists, in contrast, agency is not limited to humans or culturally and discursively mediated contexts (Alaimo, 1994; Barad, 1996; Bird, 1987; Bigwood, 1993; Cheney, 1989, 1990, 1994; Cuomo, 1998; Griffin, 1978, 1994, 1997; Haraway, 1989, 1991a, 1991b, 1992a, 1992b; Hawkins, 1998; Hayles, 1995; Heller, 1993a, 1993b; Jagtenbert & McGee, 1997; Merchant, 1980, 1989, 1996; Murphy, 1992, 1994, 1995; Noske, 1989; Plumwood, 1993, 1997b, 1997c; Spencer, 1996; Zimmerman, 1994). In particular, for many ecofeminists, humans are not the only agents within semiotic-material contexts of culture and nature (Haraway, 1989). As Donna J. Haraway (1997) observes, semiotic-material "contexts are dynamic webs of human and nonhuman actors" (p. 116). Ecofeminists critique theories that either assume some version of, or are partially connected to, what Haraway calls "technological humanism." In a world view based on, and informed by, technological humanism, "there is only one Actor, and we are it. Nature mutates into its binary opposite, culture, and visa versa, in such a way as to displace the entire nature/culture (and sex/gender) dialectic with a new discursive field" (p. 149). Cultural studies has been bound by a form of technological humanism, or at the very least, has been confined by the hegemony of the human center.

For example, while I agree with Chaney's (1994) position that nature is artifactual, non-humans are also subjects and have agency, too. Humans interact with non-humans in and through "other worldly conversations" that are not only linguistic, but also "embodied" and "affective" (Cheney, 1989; Donovan, 1990, 1996; Haraway, 1989, 1991a, 1991b, 1992a, 1992b; Noske, 1989). In other words, there are many modes of articulation and connection that are not purely cultural and discursive. Moreover, in a historical context where representations of other animals and nature as passive are deeply embedded within the consciousness and encoded into the texts of Western culture, a notion of non-human subjecthood and agency is potentially subversive of this anthropocentric legacy. If we are no longer to relegate and banish non-humans to the background, where they are positioned and seen as natural resources for human use and consumption, cultural studies needs alternatives that will help break the hegemonic grip of a chauvinistic humanism that represents and understands non-humans as passive objects of the human-centered gaze. In contradistinction with Chaney's view of nature as a stage, ecofeminists refuse an interpretation of the world as a stage upon which the human story is enacted, but rather, understands non-humans as subjective agents within the drama of reciprocal culture and nature relationships.

One significant exception to this not always accurate juxtaposition of cultural studies and ecofeminist accounts of subjecthood and agency is Clifford's (1997) consideration of whales and sea otters within the history of Russian expansionism to the western parts of Northern America. Clifford writes:

> Historical 'actors'? Surely this is going too far. For what I have said suggests only that whales and otters have become a new kind of raw material for human appropriation and commodification. They hinder development only inasmuch as they are mobilized as potent symbols by environmentalist culture and politics. The agency, surely, is all human. Yet if environmentalism teaches anything, it is that 'we,' humans, are not the only actors in the nonreversible course of the planet, and it questions a worldview that keeps 'history' exclusively located in human action and consciousness. Leaving aside the overlay of species- and ethnocentrism in such a worldview (Kashaya histories can include animals as conscious agents), human-centered historicisms increasingly seem dated, legacies of nineteenth-

> century notions of progress and development that cannot be sustained. The nature of historical agency and consciousness is newly uncertain. . . . Can we imagine non- human historical consciousness? . . . Why this desire to find something like historical consciousness and agency in nonhumans? (Clifford, 1997, p. 323).

Drawing on ecological critiques of the cultural objectification of non-humans, Clifford questions human-centered notions of historical consciousness and action. I believe Clifford's questions of non-human consciousness and action are crucial for cultural studies because they can potentially open an interlocking social and ecological space and place, or context where culture and nature are co-constitutive, and both human and non-humans are subjective agents within these dynamic co-participating relationships. In this case, respecting non-human historical consciousness and action enables cultural critics to "ask about nonhuman temporalities which intersect with but are not reducible to human history" (Clifford, 1997, p. 327). Perhaps a story of urban snake hunting from my childhood can help "ground," and critically consider, some of these issues and concerns.

* * *

Late last April, I was chillin' in a meadow along the Rattlesnake river and was overwhelmed by a set of flashbacks. During each episode, it seemed like time would freeze, as though some-thing or some-being had stopped the world. During those intensely unfocused and hyper focused moments, I had a vivid and affective connection with the memory of a snake. Each of those moments was interrupted by another liquid layer of embodied memory, as it rushed into my consciousness to displace the previous one. While I can't capture and adequately represent this sense of being-in-the-world, with wild spaces and places, within and beyond humans, re-experiencing several of these memories nearly simultaneously unraveled and illuminated another layer of connection between these snake experiences. Perhaps this was just a random epiphany? Perhaps it was my unconscious being articulatable, or even trying to tell me something I need to "know"? But these memories weren't just about snakes in a strange collapse of time, space, and location. In particular, each memory of a snake seemed vibrantly and powerfully embedded within a drama of human and non-human relations that I now have come to understand as a broader cultural process of the masculinist making of men in and through acts of intra and interspecies violence. One memory, or example, of this cultural process is my experience of urban snake hunting.

I found myself, in the third grade, moving to and living in San Diego, California, and desperately looking for friends. I soon began hanging out with these sixth-graders who took me hunting for snakes. We would go hunting in canyons at the edges of community neighborhoods, and when we would discover snakes, I was ordered to kill them. I obeyed and killed several snakes. For the few days that I was trying to "win" the friendship of these kids, they'd insist that I kill the snakes, and when I at first refused, I was lashed at for not doing "appropriate" boy behavior. To try to make me conform with their notions of maleness that treats any fellow being as an object to be controlled and harmed at will, they mocked me and told me not to be a "girl," a "sissy," and other non-male markers. These supposedly non-male markers suggested that if I did not give in, I would lack and be deficient as a boy, but if I did the "right" thing and displayed "normal" boy behavior by killing the snakes, I could overcome those inferiorities and join their exclusive construction of masculinist maleness, which was necessarily at the expense of others. In addition to verbal taunting, they kicked me and threatened to "kick my ass" if I didn't kill the snakes. Had I known I was cutting off the heads of rattlesnakes with rocks, creatures that could have easily killed me, I wouldn't have given in to the coercive pressure of the threat of a beating. It would have been less severe than the risk of dying.

Re-visiting this experience of urban snake hunting, I wonder about the ideology of "man the hunter" and its powerful influence on identity formation (Haraway, 1989). Perhaps this ideology of making masculinist men has taken on new cultural formations, even for children in the city. In other words, I do not believe my experience is an isolated instance. It seems that a masculinist culture of violence achieves maleness and humanness in and through acts of violence and killing. Violence and killing have been a significant way of transcending whatever women, animals, and nature are defined as by comparison. As Marti Kheel (1995) points out, "the activity of hunting is not only essential for the attainment of full heterosexual manhood, it is integral to the development of one's status as a full human being" (p. 90). In other words, "hunting and killing animals is a standard rite of passage out of the world of women and nature into the masculine realm" (p. 106). Was it necessary to kill snakes for social approval? Why would these other kids try to exert power over me and non-humans by pitting me against these human and non-human creatures? Why was their violence against me, and my violence against snakes, "normal" boy play, and a source of their twisted enjoyment and pleasure? Could they have just simply done to me what was done to

them, in a cycle of violence? Were they just simply displacing and transferring violence they had experienced and learned in and through their process of being socialized to be a normal masculine boy/man?

* * *

This memory of urban snake hunting foregrounds the intersections of socializing masculinist boys/men at the expense of human and non-human others. Moreover, this example can help us to reconsider and rethink subjective agency within cultural studies, and, in particular, the scope of ethical conduct for human agents in relationships with other animals and nature. For instance, if violence is enabled, and occurs, in part, by denying subjective agency and reducing living beings to passive objects that are treated accordingly, then respecting one's subjective agency may help radically re-constitute existing relationships of intra- and inter- species violence. If honoring the subjective agency of oppressed persons can work to go beyond a self-other dichotomy by re-conceptualizing the other as another morally considerable being deserving of respect and care, then a theory of non-human subjective agency may contribute to transforming human relationships with other animals and nature as well.

For example, with my experience and story of urban snake hunting, I have tried to suggest the need and importance of considering not only culture and intra-species relationships, but also, culture embedded within nature and inter-species relationships. In particular, a sensitivity to the embodied ecological self requires considering how rattlesnakes and nature were positioned in and through an inter-species drama of making masculinist boys/men. Instead of a limited account of human-centered subjective agency where non-humans are conceptualized as inert and passive objects, ecofeminists work to re-negotiate questions of humanness within a cultural and natural context by recognizing non-humans as fellow participants. Anthropocentrism works to stop ethical frameworks at the human boundary, and thereby fails to extend moral considerability to non-humans. Within an anthropocentric framework, non-humans are widely understood as being discontinuous from, and having a radically different nature than, humans. In particular, humanness has been formed over and against what we decide other animals and nature are by dualistic comparison. However, these species distinctions are construed in terms of hierarchy, and have served a modern taxonomy of domination. Rather than accept false divisions based on exaggerating the differences while minimizing the similarities and contribute to policing boundaries that subordinate other animals and nature, ecofeminists call into question what it means to be human and non-human and open a space and place for cultivating the embodied ecological self in relation with non-human subjective agents as well.

Haraway (1992a), for instance, maintains that "we must find another relationship to nature besides reification, possession, appropriation, and nostalgia" (p. 65). Rather than exclude the presence of nature and deny our interdependence and interconnection with non-human subjective agents, Haraway re-conceptualizes, and works to re-invent nature, as a critical concept and articulatable actor (Haraway, 1991b):

> Nature is, however, a topos, a place, in the sense of a rhetorician's place or topic for consideration of common themes; nature is, strictly, a commonplace. . . . Nature is also a tropos, a trope. . . . Nature is a topic of public discourse on which much turns, even the earth. . . . If the world exists for us as 'nature,' this designates a kind of relationship, an achievement among many actors, not all of them human, not all of them organic, not all of them technological. . . . nature is made, but not entirely by humans; it's a co-construction among humans and non-humans. (Haraway, 1992b, pp. 296-297)

In Haraway's expanded sense of rhetoric, "Nature may be speechless, without language, in the human sense; but nature is highly articulate. Discourse is only one process of articulation. An articulated world has an undecidable number of modes and sites where connections can be made" (p. 297). For example, when we found rattlesnakes on our urban hunting trips, the snakes would always rattle defensively. If I had listened to those articulations, and made sense of those "signs" as I do now (they were scared and could have killed me), I would have respected their threatened position, honored their power over me, and left them alone (Merchant, 1996). However, this interpretation could not have happened but for the presence and articulation of those snakes, and my willingness to listen. Together, we influenced each other's life-worlds, and acted based on our various perceptions of those posturings and performances.

Cultural studies, unlike ecofeminism, tends to neglect or omit a concern for "non-human cultures, subjectivities, histories, and material lives" (Haraway, 1992a, p. 70). As Haraway (1988) observes, "Ecofeminists have perhaps been most insistent on some version of the world as active subject, not as resource to be mapped and appropriated in bourgeois, Marxist, or masculinist projects" (p. 593). Moreover, a radical reformulation of non-human subjective agency is critical for transgressing an anthropocentric order structured by, and organized with, a culture-nature dualism that

also limits cultural studies, in general, to a pre-ecological framework. As Stacy Alaimo (1994) observes, "destabilizing the grounds of appropriation and domination by emphasizing the agency of nature and thus breaking down the borders between subjects and objects, nature and culture is an immense project, but one potentially rewarding for environmental feminism" (p. 146). Moreover, "focusing on the agency of . . . nature can help keep environmentalism in the political arena and can oppose the appropriation of nature as resource by stressing nature as an actor and by breaking down the nature/culture divide, thus undermining these systems of domination" (p. 150).

For example, recognizing the subjective agency of non-humans can transform how humans treat other animals and nature. In my experience of urban snake hunting, if snakes were not seen as toys, they might not have been treated accordingly. However, because they were symbolically constructed as objects, compassion was severed, and their suffering and sacrifice were rendered irrelevant concerns from this detached point of view. If the snakes had been seen as fellow subjective agents, they might have been treated with respect and a caring attitude instead of an instrumentalizing and violent one. If humans learn to identify and empathize with non-humans, then perhaps the symbolic status of other animals and nature will shift toward fellow creatures with whom we should live peacefully (Adams, 1990, 1994; Adams & Donnovan, 1995; Donovan, 1990, 1996; Donovan & Adams, 1996; Haraway, 1989; Noske, 1989). As Ronnie Hawkins (1998) puts it, "recognizing that agency and subjectivity abound within nature alerts us to our potential for dominating and oppressing non-human others, as individuals and groups. Reciprocally, seeing ourselves as biological beings may facilitate reconstructing our social reality to undo such destructive relationships" (p. 158). Not only is it important to acknowledge the subjective agency of the more-than-human world, but learning to appreciate that we too are biological objects can help subvert the subject-object dualism complicit in the domination of social and ecological spheres of life.

Direct sensuous experience with the more-than-world can remind us that we are both subjects and objects. For example, the rattlesnakes from my childhood did more than articulate their threatened position as subjective agents. Their articulations also positioned me as an object. David Abram (1996) discusses the collapse of the subject-object dualism in and through experiences with another, and suggests that this sort of direct encounter might help transform our relations with the more-than-human world in ecologically significant ways. Abram writes,

> this stranger who stands before me and is an object for my gaze suddenly opens his mouth and speaks to me, forcing me to acknowledge that he is a sentient subject like myself, and that I, too, am an object for his gaze. Each of us, in relation, to the other, is both subject and object, sensible and sentient. Why, then, might this not also be the case in relation to another, nonhuman entity—a mountain lion, for instance, that I unexpectedly encounter in the northern forest? Indeed, such a meeting brings home to me even more forcefully that I am not just a sentient subject, but also a sensible object, even an edible object, in the eyes (and nose) of the other. . . . Finally, then, why might not this "reversibility" of subject and object extend to every entity that I experience? Once I acknowledge that my own sentience, or subjectivity, does not preclude my visible, tactile, objective existence for others, I find myself forced to acknowledge that any visible, tangible form that meets my gaze may also be an experiencing subject, sensitive and responsive to the beings around it, and to me. (Abram, 1996, p. 67)

Our actual encounters with the more-than-human world potentially direct our attention to our positions as subjects and objects, which may help undermine this distinction used to separate ourselves from and to dominate the more-than-human world. Abram indicates that these experiences, like my experiences with rattlesnakes, may generalize to the rest of the more-than-human world and thereby contribute to our collective liberation struggle. By exploring the dua-logic within cultural studies and Chaney's "ecology of culture," and the eco-logic of simultaneously going "wild" and engaging non-human subjective agents, I have argued for moving toward an ecofeminist cultural studies of "wild" spaces and places.

Toward an Ecofeminist Cultural Studies of "Wild" Spaces and Places

Raymie McKerrow (1998) proposes corporeality as a site for rhetoric's future and maintains, in his more optimistic moment, that this critical and experiential attention is necessary for re-humanization. While the ecofeminist perspective articulated in this essay shares McKerrow's interest in corporeality, it is for more-than-human reasons, too. Since the rational assault on our bodies and nature has been enacted by foregrounding our unique humanness, and backgrounding our "wild" animality, we also need to recover these erotic and ecological aspects of our embodied subjectivity. As Dorothy Dinnerstein (1976) ob-

serves, when men degrade their animal bodies, they also degrade their own selfhood, that is, "the animal center of self-respect: the brute sense of bodily prerogative, of having a right to one's own bodily feeling" (p. 73). In this sense, "a conviction that physical urges which one cannot help having are unjustified, presumptuous, undercuts the deepest, wellspring of subjective autonomy" (p. 73).

Moreover, in a tragic and ironic turn, anthropocentrism also confines human oppressors to conditions that ensure their own domination in practice, and if we are to achieve collective liberation, then liberatory change must also actively challenge the hegemony of the disembodied human center.

> Another important set of reasons why human-centeredness cannot be tolerated derives not from its effect on the oppressed, animals, and nature itself, but from its distorting effect on the oppressors, on human identity and human society. The structure of human-centeredness distorts and limits the possibilities for who we are and what we can become as humans in much the same way that the structures of racism and sexism do for colonizer identities and for masculinist identities. The structure of human-centeredness not only constructs nature as subordinate and as denied self; it constructs dominant human identity and virtue in those cultures which endorse it as the identity and virtue of the master. The effect on these cultures is enormously damaging and the dualized treatment of those social groups and aspects of the culture which are associated with nature and the body undermines all ideals of equality, democracy, and freedom. (Plumwood, 1997a, p. 348)

I have hope that celebrating our "wild" animality, and in particular, an erotic and ecological corporeality within "wild" spaces and places will energize and sustain a dialect of human and non-human healing and liberation.

For instance, bell hooks (1999) explains that touching the earth, and being touched by the earth, in and through embodied experience, is crucial for healing and liberation. She maintains that alienation from nature and the body has made it easier for black people to accept logics of domination, and that reaffirming connection with nature and the body can help recovery and revolutionary processes. hooks writes that:

> estrangement from nature and engagement in the mind/body splits made it all more possible for black people to internalize white supremacist assumptions about black identity. . . . And we can know that when we talk about healing the psyche we must also speak about restoring our connection to the natural world. . . . black people must reclaim a spiritual legacy where we connect our well-being to the well-being of the earth. This is a necessary dimension of healing. . . . Collective black self-recovery takes place when we begin to renew our relationship to the earth, when we remember the way of our ancestors. When the earth is sacred to us, our bodies can also be sacred to us. (hooks, 1999, pp. 172-173)

While bodies cannot exist separate from the earth, "our earthly existence is systematically hidden and denied" (Diamond, 1994, p. 30). Instead of "fleeing the curse of the body" and being poisoned by an "anger at our dependence on the earth" (p. 26), this ecofeminist corporeal rhetoric offers a new formulation of our bodies and the earth that does not entail binary oppositions or the consequences from those dualistic logics of domination. In particular, healing and liberatory work is, in part, based on a more sensuous, connected, fluid, and embodied mode of relating and becoming, and by "reawakening our sense of our species being" (p. 29). As hooks (1999) suggests, this embodied source of erotic and ecological connection is a powerful healing and liberatory source: "when we love the earth, we are able to love ourselves more fully" (hooks, 1999, p. 170). In addition, "[w]hen we honor our bodies and the body of the earth, we shall honor women and all life in a new way" (Gray, 1979, p. 97). Human and non-human healing and liberation depends on celebrating our corporeality and the non-human lifeworld together, without deterministic or essentialistic logics (Rogers, 1998).

Learning to love our bodies and the earth helps to free humans associated with erotic bodies and nature, and re-valuing corporeality within culture and nature helps re-vitalize those interdependent interconnections in ecologically significant ways. Human freedom is, in part, contingent upon freeing the non-human lifeworld, and freeing the non-human lifeworld, in part, requires us to de-colonize our bodies. Not only is our oppression and freedom inter-locking, then, but by working to heal and liberate one sphere (our bodies or the earth), we work to free the other in and through a reciprocal interrelationship. In this case, ecofeminists seek freedom in and with, rather than from, our bodies and nature, both internal and external.

This ecofeminist critique of cultural studies and Chaney's "ecology of culture," and articulation of "wild" animality and non-human subjective agency, has significant implications for environmental com-

munication studies, especially as this field tends to embody similar notions of culture and discourse. Environmental communication studies, like cultural studies, centers human symbolism and talk at the expense of our erotic and ecological corporeality, "wild" animality, and non-human subjective agents, and continues to miss an important dialect of mutual oppression and emancipation (Cantrill & Oravec, 1996; Condit, 1997; Depoe, 1997; Herndl, 1997; Herndl & Brown, 1996; Muir, 1997; Muir & Veenendall, 1996).[7] However, as Elizabeth Dodson Gray (1979) asks, "[c]an we imagine ourselves 'into' our bodies in a dimension that provides a whole new way of relating to the earth?" (p. 92).

If the cartesian masculinization of thought and colonization of the body and nature blocks "the possibility of communicating with the earth through the sensuousness of our bodies," then "is it possible that this sensuality is the basic metaphor for the environmental ethic our culture has been missing? Is it possible that our fully sensuous body is the erotic connection to our world which we have been lacking?" (Gray, 1979, p. 93). Situating and contextualizing the body within human and non-human nature, and integrating the erotic with the ecological opens human subjectivity to internal and external nature and allows for a sensuous dialogue with the earth. "If reality is erotic, perhaps we can only glimpse its heart with our own erotic nature. Perhaps our body is the only communicator we have for this sort of non-verbal love play with the body of the earth. Perhaps cherishing the earth means participating in a broadly sensuous encounter between the body of the earth and our own bodies" (p. 94).

I have maintained that, in general, there are critical differences between the theory and politics of cultural studies and ecofeminism. While these differences are not always accurate, these groups frequently diverge along their respective notions of culture and nature, humanness and animality, and subjecthood and agency. For instance, for the most part, the boundaries of subjecthood and agency are confined to humans within cultural studies and environmental communication, while ecofeminists are working to raise an awareness of our embodied connections with non-human subjective agents too. Moreover, from holding these human-centered and ecofeminist perspectives in tension, in and through a critical dialogue, I have tried to explore the need for an ecofeminist cultural studies of "wild" spaces and places. While cultural studies and Chaney's (1994) "ecology of culture" tend to overlook the significance of our erotic and ecological corporeality, "wild" animality, and non-human subjective agency, I have hope that ecofeminist theory and politics can help address these ideological blind spots and limitations.

For example, from my story of urban snake hunting, and ecofeminist interpretation and evaluation of that narrative, cultural studies and ecologies of culture that ignore or deny our erotic and ecological corporeality, "wild" animality, and non-human subjective agency are overly narrow. Why forfeit and even direct attention away from our erotic and ecological corporeality, "wild" animality, and non-human subjective agency? Why truncate our experience and critical work by overlooking the symbolic and material importance of our erotic and ecological bodies for both humans and non-humans? Cultural studies and environmental communication studies will benefit from a continued recognition and exploration of an embodied ecological self constituted in and through dynamic processes with non-human co-constructing co-participants. In particular, I have tried to suggest that our collective healing and liberation efforts may require encouraging and engaging in a critical cultural praxis sensitive and attentive to our bodies and direct sensuous experiences in and with the more-than-human world.

Notes

1. Ecofeminism, while a radically diverse movement, challenges the premises and practices in all spheres of life which identify women, animals, and nature as other, as well as other groups symbolically associated and materially connected with women, animals, and nature, and are therefore subject to control and exploitation based on their position and status as other. For example, see Adams, 1990, 1994; Adams & Donovan, 1995; Cuomo, 1998; Donovan & Adams, 1996; Gaard, 1993; Gaard & Murphy, 1998; Griffin, 1978, 1994, 1997; Haraway, 1991b; Merchant, 1980, 1989, 1996; Murphy, 1995; Noske, 1989; Plumwood, 1993; Spretnak, 1991; Sturgeon, 1997; and Warren, 1994, 1996, 1997.

2. I use space and place together as a way to resist collapsing the symbolic and material dimensions of everyday life and to emphasize their continual dialogic interrelationship.

3. As Heller (1993b) observes in a comparison between dominator and radical views of nature:

> A 'necessitarian' view of nature sees nature as mute, passive and bound exclusively by necessary, inextricable physical

> laws. In the West, men have invented the idea of nature as a 'realm of necessity,' as a knowable force that is ordered by necessary natural laws. Western man's attempt to place this 'realm of necessity' called nature under strict human control is embodied in Western religion, science, and philosophy. Each discipline holds that nature is a world separate from 'man,' that is a 'realm of necessity' which society must control, order, understand, and finally transcend. In contrast, a radical view of nature regards nature as active, participatory, and continually engaged in ongoing process of development out of which emerges ever increasing levels of complexity and diversity. (Heller, 1993b, p. 73)

Also, see Bigwood, 1993; Diamond, 1994; Haraway, 1991a, 1991b, 1992a, 1992b; Heller, 1993a, 1993b; Merchant, 1980, 1989, 1996; Plumwood, 1993; Rogers, 1998; and Sandilands, 1994, 1995, 1997.

4. In other words, the management of social space, and structuring of an environment can be "understood as not just a physical setting but also a social setting with appropriate norms of conduct etc.—that is as a form of stage" (Chaney, 1994, p. 145).

5. In this brief account of the cultural character of places I have tried to marry together the three elements of: (a) a physical location acquiring a distinctive identity in social discourse; (b) an emphasis that identity is couched in cultural forms that embody distinctive projects of use; and (c) that the facticity of the ways in which forms of representation and images are inscribed in a physical terrain should not blind us to the processes of staging and restaging social order in the contours of places. (Chaney, 1994, p. 156).

6. In this case, "there has been such a marked increase in interest in the cultural meanings of the physical environment that it has become one of the defining features of the turn to culture" (Chaney, 1994, p. 147). That is, "places are culturally formulated ways of imbuing environments with meaning" (p. 153).

7. Perhaps this notion of non-human subjective agency will be rejected on the grounds that it is too anthropomorphic. However, the charge of anthropomorphism can be dangerous when it is used to delegitimate representations and acknowledgments of non-human subjective agency (Plumwood, 1997b, 1997c). Put another way, the critique of anthropomorphism implicitly denies continuity with non-humans by saying that they are not like us and we are not like them, and that it is somehow wrong to conflate these supposed differences between the two groups. The totalizing rejection of anthropomorphic discourse emphasizing human and non-human similarities polices a dualistic and hierarchical boundary of human transcendence. Rather than construct and enforce, authorize and sanction, rigid taxonomic divisions between humans and non- humans, I am proposing a genuine politics of difference based on celebrating both continuity and specificity of difference (Cheney, 1989, 1990, 1994; Hawkins, 1998; Noske, 1989; Plumwood, 1993). Moreover, instead of rejecting anthropomorphic discourses, it is critical to consider how various representations speak to us as humans agents in a more-than-human world (Murphy, 1995). In particular, how do various representations increase or decrease awareness of the discursive and material conditions of oppression, and provide or fail to provide motivating reasons for acting morally towards and with other animals and nature?

References

Abram, D. (1996). *The spell of the sensuous: Perception and language in a more-than-human world.* New York: Vintage Books.

Adams, C. J. (1990). *The sexual politics of meat: A feminist-vegetarian critical theory.* New York: Continuum.

Adams, C. J. (1994). *Neither man, nor beast: Feminism and the defense of animals.* New York: Continuum.

Adams, C. J., & Donovan, J. (Eds.). (1995). *Animals and women: Feminist theoretical explorations.* Durham, NC: Duke UP.

Alaimo, S. (1994). Cyborg and ecofeminist interventions: Challenges for an environmental feminism. *Feminist Studies, 20,* 133-152.

Barad, K. (1996). Meeting the universe halfway: Realism and social constructivism without contradiction. In L. H. Nelson & J. Nelson (Eds.), *Feminism, science, and the philosophy of science* (pp. 161-194). Great Britain: Kluwer Academic Publishers.

Bennett, J., & Chaloupka, W. (Eds.). (1993). *In the nature of things: Language, politics, and the environment.* Minneapolis: U of Minnesota P.

Bigwood, C. (1993). *Earth muse: Feminism, nature, and art.* Philadelphia: Temple UP.

Bird, E. A. R. (1987). The social construction of nature: Theoretical approaches to the history of environmental problems. *Environmental Review, 11,* 255-264.

Birkeland, J. (1993). Ecofeminism: Linking theory and practice. In G. Gaard (Ed.), *Ecofeminism: Women, animals, nature* (pp. 13-59). Philadelphia: Temple UP.

Bordo, S. (1986). The cartesian masculinization of thought. *Signs: Journal of Women in Culture and Society, 11,* 439-456.

Cantrell, C. H. (1996). Women and language in Susan Griffin's *Woman and nature: The roaring inside her.* In K. J. Warren (Ed.), *Ecological feminist philosophies* (pp. 197-210). Bloomington: Indiana UP.

Cantrill, J. G., & Oravec, C. L. (Eds.). (1996). *The symbolic earth: Discourse and our creation of the environment.* Lexington: U of Kentucky P.

Chaney, D. (1994). *The cultural turn: Scene-setting essays on contemporary cultural history.* New York: Routledge.

Cheney, J. (1990). Nature and the theorizing of difference. *Contemporary Philosophy, 13,* 1-14.

Cheney, J. (1994). Nature/theory/difference: Ecofeminism and the reconstruction of environmental ethics. In K. J. Warren (Ed.), *Ecological feminism* (pp. 158-178). New York: Routledge.

Cheney, J. (1989). Postmodern environmental ethics: Ethics as bioregional narrative. *Environmental Ethics, 11,* 117-134.

Clifford, J. (1997). *Routes: Travel and translations in the late twentieth century.* Cambridge, Massachusetts: Harvard UP.

Condit, C. M. (Ed.). (1997). Review and criticism: Environmental communication. *Critical Studies in Mass Communication, 14,* 367-379.

Conley, V. A. (1997). *Ecopolitics: The environment in poststructuralist thought.* New York: Routledge.

Cuomo, C. J. (1998). *Feminism and ecological communities: An ethic of flourishing.* Routledge: New York.

Darnovsky, M. (1991). Overhauling the meaning machines: An interview with Donna Haraway. *Socialist Review, 21,* 65-84.

Depoe, S. (1997). Environmental studies in mass communication. *Critical Studies in Mass Communication, 14,* 368-372.

Diamond, I. (1994). *Fertile ground: Women, earth, and the limits of control.* Boston: Beacon.

Dinnerstein, D. (1976). *The mermaid and the minotaur: Sexual arrangements and human malaise.* New York: Harper.

Donovan, J. (1990). Animal rights and feminist theory. *Signs: Journal of Women in Culture and Society, 15,* 350-375.

Donovan, J. (1996). Ecofeminist literary criticism: Reading the orange. *Hypatia, 11,* 161-184.

Donovan, J., & Adams, C. J. (Eds.). (1996). *Beyond animal rights: A feminist caring ethic for the treatment of animals.* New York: Continuum.

French, M. (1985). *Beyond power: On women, men, and morals.* New York: Ballantine Books.

Gaard, G. (Ed.). (1993). *Ecofeminism: Women, animals, nature.* Philadelphia: Temple UP.

Gaard, G. (1997a). Ecofeminism and wilderness. *Environmental Ethics, 19,* 5-24.

Gaard, G. (1997b). Toward a queer ecofeminism. *Hypatia, 12,* 114-137.

Gaard, G., & Murphy, P. (Eds.). (1998). *Ecofeminist literary criticism: Theory, interpretation, pedagogy.* Urbana: U of Illinois P.

Gearhart, S. M. (1979a). *The wanderground: Stories of the hill women.* Watertown, Massachusetts: Persephone Press.

Gearhart, S. M. (1979b). The womanization of rhetoric. *Women's Studies International Quarterly, 2,* 195-201.

Glotfelty, C., & Fromm, H. (Eds.). (1996). *The ecocriticism reader: Landmarks in literary ecology.* Athens: U of Georgia P.

Gray, E. D. (1979). *Green paradise lost.* Wellesley, Massachusetts: Roundtable Press.

Griffin, S. (1978). *Woman and nature: The roaring inside her.* New York: Harper & Row.

Griffin, S. (1994). *The eros of everyday life: Essays on ecology, gender, and society.* New York: Anchor Books.

Griffin, S. (1997). Ecofeminism and meaning. In K. J. Warren (Ed.), *Ecofeminism: Women, culture, nature* (pp. 213-226). Indianapolis: Indiana UP.

Haraway, D. J. (1988). Situated knowledges: The science question in feminism and the privilege of partial perspective. *Feminist Studies, 14,* 575-600.

Haraway, D. J. (1989). *Primate visions: Gender, race, and nature in the world of modern science.* New York: Routledge.

Haraway, D. J. (1991a). The actors are cyborg, nature is coyote, and the geography is elsewhere: Postscript to "Cyborgs at large." In C. Penley & A. Ross (Eds.), *Technoculture* (pp. 21-26). Minneapolis: U of Minnesota P.

Haraway, D. J. (1991b). *Simians, cyborgs, and women: The reinvention of nature.* New York: Routledge.

Haraway, D. J. (1992a). Otherworldly conversations; Terran topics; Local terms. *Science as Culture, 3,* 64-98.

Haraway, D. J. (1992b). The promises of monsters: A regenerative politics for inappropriate/d others. In L . Grossberg, C. Nelson, & P. Treichler (Eds.), *Cultural studies* (pp. 295-337). New York: Routledge.

Haraway, D. J. (1997). *Modest_witness@ second_ millennium. Femaleman_meets_oncomouse: Feminism and technoscience.* New York: Routledge.

Hawkins, R. Z. (1998). Ecofeminism and nonhumans: Continuity, difference, dualism, and domination. *Hypatia, 13,* 158-197.

Hayles, N. K. (1995). Searching for common ground. In M. E. Soule & G. Lease (Eds.), *Reinventing nature?: Responses to postmodern deconstruction* (pp. 47-63) Washington, D.C.: Island Press.

Heller, C. (1993a). Down to the body: Feminism, ecology, and the evolution of the body politic. *Society and Nature, 2,* 137-162.

Heller, C. (1993b). Toward a radical ecofeminism: From dua-logic to eco-logic. *Society and Nature, 2,* 72-96.

Herndl, C. G. (1997). Response to professor Depoe. *Critical Studies in Mass Communication, 14,* 373-374.

Herndl, C. G., & Brown, S. C. (Eds.). (1996). *Green culture: Environmental rhetoric in contemporary America.* Madison: U of Wisconsin P.

hooks, b. (1999). Touching the earth. In L. Anderson, S. Slovic, & J. P. O'Grady (Eds.), *Literature and the environment: A reader on nature and culture* (pp. 169-173). New York: Longman.

Jagtenberg, T., & McKie, D. (1997). *Eco-impacts and the greening of postmodernity: New maps for communication studies, cultural studies, and sociology.* Thousand Oaks, CA: Sage.

Kheel, M. (1991). Ecofeminism and deep ecology: Reflections on identity and difference. *The Trumpeter, 8,* 62-72.

Kheel, M. (1995). License to kill: An ecofeminist critique of hunter's discourse. In C. J. Adams & J. Donovan (Eds.), *Animals and women: Feminist theoretical explorations* (pp. 85-125). Durham: Duke UP.

King, Y. (1989). Healing the wounds: Feminism, ecology, and the nature/culture dualism. In A. M. Jaggar & S. R. Bordo (Eds.), *Gender/body/ knowledge: Feminist reconstructions of being and knowledge* (pp. 115-141). New York: Routledge.

Lahar, S. (1993). Roots: Rejoining natural and social history. In G. Gaard (Ed.), *Ecofeminism: Women, animals, nature* (pp. 91-117). Philadelphia: Temple UP.

Leach, E. (1974). *Claude Levi-Strauss.* New York: Viking.

Lorde, A. (1984). Uses of the erotic: The erotic as power. In *Sister Outsider* (pp. 53-59). New York: The Crossing Press.

Light, A., & Smith, J. M. (Eds.). (1997). *Space, place, and environmental ethics.* London: Rowman & Littlefield.

Luke, B. (1995). Taming ourselves or going feral? Toward a nonpatriarchal metaethic of animal liberation. In C. J. Adams & J. Donovan (Eds.), *Animals and women: Feminist theoretical explorations* (pp. 290-319). Durham, NC: Duke UP.

Manes, C. (1992). Nature and silence. *Environmental Ethics, 14,* 339-349.

McKerrow, R. E. (1998). Corporeality and cultural rhetoric: A site for rhetoric's future. *Southern Communication Journal, 63,* 315-328.

Merchant, C. (1980). *The death of nature: Women, ecology, and the scientific revolution.* San Francisco: Harper & Row.

Merchant, C. (1989). *Ecological revolutions: Nature, gender, and science in New England.* Chapel Hill: U of North Carolina P.

Merchant, C. (1996). *Earthcare: Women and the environment.* New York: Routledge.

Muir, S. A. (1997). Difficult questions about environmental communication. *Critical Studies in Mass Communication, 14,* 374-376.

Muir, S. A., & Veenendall, T. L. (Eds.). (1996). *Earthtalk: Communication empowerment for environmental action.* Westport, CT: Praeger.

Murphy, P. D. (1992). Rethinking the relations of nature, culture, and agency. *Environmental Values, 1,* 311-320.

Murphy, P. D. (1994). Voicing another nature. In K. Hohne & H. Wussow (Eds.), *A dialogue of voices: Feminist literary theory and Bakhtin* (pp. 59-82). Minneapolis: U of Minnesota P.

Murphy, P. D. (1995). *Literature, nature, and other: Ecofeminist critiques.* Albany: State U of New York P.

Noske, B. (1989). *Humans and other animals: Beyond the boundaries of anthropology.* London: Pluto Press.

Payne, P. (1994). Restructuring the discursive moral subject in ecological feminism. In K. J. Warren (Ed.), *Ecological Feminism* (pp. 139-157). New York: Routledge.

Penley, C., & Ross, A. (1991). Cyborgs at large: Interview with Donna Haraway. In C. Penley & A. Ross (Eds.), *Technoculture* (pp. 1-20). Minneapolis: U of Minnesota P.

Plumwood, V. (1993). Feminism and the mastery of nature. New York: Routledge.

Plumwood, V. (1997a). Androcentrism and anthropocentrism: Parallels and politics. In K. J. Warren (Ed.), *Ecofeminism: Women, culture, nature* (pp. 327-355). Indianapolis: Indiana UP.

Plumwood, V. (1997b). Babe: The tale of the speaking meat: Part I. *Animal Issues, 1,* 1-10.

Plumwood, V. (1997c). Babe: The tale of the speaking meat: Part II. *Animal Issues, 1,* 11-21.

Rogers, R. A. (1998). Overcoming the objectification of nature in constitutive theories: Toward a transhuman, materialist theory of communication. *Western Journal of Communication, 62,* 244-272.

Sandilands, C. (1994). Political animals: The paradox of ecofeminist politics. *The Trumpeter, 11,* 167-172.

Sandilands, C. (1995). From natural identity to radical democracy. *Environmental Ethics, 17,* 75-91.

Sandilands, C. (1997). Wild democracy: Ecofeminism, politics, and the desire beyond. *Frontiers: A Journal of Women Studies, 18,* 135-156.

Seltzer, M. (1992). *Bodies and machines.* New York: Routledge.

Slack, J. D. (1994). The environment matters: Complicity, ethics, theoretical rigour, intervention. *Australian Journal of Communication, 21,* 1-13.

Slack, J. D., & Whitt, L. A. (1992). Ethics and cultural studies. In L. Grossberg, C. Nelson, & P. Treichler (Eds.), *Cultural Studies* (pp. 571-592). New York: Routledge.

Slicer, D. (1998). Toward an ecofeminist standpoint theory: Bodies as grounds. In G. Gaard & P. Murphy (Eds.), *Ecofeminist literary criticism: Theory, interpretation, pedagogy* (pp. 49-73). Urbana: U of Illinois P.

Spelman, E. V. (1982). Woman as body: Ancient and contemporary views. *Feminist Studies, 8,* 109-131.

Spencer, D. T. (1996). *Gay and gaia: Ethics, ecology, and the erotic.* Cleveland, OH: The Pilgrim Press.

Spretnak, C. (1990). Ecofeminism: Our roots and flowering. In I. Diamond & G. F. Orenstein (Eds.), *Reweaving the world: The emergence of ecofeminism* (pp. 3-14). San Francisco: Sierra Club Books.

Spretnak, C. (1991). *States of grace: The recovery of meaning in the post-modern age.* San Francisco: Harper.

Spretnak, C. (1993). Earthbody and personal body as sacred. In C. J. Adams (Ed.), *Ecofeminism and the sacred* (pp. 261-280). New York: Continuum.

Spretnak, C. (1997). Radical nonduality in ecofeminist philosophy. In K. J. Warren (Ed.), *Ecofeminism: Women, culture, nature* (pp. 425-436). Bloomington: Indiana UP.

Sturgeon, N. (1997). *Ecofeminist natures: Race, gender, feminist theory and political action.* New York: Routledge.

Warren, K. J. (Ed.). (1994). *Ecological feminism.* New York: Routledge.

Warren, K. J. (Ed.). (1996). *Ecological feminist philosophies.* Bloomington: Indiana UP.

Warren, K. J. (Ed.). (1997). *Ecofeminism: Women, culture, nature.* Bloomington: Indiana UP.

Willoughby, L. T. (1993). Ecofeminist consciousness and the transforming power of symbols. In C. J. Adams (Ed.), *Ecofeminism and the sacred* (pp. 133-148). New York: Continuum.

Zimmerman, M. E. (1994). *Contesting earth's future: Radical ecology and postmodernity.* Berkeley: U of California P.

Developing Public Environmental Consciousness: A Preliminary Survey of the Problematic Variety of Environmental News Categories

Dennis Jaehne
Department of Communication Studies
San Jose State University—San Jose, CA

Abstract

Solving environmental problems presumes shared understanding of what they are and, more broadly, of knowing the degree to which people perceive human/environmental relations holistically. Environmental news stories that are the source of much public understanding are quite heterogeneous. What conceptual map of "environmental" do they provide? This research reports an inductive, empirical analysis of 18 months of news stories and suggests a provisional category system for making sense of environmental discourse.

Introduction

The news reporting of environmental issues has been problematic from the start (Schoenfeld, et. al. 1979). What gets included? What counts as an environmental story? These are not idle questions, for two reasons. First, agenda-setting research establishes clearly the relationship between what appears in media and how people rank the salience of public issues. Media reporting of stories influences the development and direction of any movement for social change. If people are to form an "ecological consciousness" for dealing with environmental problems, they must develop a clear sense of what's involved in human interactions with the environment. They must see the environmental implications, the underlying "ecological" logics, motivations, and entailments of stories that most often do not make such articulations explicit.

This is a problem for all social movements, but a particularly acute problem for the environmental movement because of the diffuse nature of its discursive terrain. For example, when one has a compact and focused movement, there is little ambiguity about what the underlying story is. Consider the anti-abortion movement. Though the story may take place in multiple locations (homes, clinics, the courts, Congress, organizational headquarters), with a variety of actors (doctors, activists, mothers, legislators, judges, social workers), the story is generally unambiguous in being about abortion. Environmental issues, embracing the full spectrum of human relations with the natural world, are more diffuse, more complex, and have changed over time. If the public cannot form a clear gestalt of the complex of activities and issues and actors that make up a story about the environment, it will be difficult to form a comprehensive conceptual or discursive map of environmentalism as a problem area, as an arena for concern or action. It will be difficult to see the forest for the trees, so to speak. The assumption is clear, however, that it is important to see the forest.

A clear sense of the domain of environmental discourse is important for a second reason as well. If we purport to study environmental communication, we should have an unambiguous guideline for determining what counts as an instance of environmental communication. While we may have clear—if temporary—disciplinary definitions (for example, Killingsworth, 1996), such definitions will be invisible to the average citizen media consumer and thus offer no help in the interpretation of discourse about the environment.

I am not aware of any research that attempts to make systematic sense of the variety of environmental newspaper stories, or that attempts to offer, however provisionally, a set of working categories for making sense of this diffuse terrain. This paper reports an empirical exploration of this problem. The study examined a large data set of news clippings of environmental stories from a single newspaper over an approximately 18-month period (from late 1997 into mid-1999) to suggest a provisional underlying conceptual order that maps a broad discursive terrain we might call environmental. In the following paragraphs I lay out these categories and trace some of the dimensions and controversies that form the boundaries and landmarks of environmentalism's discursive terrain.

The Nature of Environmental Discourse

Environmentalism may be thought of as a problem that evolved from earlier and simpler public concerns that first became prominent in the late 19th century as the progressive conservation movement (see Hays, 1959; 1987). By the time of the first Earth Day,

in 1970, the issues had changed from those of the conservation era. The new pollution-driven concerns of environmentalism differed from the earlier "natural resource" management issues of conservationism. Environmental issues brought more complex understandings of ecology, holism, and systems perspectives into play. Instead of stories about fishing or hunting that could be covered by the outdoor reporter and allocated to the Outdoor section of the paper, environmental issues crossed the existing specializations of editorial and reporting practice. If, as ecology suggested, "everything is connected to everything else," journalists found it difficult to get the "right" angle among the intersections of energy, economy, and environment. This problem intrigued some of the early observers of the modern environmental movement. Overall, early environmental reporting produced what Schoenfeld et. al. (1979, p 42) called "a journalism of uncertainty" (see also Friedman, 1991). At the heart of the uncertainty was the very question of what counted as an environmental story.[1]

This uncertainty has led to divergent positions regarding the role of media in shaping public environmental debate. McKibben (1992), for example, challenged the commonplace rubric that we live in the "age of information" and claimed it is equally true that we "live at a moment of deep ignorance, when vital knowledge that humans have always possessed about who we are and where we live seems beyond our reach. An Unenlightenment. An age of missing Information" (p. 9). Friedman (1991) notes the problems created by the multifaceted nature of environmental topics, "involving not just technical information but also legal, financial, political and social considerations" (p. 21). In addition, she claims, the issues required coverage of health issues, as well as the complexities of government regulation (at local, state, regional, national, and international levels) and the costs and benefits and risk calculations that underlie contemporary public policy decision-making. And we must not overlook the sheer technicality of scientific discourses that shape so much of the problem and solution definitions, essentially by telling us what we "know" about nature. This includes the ongoing problems of data uncertainty and conflicting expert interpretations of the soundness or relevance of data.

To these concerns we might add yet other problematic dimensions of environmental reporting such as choice of sources: can the government or agency experts be trusted? Is fairness and balance served by giving maverick scientists equal time with the consensus opinions of the scientific majority? Is the public well served by the crisis mentality of traditional journalism that seeks out the spectacular and avoids the mundane? Environmental topics are so varied that they elicit conflicting opinions of their media worthiness. Or perhaps these are comments about the requirements of different media. Neuzil and Kovarik (1996) repeat the argument that environmental stories are "mediagenic" in the television age (p.xi). They invoke the images of oil-slicked seabirds or Yellowstone Park on fire. Dennis (1991), on the other hand, compares environmental stories to other news stories on traditional news media beats and finds them "too often a snore, a hard sell in a world where people like scandal and sensationalism, personalities and celebrity" (p. 60). Environmental stories, he suggests, just aren't "sexy" enough to push out news stories that are (p. 60). In fact, environmental studies are obviously both sexy and mundane at the same time. None of these authors, however, with the possible exception of McKibben, deals with the larger question of whether environmental stories, broadly conceived, cohere within a unifying conceptual framework that might define what we mean by "environmental."

Other factors also complicate our understanding of what "environmental" news is about, or how it proceeds. Burnham (1991) calls our attention to the eclipsing of the older aesthetic dimension of conservation and outdoor writing (p. 36). He finds contemporary environmental stories focused on, and appealing to, the "self-centered self" (p. 36). Here, he suggests, the shift is away from stories about science that were cold and indifferent and promised generalized benefits, and to stories that focus on the immediate and personal gratifications of the "me decade" narcissists (p. 37). He says:

> In the age of narcissism, then, environmental writers played up how environmental damage would affect each American personally and, in turn, what individual initiatives were necessary to forestall such damage. This tactic of stimulating personal fear continued in succeeding years to fuel the movement and to mark news reporting about it. . . . Each new fact or discovery resonated with personal relevance rather than expanding understanding of the universe or encouraging a scientific approach to solving problems. (p. 37)

To these concerns we can add another dimension of environmentalism that emphasizes the local grass roots levels of organization and activity (Gottlieb, 1991). Gottlieb contrasts the "big, national, staff-based, expertise-oriented organizations such as the Sierra Club, Environmental Defense Fund, and Conservation Foundation" with the hundreds of "local grass roots groups that are populist in spirit and heritage" (p. 43).

Gottlieb contends that with the original 1970 Earth Day, the inventory of environmental issues expanded to include generalized "discontent about urban and industrial forces" (p. 44). This included "quality of daily life" concerns such as "industrial pollution, the role of the automobile, consumption and waste, and the deterioration of the urban environment" (p. 44). For Gottlieb, these were qualitatively new concerns for the environmental agenda. Issues such as "air, water, food, garbage, energy, housing, transportation, and toxics as priority items" contrasted with the environmental agenda of earlier conservation and preservation generations. Environmental issues could no longer just be about wilderness, parks, scenery, or the Great Outdoors.

Indeed, as environmentalism became professionalized after the 1970s, a whole new dimension of environmental reporting developed that included regulation, enforcement, litigation, agency administration, legislation and policy-making. In short, environmental news reporting came to involve keeping general watch on the new environmental regulatory state that grew up after the original Earth Day.

Three additional features of environmental discourse must be added to this list. First has been the increasing expansion of environmental concerns to global dimensions. The ozone hole, global warming, GATT trade agreements, third-world dumping, Rio, Kyoto, etc. have made it clear that the domain of environmentalism is broader than local communities or even nations. Second, and related, is the concern over environmental justice and environmental democracy. Power imbalances in communities have led to attempts to foist environmental problems (e.g., toxic waste dumps) onto communities that have little political power to resist them. As Gottlieb points out, gender, race, and class dimensions refract any monolithic definitions of environmental problems into a variety of family, neighborhood, and place issues that confound still further any sense that environmental stories are, or can be, singular in definition (1991).

Third is a broad area that I think of as the encroachment of ecological themes and issues into other cultural activities. Art, for example, has expanded beyond traditional realistic representations of nature to using nature as ground and as artistic artifact, as in the environmental art pieces. Ecology has encroached upon tourism in the form of eco-tourism. We now have eco-criticism in literature, eco-rhetoric in communication studies, as well as environmental history, environmental philosophy, environmental ethics, environmental education, and environmental law. On June 27, 1999 came the announcement that Harvard Law School will offer a course in animal rights. Ecology influences the language we use, the relationships we have, the heroes and villains that help us calibrate our moral compass. Ecofeminism offers a new critical and political challenge to material practices. And new forms of ecology-based or ecology-related spirituality—from the New Age Movement to Wicca, the Goddess, and Gaia—challenge traditional spiritual forms.

My general research concern with all this is to gain a better understanding of the range of topics, issues, actors and discourses that can be comprehended under the term "environmental." Specifically, what does it mean to say that a news story is "environmental?" And, related to this, given that there is much variety among environmental stories, how might we make conceptual sense of the logic that links these stories? Can we create at least a provisional category map of that terrain? Part of the significance of such a study is to make explicit what is implicitly presented in public discourse as an environmental worldview, what Benson has called an "implicit theory" (1983). Further, this study contributes to showing the range of stories, and the constancy of stories, that form the conceptual mosaic of a public environmental discourse. Some questions that should concern us are, for example: how wide is the variety of topics? How are stories threaded with public responses in letters and editorial commentary? What is the range of tone in stories; what are the vectors of praise and blame? Is there a way for readers to form conceptual unity about environmental problems—that is, an environmental consciousness? This study does not attempt to answer all of these significant questions. Instead, I focus on a starting point: can we identify a conceptual map of environmental news reporting?

Method and Data Collection

We must begin with a data set of environmental stories. This presupposes some operating definition of what counts as an item to be included in the data set—at least a provisional definition of an environmental story. I have addressed this problem as follows. As a practical matter, I am a clipper of environmental stories from my local newspaper, the *San Jose Mercury News*, a Knight-Ridder large circulation daily published in San Jose, California. San Jose, which bills itself as the Capital of Silicon Valley, is a sprawling community of about 850,000, the third-largest California city, behind Los Angeles and San Diego. As such, it is host, cause, and scene to the whole panoply of environmental ills that the modern Western consumer economy generates. I have clipped environmental articles regularly for many years and have saved them "in a shoebox" so to speak.

My decision to clip an article is always based on my sense that it represents an environmental story. In

the broadest sense that means that it is a story about the relation of humans to the natural world.
This gets tricky, of course, since the concept of the "natural world" is itself a discursive creation. And, in fact, most environmental stories do not label themselves such. They turn out to be about the actors and institutions and processes of our world. So to label them "environmental" stories is very much an interpretation I make. But since I have done this seriously for over a year to produce this data set (from about fall 1997 through spring 1999), I am working inductively from the data set produced to infer the principles of selection. I rely on my professional training and expertise to guarantee that my procedure is consistent, though of course this is only the beginning, rather than the end, of methodological rigor. While I cannot generalize that I have discovered the conceptual map of the "public" consciousness of environmentalism, I can propose a schema based on empirical data for consideration and critique by others.

If we take the theorems of ecology seriously and literally, we are forced to conclude that everything is connected to everything else, and that every action on the planet, human or non-human, influences the ecological network(s) it participates in and so causes (an) environmental impact. In the most literal sense, then, virtually all stories could be reductively argued to be environmental stories. Killingsworth makes a related point when he argues that "all rhetoric is to some extent environmental in that all ethical and political decisions have some bearing upon the human relation to nature and, more important, because all writing or speech both creates and participates in a special set of ecological relations" (1996, pp. 226-227).

How do we get out of this conundrum? I resolve this first of all by looking for stories that are about something beyond our dealings with other people. The pragmatic definition of environment as "that which surrounds" could include other people, of course. For example, a family surrounds us and we can be said to operate within a family environment. But it seems to me that the point of attending to environment at all arises from the sense that humans exist in interdependent relationships with all of the non-human aspects (forces, processes) of the world that we refer to variously as the "natural world" and that the motivation to study environmental issues derives from a sense that the collective human relationship with the natural world is flawed, out of balance, and seemingly destructive of both humans *and* the natural world. Here I echo the similar point made by Peterson:

> [Environmental discourse] demands the attention of communication researchers because the debate is not simply about the physical contamination of nature, but about the moral contamination of an ideal. When environmental imbalance becomes a public issue, the implication is that some sense of the right ordering of the moral world has been violated. Attempts to occlude this realm of concern, to subsume and marginalize the moral foundations of environmental discourse, are significant ideological moves. (1998, p. 371)

Therefore, I look for stories that are overtly about our relationship with the natural world. I realize that this reifies the false and dangerous distinction between humans and nature and seems to reinforce the artificial dichotomy between them. However, I adopt this widespread attitude because it is the premise from which the mainstream public media proceed. It is the premise that underlies the working consciousness of those who write and publish environmental stories. It is, indeed, the mindset that we seek to undo, and thus it suggests the importance of this line of research.

The method begins with clipping candidate stories. I do this regularly, though certainly not daily. I typically save up the pile and conduct a clipping session every week or ten days. I should also point out that I do not clip the entire paper. I concentrate on the "A" section (world and national news) and the "B" section (California and local news). I do not attend to stories in the Business, Life (entertainment), Sports, or Special Features sections (e.g., gardening, automotive) unless a front-page story in one of those sections is clearly environmental.[2]

The second step is sorting. I have typically sorted three times to arrive at my general categories; refinements were made with fourth and fifth sorts in some categories. The first sort is obviously the most general; subsequent sorts attempt to refine the categories and make them more precise. The strategy is to complete the sort and then make explicit the logic for each category. The final analysis should make some attempt to account for any pattern that might connect the various categories and to speculate upon what this might tell us of the category map of environmental discourse.

Results

The first sort produced four categories. I will first describe each of the four in general terms before going on to look at each more closely.[3] The first, easiest and most obvious category was *Animals*. When one thinks of the "news" of newspapers, of political events and disasters, murders, crime, etc., animals might not come to mind as a staple. Surprisingly, stories about animals are ubiquitous. And the variety

is great. In this data set, at least 34 different animals are represented, along with several categories of activity related to animals. The second category, also relatively easy to single out, was *Pollution*. This did not surprise me since it has been commonly identified as a foundational concern of modern environmentalism. Indeed, I have argued elsewhere (Jaehne, 1992, 1991, following Mary Douglas, 1975) that pollution initially enabled environment to become visible as the place where pollution occurs or as the thing polluted. As I sorted, I found common story categories for nuclear waste, chemical pollution, pesticides, and toxics, and other types of pollution.[4]

The third and fourth categories were much more difficult to grapple with. Though all stories express an attitude, not all stories are explicitly about what attitude we should have. Similarly, though many stories report action, not all action is reflexive about itself. But stories that do both are typically generically described as stories of *Policy*, which I placed in a third group. The general features of these stories had to do with use of resources including development, planning, and regulation of our actions with regard to a world of resources. Typically, the stories were about specific projects and/or issues and were frequently linked with some agency of governance. One key sort feature was that all of these stories were ongoing, persistent, and recognizable in their community as being about what we should or can (or shouldn't or can't) do in terms of (or because of) impacts on the environment.

The final category of the initial sort was, as might be expected, the most diffuse and difficult to order. Here I kept putting stories that did not fit the first three categories. These stories were in some sense pre-policy, stories that offered philosophical positions that should guide policy in the future, or stories that first touched upon fringe, marginal, or offbeat issues that had not (yet) become viable for policy analysis. In some cases, these were stories about things that had not yet come under the purview of the regulatory state, though they were clearly already inscribed by culture. I called this category provisionally *Culture*, though it is clear that it included also philosophy, education, and some global (international, intercultural) issues. These were often stories that had either a broad, perhaps somewhat abstract or theoretical scope, or were very narrowly focused on some small aspect of our cultural take on the human/nature relationship.

These sorts were not at all neat. One of the first difficulties I faced was which part of a story to emphasize for purposes of where to put it. Of course, this simply restates the problem that was the impulse to do this research. However, the difficulty now attaches to a specific story, or a specific set of questions and articulating them becomes part of the research. For example, a story about the Headwaters Forest land purchase falls potentially into multiple categories: at the highest level, perhaps, philosophy of land use. But it is also a government preservation story (state buys land to preserve from private sector logging company), or a forest-as-resource story: how should forest lands, particularly old growth redwoods, be used? Since there are multiple "stories" in the paper as the ongoing drama unfolds, some of the individual items might well be about the State Department of Forestry as an agency, about the regulatory problems of land management, about Pacific Lumber, about the activist environmental community, or about the impacts: to logging, to jobs in local communities, to wildlife, to the timber market, to the forest ecology. Thus, the events themselves comprise an ecology of motives and impacts. To categorize the stories too narrowly would be to destroy the sense of unity that seems to inhere in the titular term "Headwaters Forest." To categorize too broadly would fail to distinguish the Headwaters story from other resource management stories about depleted fisheries or parking cars in national parks, or risk fragmenting its coherence across multiple categories.

This sorting experience, then, suggests some of the competing vectors of categorization that we might employ in future refinements of such analysis. For example, human actions: managing, planning, consuming, naming, and preserving. Or, agencies: state government, municipal government, federal government, NGO, government agency, international agency. Or, actors: general public, mainstream environmental movement, radical environmental movement, resource manager, consumer, elected official. There are also what Burke might call "scenic" categories: forests, oceans, rivers, parks, urban centers, mountains, deserts—that is, what terrain is the story about? Or what resource: wood, water, wildlife, recreation, fish, land, grazing, habitat, air, view? The ultimate ecological category system might well be formed as a multidimensional matrix of all of the above (and others). A precise location would specify where, in each category dimension, the story was located. But we are not so far along.

Working Categories

I will now discuss more carefully the categories and their contents (except for *Pollution*, as noted above). A complete outline of all categories will be found the Appendix.

Animal. The *Animal* categories, as mentioned, were the most straightforward. The most significant

clusters of articles fell into popular and unsurprising animal groups: birds, whales, fish, wolves and coyotes, seals, pigs. Surprisingly, there were only a few stories on primates (apes, chimps)—fewer than might be expected, given the resurgence of interest following recent popular discussion of our genetic relatedness. After these primary categories, I was left with two large piles, one comprising zoos and aquariums, and the remainder called, provisionally, "Other." As I broke the "Other" category down, I realized that it was mostly "minority" animals, everything from insects and abalone to skunks and minks, with crabs, elephants, ferrets, goats, and gators included.

At first, I didn't sort by biological taxonomies (mammals versus others) or by habitat (aquatic, mountainous, etc.), though one could. Later, I grouped. Some animals I collectivized, following popular ways of speaking, but this might well be questioned: "Insects" contains ants, bees, cockroach, mites, and butterflies. I put condors, eagles, and songbirds into "Birds." Likewise, tiger, lynx, and cougar stories are all in "Cats." "Shellfish" contains abalone, scallops, and oysters. There were still some residues to deal with. For example, I came out with two additional "cultural" sub-categories that I placed hesitantly under *Animals* rather than under *Culture*. The first is called "Pets" and treats typically dogs and cats, but also lizards and, potentially, the cockroach story. I interpreted pet as a more thoroughly culturalized type of animal, but the stories were not as much about the cultural meanings as those stories in the *Culture* category.

Since I am concerned with human relations to the natural world, the "Pet" category measures a degree of distance of our relationships with pets from other non-pet animals; that is, the dimension of domestication. This is a similar logic to that which grounds separating out zoos and aquariums. They are no longer animals or creatures in themselves but creatures brought some distance closer to, or subsumed by some greater degree within, cultural processes. The final category also shares this characteristic of distance from some putative center of relationship quality. I called it "Maulings" and it comprises all of the stories where theme park killer whales attack their trainers, or zoo animals their keepers.[5]

These categories do not take account of what else the story might say, the tone for example. It might be a relationship of friendly encounter (as in saving egg-laying turtles from habitat destruction or commercial marauders) or hostility (as attempts to control the invading Chinese mitten crabs). The tone might be whimsical (as following the beavers who were eating cherry trees along the Potomac in Washington DC) or utilitarian (using goats to crop brush to mitigate fire danger). It might be about the species (sea otters show a population decline) or about individuals (issues about too much road kill of raccoon in a small town). These stories must all be analyzed for content and theme to determine the vectors of motive and attitude in our dealings with the animals. Suffice it to say that the animal stories are ongoing, regular features of the newspaper and they seem to offer multiple points of contact with a world shared and enlivened by an array of familiar creatures. We are constantly reminded that we share the world's living space, the overall habitat, with a multiplicity of non-human living beings.

Policy. My initial sorting produced general categories of *policy* and *culture*. As I broke these stories down, however, it became clear that the line between the two categories is fuzzy at best. Provisionally, I view the two realms as parts of a continuum based on, perhaps, the degree of formality or institutionalization of our attitude or activity. The model I'm working with is as follows: the realm of *policy* tells us, in general terms, what we should (or shouldn't) do about something. The realm of *culture* tells us, even more generally, what something means and what we should think about it. These cultural states of meaning may then crystallize, and institutionalize, into more formal policies.

By far the largest category of policy issues was a cluster I made of "Local land use issues." I won't go into their details here. They are certainly generically familiar from local communities throughout North America and probably from throughout the developed world. Some examples are:

- The plan to construct a new power plant in a residential area. Stories chronicle the technology to be used, the industry arguments for its need and safety, the formation of neighborhood NIMBY resistance.
- The plan to raise (or institute) user entrance fees for county parks, including explanations of the need for the money and the resistance of taxpayers.
- The plan to purchase, or take, the lands of a large salt-distilling company from San Francisco Bay and return it to conservation wetland as an exchange for building new airport runways by filling into the Bay.
- The community resistance, based on environmental grounds, to the proposed U.S. Marines amphibious landing exercises in Monterey Bay.
- Proposals to build a new industrial campus for Cisco Systems, to build a new shopping center, to regulate park trail use by horses and moun-

tain bikers, to regulate sprawl on farmland, to organize against development and to organize against suburban sprawl. (Some of these stories could well be placed at the culture end of the continuum, since they are more about talk of trouble brewing than actual policy.)
- Multiple stories of traffic congestion, new highway plans, congestion development, transit development and routes, and HOV lanes.
- Specific land use conflicts: whether a school can cut some redwoods on its property, whether oaks can be cleared to plant new vineyards, etc.

The second policy subcategory is "Environmental laws and rules." Stories here report everything from local garbage rate increases to new federal laws governing wetlands or endangered species. Stories track the progress of environmental bills in the legislature as well as regulations governing specific lands or activities. This category also includes stories about the environmental agencies themselves as actors; they are typically critical of agency performance. For example, one story reports on the "gender war" within the U.S. Forest Service (Bellisle, 1999). The thrust of these stories is about the agency, the rule or the law, as opposed to a focus on the specific resource or policy area. In one example, a story reports that "drug agents hunting for marijuana in low-flying helicopters routinely kill birds, stampede farm animals, violate environmental laws and terrify innocent homeowners" (Helicopters in pot raids, 1999). This led to public hearings about the agency behavior and changes in BLM handbook guidelines.

Policy stories that are more focused on specific resource areas I grouped by resource or area. A list follows. Since most of these categories are obvious and non-problematic, I make few comments about the data in each of the categories.

- Oil and Mining.
- Forest Uses (including the Headwaters Forest stories and more general stories about logging ethics, management, and policy).
- Water Policy (including dams, diversion, Colorado River allocations, canals, water supply issues and the discussion over the general health of the San Francisco Bay Delta).
- Parks Policy: National and State (includes issues surrounding car use, car bans, park maintenance, park pollution, and general park management).
- Open Space Preservation (includes purchase of land by agencies, establishment of land trusts, open space policy, and stories about specific tracts of land under consideration for preservation). These stories often relate closely to stories about sprawl and development and farmland.
- Restoration Projects (includes restoration of various rivers, flood prevention, pollution clean ups, Everglades, and, interestingly, restoring salt to the famous Bonneville Salt Flats).[6]
- International Land Use Issues (includes such items as Chileans protesting for farm land, protection of forests in Bhutan, new rules for human activity in Antarctica, Amazon Indians fighting against gold mining, issues surrounding building of the Three Gorges Dam in China).
- Climate Change and Global Warming (includes climate change data and stories reporting the Kyoto Conference and Treaty).
- Oceans and Fisheries.
- Population.
- Food System (two major issues: establishing official standards for "organic" food and the emergence of and controversy surrounding genetically modified foods).

The category of "Immigration" seems to bridge the policy/culture categories I have constructed. Immigration is certainly a policy issue in the U.S. However, it has not been clear until recently that immigration might be thought of as an environmental issue. This discussion became prominent in Spring 1998 when the national membership of the Sierra Club voted on a ballot proposition put forward by a small group of members that would make it club policy to advocate cuts in U.S. immigration levels (Rogers, 1998). Though the measure failed, it sparked editorial discussion and op ed pieces claiming that "Immigration is a hazard to our environment" (Zuckerman, 1998).

Cultural Issues. This category has three subcategories. First is the "Political" area, broadly conceived. On the continuum from local and specific to general and abstract, this category comprises environmental movement activism and protest and the related issues of green politics. Also included are the more general issues of environmental politics and candidates and, finally, the most general philosophical discussion of political approaches to environmental futures. Stories in this category look at the election of Sierra Club leadership, the injury to protesting activists (and one death) over logging in the redwood forests, the attack of the Earth Liberation Front on the Vail ski lodge. Here also are stories of PETA animal activism and protests at research labs that use animals in experiments or testing. The protests over the Makah Indian whale hunt in Washington are also included, as are fur protest demonstrations and actions

to urge universities to stop investing in companies that contribute to global warming (Feder, 1999). Activism also has lighter moments, as when the director of the World Trade Organization was "creamed by pie-tossing critics" over environmentalist anger at a WTO ruling that worked against turtle protection (Higgins, 1998).

Stories become more traditionally political when they consider whether a town should reject fluoridation of their water supply; when they consider fights among windmill operators over rights to the wind; when they discuss whether local communities should adopt rules to ban wood fires in fireplaces and stoves on air-alert days. Questions of regional and super-regional political frameworks to deal with environmental issues are found here as well, as are discussions of policy approaches to growth, development, sprawl and living within our means. Included also are articles that blame past policy for environmental disaster, and discourse that projects dystopian futures from current policies and practices. More prosaic are stories that report political appointments to environmental positions or report candidate positions on environmental issues. Finally, I include here articles about green candidates, parties, and policies, though they are few in number and many refer to Green parties abroad.

The second *cultural issues* category deals with "Consumption" broadly conceived. In this category are travel, tourism, ecotourism and camping viewed as consumer activities. This includes the reservation system for camping at national parks, the problems tourists create for ecosystems, and articles devoted to travel destinations based on their "nature" value. This category is somewhat problematic because so much of travel relates to scenic nature, but there are obviously many travel stories that are not environmental stories. I have not clipped every possible travel story, but have focused on those that feature national parks or ecotourism or discourse based prominently on the scenic attractions of "nature." For example, I would include here a story on travel to the Galapagos Islands to view the giant tortoises but not a story on vacationing in Hapsburg Vienna. However, deciding what travel/tourism stories to count as environmental stories could prove difficult, mirroring the inherent difficulty in separating the nature/culture interface.

Along with travel, consumption embraces energy and power, cars, furs, recycling, and general philosophical consumption issues. I highlight a few examples here. Energy issues have many environmental ramifications both at the levels of consumption and production. In California, utility deregulation means that consumers can now select their own power producer, which has led to considerable consumer-oriented analytical and promotional discourse. For example, what does it mean (and what does it entail) to "go green" (Johnson, 1999; see also Smith, 1998)? Energy stories examine oil and OPEC, nuclear plants, solar and other alternative sources. Car and vehicle stories register the environmentalist protest against the inefficiencies of SUVs, the future of electric cars, the values of subsidized transit pass programs. Recycling stories both inform readers how to and why to, and question the value of it (Douglas, 1997). A small cluster of anti-fur stories tracked not activist protests but the ballot initiative in Beverly Hills to require fur merchants to attach labels to garments explaining how the animals died (Beverly Hills voters, 1999). Where should that story be categorized? With anti-fur protest? With political and election stories? Or as a story about our attitudes toward consumption?

The general philosophical issues surrounding consumption deal with such issues as the movement for voluntary simplicity (Chow, 1998) and the debate over whether resources are dwindling or plentiful. Some articles that question growth, or promote sustainable growth, also fit here. For example, one article reviews the impacts of "free market globalization policies" in terms of environmental damage and reports that "nearly 30 percent of the natural world has been destroyed since 1970 with serious depletion of the forest, freshwater and marine system on which life depends" (Mattern, 1999). Another story reported that the Atlanta city council rejected a proposal to ban new drive-through windows as a pollution measure (Charles, 1998). Another article questioned the merger of Mobil and Exxon on environmental grounds and cited one environmentalist as saying "Putting Exxon and Mobil together creates the Death Star of global warming" (Reno, 1998).

At the most general level, such philosophical stories report the technological optimism of the late Julian Simon: "Every measure of human material welfare has shown a dramatic upturn, not only life expectancy and mortality, but also transportation, communication, nutrition, you name it." Further, "there apparently is no fixed limit on our resources in the future" (Simon, 1998). We also learn that drugs derived from "a deadly poison from the skin of a South American frog" may "revolutionize pain treatment" (Recer, 1998). At the extremes of the philosophy of leisure consumption are questions about whether golf can be environmentally ethical and whether "personal watercraft" should be banned from Lake Tahoe.

A third subcategory of *cultural issues* is "Education." Here I would place all of the stories that report scientific and other data about the natural world: how it works, what shape it is in, the implications of certain activities, etc. In my newspaper there is a weekly "science and technology" section that produces much

of this material. I have not rigorously clipped it all, but must acknowledge it as a significant category. Some examples include a story on "the ultimate trickle-down theory" that describes how redwood trees draw water from fog and cycle it through the forest (Yoon, 1998) and a story that describes how giant sequoia trees record geophysical events in their tissue carbons (Vogel, 1999). These pages talk about satellite imagery used to show changes in life on the planet as well as about cloning and the development of a "virtual frog" as an alternative to school dissection exercises (Chui, 1998). Other stories in this category report programs that involve training or teaching children about nature, whether by fishing trips for inner city kids (Tomb, 1999), Earth Day activities, or traveling NASA exhibits (Kitagawa, 1999).

Other significant data reports come from coverage of the Worldwatch Institute's regular reports on the health of the planet. For example, two articles in 1998 gave mixed signals. One reported optimism that there has been increased recognition by both corporations and governments of the need for sustainable economics (Briscoe, 1998). Another pointed out that while developing countries got richer, other signs "show a world whose pulse is slowing" (Countries richer, 1998). Finally, compressed but provocative environmental data is often found in the syndicated "Harper's Index" feature. In 1997, for example, the index noted: "Estimated number of people who could be fed for one year with the food Americans waste in one day: 240,183;" and "Average number of acres added to Las Vegas each day: 3" (Harper's Index, 1997). In 1999, the Index reported: "Percentage change since last year in the size of the ozone hole over Antarctica: +37;" and "Square miles by which the size of the ozone hole exceeds the size of North America: 1,129,000" (Harper's Index, 1999). These are not stories per se, but data points that seem to contain whole stories. They contribute to our understanding of the state of the human/nature relation. Generally, this education/data category is also underclipped in this study, but clearly represents a significant category of environmental discourse.

The final *cultural issues* category is the broad and undefined "other." It is rather too large a category at the moment, and it defies precise ordering. I will call it here "Cultural frontiers." In some ways these are the most intriguing stories since they defy ready-made categories. They seem to hint at future developments and suggest the boundaries, borders, and liminal areas where issues are just forming, definitions just being contested, and where things may be headed. I offer here only a cursory sample of some of the more interesting as a suggestion of what remains after all the other sorting is done. I find three loosely logical subcategories. First are the stories that seem to cohere at the intersection of animals, habitats, and culture. (I've labeled the second and third "adaptations" and "appreciations.") For example, there is a report on an attempt to identify and protect North American "eco-regions." This seems to me to mark the forefront of planning and policy. Here we are looking at "biologically exotic regions," some of which are "globally significant" and deserve protection. Will these categories of habitat find their way into the global regulatory state? Will they become our future "units of planning?" Another story—it sounds odd on the surface—reports an agreement for the government to study "bison, snowmobile relations" to learn whether snowmobiles encourage bison to migrate out of protected sanctuaries in parks (Parks to study, 1997).

A cluster of articles examines cultural differences in treatment of animals, specifically around the issues of the Bay Area Chinese community and their tradition of importing live turtles and frogs for culinary use (Tran, 1998). Should such imports be regulated? Is it a form of racism? Is it an animal rights issue? Related is the story that asks whether the controversial new impotence drug Viagra might actually reduce demand for at-risk species used by some cultures as aphrodisiacs—for example, rhinoceros horns, bear gallbladders and tiger penises (Cooke, 1998). The very question suggests the operation of an ecological consciousness toward the interconnection of human cultural behavior and natural systems. Still other animals leave a cultural mark when they become "celebrity animals." One story reports the economic aftermath of the departure of "Free Willy" Keiko (the orca) from Newport, Oregon where he was housed after his liberation from the inadequate aquarium in Mexico. Where did all the tourists go? How can we get them back?

There are stories of holiday tourism firms marketing "wild animal hunts" for farmed-out zoo creatures. One company will save your pet's DNA for future cloning. A Roman Catholic cardinal in Los Angeles held a special ceremony of blessing on Holy Saturday for "a menagerie of pets and livestock" on the basis that they "helped people by their work and their companionship" (Congregation, 1999). There is a story about how the BBC's cancellation of a sheep dog show caused a public furor. Another story marks the fifth anniversary of the magazine *Reptiles*, with an article on "Sex and the Single Iguana." The magazine is called "a sort of Cosmo for the scaly set" (Rivenburg, 1999). These stories are not about animals in general, or about particular pets, but about the cultural concept of "pet" and about the implications of such a concept for our behavior as the concept itself becomes elaborated over time. Perhaps the most "ad-

vanced" development, although it appeared after the formal sampling frame of this study, is the invention, patenting, and sale of "Neuticles," which are "gumdrop-shaped implants" that serve as artificial testicles for pets, ostensibly to improve the animal's (self?) image (Martin, 1999).

A proposed ballot initiative to ban leg hold traps generated considerable discourse. Much of it might also be categorized under the political and/or electoral category. However, much of the discussion was philosophical and value-oriented: How much pain and harm should animals suffer for "higher" social, political, or economic purposes—or even for other environmental purposes? In this case, the argument for trapping predators was based on their threat to an endangered species in the area. One environmental purpose or value now collides with another. Where is the ethical calculus for making such choices between competing environmental purposes? Animals and culture also collided in the news stories about the treatment of animals in Disney's new $800 million Animal Kingdom theme park (Navarro, 1998). Other animal stories noted how the hit-and-run killing of a fawn inspired one town to require drivers to report such accidents or face jail time, thus seeming to move animals one step closer to a human level of respect. In other stories a shark attacked a boogie boarder, and a squirrel knocked out power to more than 78,000 PG&E customers when it short-circuited a power line. In Key West, Florida, a city law protects wild chickens and bans chicken harassment. Finally, a story reports that two Fish and Wildlife agents now serve as "caviar cops" who test incoming shipments for DNA to ensure that international standards regulating caviar importing, and protecting dwindling species of sturgeon, are observed (O'Neill, 1998). Taken together these stories indicate that the human relation with animals impinges upon the culture in a variety of unanticipated ways, causing us to rethink traditional "wisdom" and to alter our behavior.

The second general subcategory of "Cultural frontiers" I call simply "adaptations" in contrast with the final subcategory of "appreciations." Under "adaptations" I group stories about multiple ways that relations with environment impinge upon us, affect our practices and change our attitudes. For example, a story reports that weather has come to cost us (in 1998) "a record $89 billion, more money than was lost from weather-related disasters in all of the 1980s" (Abu-Nasr, 1998). The fiscal magnitude of losses is beginning to threaten insurance companies. Human activity seems to be exacerbating the trend to increasingly large-scale weather impacts. Related is the story that reports a growing interest in having the government purchase homes in flood plains instead of insuring and then repeatedly replacing them (Cushman, 1998).

Pollution, too, causes adaptations. For example, the Governor of California vetoed legislation that would have speeded clean-up of pollution in low-income communities, arguing that the Environmental Quality Act was "not designed to be used as a tool for a social movement" (Wilson vetoes, 1997). Here, political ideology adapts to legislative initiative regarding environmental improvement. We adapt to environmental conditions and opportunities in our markets as well. Earth Day, dwindling lately in popular enthusiasm, has become, in my area, "earth.tech.2000," advertised as "Finding Tomorrow's Solutions Today" and featuring electric cars, bike and scooter rides; an "earth circus;" wild animals; a Mt. Everest "environmental expedition forum;" and a "solar cooking demonstration and tasting." We now have "Pollution Prevention Week" though we are encouraged to celebrate it "every week all year long." A recent story reports that the nation of Chile has "branched out" into exotic products for export markets: "snail-slime aftershave, sea cucumbers, cow livers" (Ellison, 1999). This adaptation includes the cooperative interaction between government and private agencies to provide venture capital and to nurture these new extractive industries. Is this the New Age Millennial Ecology version of the great timber, mining, and oil extractions of the 19th century?

A related set of adaptations is indexed by the story describing how "landlocked cities get water parks, aquariums, beaches" as "sea fever sweeps inland America" (Brooke, 1998). The particular featured attraction is in Denver, where they are installing "the ultimate faux beach: an acrylic walk-through tube that will be pounded with waves of saltwater while floors vibrate and hidden atomizers spray sea scents" (Brooke, 1998, p. A14). Over the past ten years, Brooke reports, attendance at water parks has doubled to over 61 million. There are markets of people who live inland, in mountains or plains or prairies, but who travel to the beach each year. The cultural adaptation is to bring the beach to them. One promoter says that people want "to do 12 months a year, what they could only do four months a year" (Brooke, 1998, p. A14). His tourist attraction, "The Island," "will use gas heaters to warm the air and infrared heaters to warm the sand" in order to "give barefoot [volleyball] players a tropical feeling in the depths of a Colorado winter" (Brooke, 1998, p. A14). Related is a more recent story of the economic implications of Phoenix residents' annual summer migrations to the beaches of San Diego. Shaffer reports that "Arizonans accounted for 1.7 million overnight stays in San Diego last year, about 12 percent of the city's

total. . . . They spend an estimated $500 million annually" (1999, p. A1). But our adaptations are not just in how we escape from, but also in how we dwell in, our environment. Peyton reports that underground houses ("earth-sheltered") remain durable options, if waning in popularity (1999, p. F5).

We learn also that different cultures adapt differently to environmental issues. South Africa, for example, instead of preserving trees, bushes, shrubs and other plant life, practices "environmentalism" by rooting out, ripping up, and chopping down "exotics"—the "alien species that steal the nation's water and drive out native vegetation" (McNeil, Jr., 1998).

In some instances, ecological backlash compels changes in our practices, as with the gradual breakdown of plantation farming of cocoa beans that feed the world's demand for chocolate. With disease and unsustainable practices threatening the worldwide cocoa supply, producers are turning to "new" smaller, more sustainable growing methods, with attendant changes on local economies (Yook, 1998; Marquis, 1998). There is some reason to believe that these small cocoa farmers may, in some areas, switch production away from cocaine production, thus affecting the West's drug problem as well (Marquis, 1998). Adaptations are not always benign. When the off-road vehicle riders descend upon the Southern California desert sand dunes for their winter recreation, dust and engine noise dominate the area. While relieving pent-up stresses, the riders are also damaging habitat for many species, some endangered. Each season, an article reports, as many as a dozen people are killed and over 800 injured, many involving serious spinal cord traumas. One hospital worker calls it "a MASH unit. . . a war zone" (Dunes invasion, 1998).

Adaptations influence speech behavior as well. The celebrated Oprah Winfrey tangle with the cattle/beef industry was widely chronicled during this period. At issue are "veggie libel laws" and "food disparagement speech." What are we allowed to say about the environmental and health implications of foods? But environmental issues make other incursions into our speech practice as well. An animal rights group argues that pet "owners" should be legally referred to as pet "guardians" in all local San Francisco laws (Pet owners, 1999). One story surveyed sports pages from around the country and called for an end to "El Nino sports clichés" (Brown, 1998). Other cultural productions are affected. For example, a number of stories reported the protest in Thailand over environmental damage in the making of a Leonardo DiCaprio movie (*The Beach*) on a fragile white sand beach (Khaikaew, 1999). This marked an important emergence of the environmental activist voice in Thailand. And, in Alaska, there has been protest over road direction signs posted on private land as anti-billboard groups fear the "visual pollution" of billboards that may follow. According to Badger, "National scenic groups say Alaska, like the other billboard-free states of Vermont, Maine, and Hawaii, has a stake in protecting its majestic natural beauty" (1998, p. A8). The clash pits business groups against the Alaska Visitors Association and other anti-billboard groups in a struggle over functional speech versus natural beauty.

Speech implications abound in the stories about the attempt of a U.S. Senator to "create" a new Great Lake by renaming Vermont's Lake Champlain. Though a large lake, Champlain is much smaller than the five so-called Great Lakes and was not included as part of the original designation. Thus, the lake doesn't qualify for any federal research money earmarked for Great Lakes studies. Vermont's Senator Leahy slipped into an omnibus bill a brief sentence declaring that "the term 'Great Lakes' includes Lake Champlain" (Seelye, 1998). Discovery of this attempted legerdemain upset legislative colleagues, professional cartographers, international joint commissions, and the U.S. Board of Geographic Names. Within two weeks, alternative legislation sought to strip Lake Champlain of its new status (Eversley, 1998). Such stories reinforce the importance of the consequences of our naming nature.

Similar cultural and speech implications inhere in a story about several Catholic families who sued a school district as part of the national backlash against an education system that has been perceived to move away from the "basics of reading and math." In this story, parents attacked the celebration of Earth Day in schools because "it included making pledges to the Earth, which they said was like praying. 'We worship the creator, not the creation,'" one of the parents said (Fitzgerald, 1999). So, some talk about the environment, in some quarters, is called into question. Related is a story about the proliferation of labeling some scientific studies as "junk science" in environmental controversies; such labeling, the article reports, is said to "discourage debate" (Schwartz, 1999).

Other forms of environmental speech are also under attack. The ecofeminist philosopher Mary Daly is in the midst of an ugly job termination at Boston College after 33 years of service (see, Professor's extracurricular fight, 1999). Similarly, over 100 protested Princeton University's hiring of the animal rights philosopher Peter Singer (Princeton denounced, 1999). These stories are evidence of cultural backlash around environmental discourse that is viewed as threatening to dominant ideologies.

If there is a trend toward attacking some speech about nature, there is also an innovative attempt to

imprint our acceptable commercial speech upon nature (Rosenberg, 1999). Rosenberg reports a new entrepreneurial venture of sand advertisements, that is imprinting advertising messages directly onto beach sand at popular resort beaches: "the first environmentally safe billboards." There is some speculation this will lead next to snow imprinting at ski resorts. The issues are complex. Some advertisements are not welcome: tobacco, liquor, birth control. Local governments generate scarce revenue to maintain and improve beaches. But some sensibilities are still offended: there is no escape from advertisements. The beach, instead of respite, is now another advertising medium.

Another form of speech about nature invokes the sacred. The Chinese philosophy or practice of *feng shui* has become popular. One story reported a homebuilder promotion where *feng shui* practitioners were hired to perform a "community blessing. . . on behalf of the happiness and prosperity of the future residents" of the development (Seipel & Grant, 1998). This was stimulated partly by the discovery of an Ohlone Indian burial site on the parcel. *Feng shui* also shows up periodically in home and garden pages, or lifestyle pages, as part of a new consciousness about our relation to the built environment, as well as the natural environment (see, for example, Davey, 1999). Another story reported that in 1997, 300 people gathered at the Washington Monument for the fifth annual Prayer Vigil for the Earth. The ceremony included "thirty hours of worldwide healing prayer" intended to "cure disease, clean rivers and make air breathable" (Dakota elders, 1997).

Another form of behavioral adaptation is found in the National Park Service's move to ban nude sunbathing from federal beaches in Hawaii. The Kaloko-Honokohau National Historical Park was set aside, in part, to preserve and protect Native Hawaiian culture and heritage, which does not find public nudity culturally appropriate (Skrzycki, 1999). Here, the agency chooses among competing cultural values to determine appropriate uses and engagements with landscapes that are federally set aside and protected. There seems to be a suggestive irony at the heart of banning humans from being naked in nature.

The adaptations we make, then, are many. Making the human relationship to nature conscious, after years of environmental movement discourse, leads to impacts across the spectrum of human behavior. Many of these impacts, as detailed above, might not have been anticipated outcomes of our increased attention to environment.

The final subcategory of "Cultural frontiers" I call "appreciations." It might well be considered only another form of the adaptations catalogued above. Appreciations take several forms. One is the Guiness-book mentality of singling out phenomena in nature for superlativization. For example, stories describe the winner of the yearly Half Moon Bay Great Pumpkin Weigh-Off—a twenty-five year tradition (Walton, 1998). In 1998, a 974-pound pumpkin broke the contest record by 99 pounds. The world record, we learn, is 1,092 pounds. Interestingly, we learn that these pumpkins are not good for eating. One grower noted that, "these are grown for size. . . We put a lot of fertilizers, and people use pesticides and things" (Walton, 1998, B1). A similar story features "Mr. Tomato" and his amazing 28 ft. 7 inch cherry tomato plant (Boatman, 1999). Such stories are perennial, even when humans are not involved in growing the plant, as in the case of "Tall Tree" that lost ten feet in a storm and with it the claim to being the world's tallest tree (Geniella, 1999). A new tall tree was quickly found, however. This redwood, standing at 367.5 feet, has now been declared the world's "tallest living thing."

The quality of our appreciation of environment seems to move along a continuum from simple appreciation to nostalgia to aesthetic appreciation reflected in art. Examples of simple appreciation include a column urging readers to "tap into the beauty of the creeks all around us" and develop urban greenways (Rodriguez, 1999). An editorial urges us to return to the Arbor Day ethic of planting trees as an antidote to urban sprawl (Harrop, 1999). The focus on Arbor Day is already approaching nostalgia, since that holiday was eclipsed by Earth Day nearly 30 years ago. Nostalgia pieces report a restoration medal awarded to an 18th century English landscape garden (Kennedy, 1999), and the growth of Midwest prairie preservation and restoration efforts. An op ed piece offers a bit of more personal nostalgia from a writer who describes "how the desert broke my heart" (Hubner, 1998). The relentless pressures of growth and development ruined this love affair with a place—the Upper Sonoran Desert in Arizona. Similar motivations prompt actions by groups as diverse as Greenpeace, working to make Antarctica into a world park (Robertson, 1998), or the Vietnamese fishermen working to restore fishing and the coral reef in Nha Trang Bay from the cyanide and dynamite fishing (McDonald, 1999). A similar article describes the efforts of a local preservationist group to retain the past by creating a living museum of orchard history (Cronk, 1997).

Appreciation stories are also about people, such as the obituaries that marked the passing of conservation leaders. Margery Stoneman Douglas is one recent example. Similar are the celebrations of the contributions of other environmental heroes, such as the "teacher as role model" story about a local university professor (Suryaraman, 1999).

At the end of the appreciation continuum are stories that report the aesthetic or artistic response to nature. Here, in the "Life" and "Entertainment" sections, we learn about a local photographer who has "turn[ed] a geologist's eye on the landscape" (Fischer, 1999), or about the opening of a traveling art exhibit on responses to American Landscape (Lovell, 1999). A third article reports on an exhibit that displays 300 years of artistic response to the landscapes of California (Maclay, 1999).

Perhaps the most bizarre appreciation story (or perhaps it is an adaptation) is the picture of a monopole cellular communications tower "disguised as a pine tree in an attempt to blend in with the surroundings" (A page, 1998). Metal towers disguised as pine trees? Fake pet testicles? Pie in the face activism? "Veggie Libel Laws?" "Frankenfoods?" "Genetic pollution?" These stories represent both the brave new world of environmentalism and the degree of penetration of environmental consciousness into all aspects of human culture. They all point to a new awareness of how humans interact with their environment, and of the consequences of those interactions. But do readers "connect the dots" and identify the underlying eco-logics? That must be the subject of further study.

Conclusion

Newspaper stories that report environmental news are quite heterogeneous. Beyond a core of stories whose environmental themes and concerns are obvious and self-evident lies a vast realm of stories that do not announce themselves as environmental, but whose implications and entailments are, upon further reflection, part of the larger mosaic of concerns about humans and their relationship with the (deteriorating) natural world. We do not know the degree to which people perceive human/environmental relations holistically.

One categorization principle that emerged from the sort of the *Animal* category is based on degree of difference from a putative essential core. For example, I see animal stories distributed along a continuum of distance from a putative "essence" of the phenomenological creature as a *"Ding an sich"* to an opposite "cultural totalization" of the creature, now purely object, image, or signifier in some larger human cultural enterprise. I have not sorted stories along this continuum, but it suggests an interesting avenue for further inquiry.

Further study could help to answer these important questions by testing readers' systems of categorization and classification of news into systems of meaning, value, and response that affect their understanding of, and action towards, environment and environmental protection. How can our decisions and actions produce a sustainable way of living within our planetary means if we lack clear conceptual grasp of all the many facets of our environmental relations? How can we communicate effectively about sustainable practices if our messages are not clearly perceived as coherent, or unified, within a framework of environmental meaning.

I hope this preliminary study helps to open up the problem for further study. The major contribution of this study is a suggestion of a preliminary category system for comprehending the relationships between the various stories that report on the state of our environmental relations. Further work should test the value of these categories.

Notes

1. Not the least of concerns was the way that an environmental story crossed disciplinary boundaries: it was about policy, about health, about chemistry, about biology. In short, environmental stories were some of the earliest postmodern artifacts, before we began to use that critical term. In fact, someone brighter than I might well be able to make the case that the rise of the environmental consciousness based on ecological holism contributed significantly to the postmodern view of the world.

2. The uncertainty of the boundary area of environmental discourse influences decisions about what stories to clip. There are a number of stories, story lines, or thematic areas that could, with some logical extrapolation, be seen to have environmental implications. Nonetheless, I have not clipped stories that seem too tenuously connected to environmental implications, stories where I have to work too hard to make the case. These are, of course, judgment calls. Some of the story lines that I have not clipped, or clipped only a token representative, include: litter patrol; grass fires and wildfires; small neighborhood parkland purchases; hybrid cars and vehicles; road-kill stories; historic building preservation; gardens and gardening; weather and drought (unless linked to global warming or human influence); parking garages; mass transit plans or works; storm drain taxes; farmers' markets; saved kittens; banning dogs from riding in pickup trucks; mold in public buildings; a man with a pet turtle; germ warfare.

3. Since so many stories in the data base are cited as examples, I have chosen not to clutter the text with endless bibliographic intrusions. Instead, all stories in the data set have been referenced as sources in the references section. I assume that readers want more to be assured of the range and quality of the data set than of the precise location of each exemplar story cited. For those seeking the precise story, however, the topic and headline can usually be matched and the story accessed online through the newspaper's online database at *www.sjmercury.com*.

4. Because this is such a common category, and for space reasons, I will omit the further analysis of the pollution category from this paper. This omitted text is available from the author. The outline of topics in this category area will be found in the Appendix.

5. However, it does not include sharks attacking surfers. But the question of whether the shark stories should be included in *Maulings* is (philosophically) an interesting one. I surmise they are different because of the disparity between who is at home where in the incidents.

6. One story reports taxpayer resistance to the New Jersey Beach Restoration project where a "huge vacuum cleaner floats off the coast. . . . sucking sand from the seabed, shooting it through a pipeline and onto beaches emaciated by storms and tides"—at a cost of $200 million in the first phase (Clinton targets, 1998).

References

Abu-Nasr, D. (1998, November 28). Study: Humans worsen natural disasters. *San Jose Mercury News*, p. A18.

A page from Mother Nature. (1998, July 14). *San Jose Mercury News*, p. B3.

Badger, T. (1998, October 27). Road signs spark dispute in Alaska. *San Jose Mercury News*, p. A8.

Bellisle, M. (1999, May 2). Women on the front line of gender war in the woods. *San Jose Mercury News*, p. B3

Benson, T. (1983). Implicit communication theory in campaign coverage. In W. Adams (Ed.), *Television coverage of the 1960 presidential campaign.* Boston: Ablex.

Beverly Hills voters reject fur label law. (1999, May 12). *San Jose Mercury News*, p. B3.

Big rain-forest losses show up in Amazon data. (1998, January 27). *San Jose Mercury News*, p. A7

Boatman, K. (1999, May 14). Mr. Tomato. *San Jose Mercury News*, p. E1.

Briscoe, D. (1998, January 11). Ecological institute says industry is coming around. *San Jose Mercury News*, p. A9.

Brooke. J. (1998, September 4). Sea fever sweeps inland America. *San Jose Mercury News*, p. A14.

Brown, D. (1998, January 18). Time to rain out El Nino sports clichés. *San Jose Mercury News*, p. F1.

Burnham, J. (1991). Of science and superstition: The media and biopolitics. In C. LaMay & E. Dennis (Eds.) *Media and the environment* (pp. 29-42). Washington, D.C.: Island Press.

Canby, T. (1991, August). After the storm. *National Geographic*, pp. 2-35.

Charles, A. (1998, December 8). Drive-through ban rejected in Atlanta. *San Jose Mercury News*, p. A17.

Chow, C. (1998, November 10). The simple life. *San Jose Mercury News*, p. E1.

Chui, G. (1998, July 14). Virtual frog. *San Jose Mercury News*, p. F1.

Cimons, M. & Jacobs, P. (1999, February 23). In the battle to develop biotech drugs, profit motive clashes with public health. *San Jose Mercury News*, p. F1.

Clinton targets sand-moving costs. (1998, March 8). *San Jose Mercury News*, p. A11.

Cone, M. (1998, September 22). Pollution altering fish. *San Jose Mercury News*, p. A6.

Dennis, E. (1991). In context: Environmentalism in the system of news. In C. LaMay & E. Dennis

(Eds.) *Media and the environment* (pp. 55-66). Washington, D.C.: Island Press.

Congregation of critters. (1999, April 4). *San Jose Mercury News*, p. B3.

Cooke, R. (1998, October 21). Can Viagra use cut demand for at-risk species. *San Jose Mercury News*, p. 17A.

Countries richer, earth poorer, report warns. (1998, May 10). *San Jose Mercury News*, p. A15.

Cronk, M. (1997, October 19). Preserving our roots. *San Jose Mercury News*, p. A1.

Cushman, J. (1998, July 17). U.S. urged to buy flood-prone homes. *San Jose Mercury News*, p. A4.

Dakota elders lead world-healing vigil. (1997, September 28). *San Jose Mercury News*, p. A20.

Davey, K. (1999, May 21). Decorating on a dime: *Feng Shui*; making your abode bode well for your life. *San Jose Mercury News*, p. E5.

Douglass, C. (1997, November 12). Even recycling has a down side. *San Jose Mercury News*, p. B7.

Douglas, M. (1975). *Implicit meanings: Essays in anthropology*. London, England, UK: Routledge & Kegan Paul.

Dunes invasion casualties make hospital a war zone. (1998, November 28). *San Jose Mercury News*, p. B3.

Earle, S. (1992, February). Persian Gulf pollution: Assessing the damage one year later. *National Geographic*, 122-134.

Ellison, K. (1999, May 29). Exotic products. *San Jose Mercury News*, p. C1

European food-safety panic worst since 'mad cow' fear. (1999, June 3). *San Jose Mercury News*, p. A5.

Eversley, M. (1998, March 17). Lawmakers work to strip new Great title from lake. *San Jose Mercury News*, p. A6.

Feder, B. (1999, April 7). Activist group urges Stanford to dump stock. *San Jose Mercury News*, p. B2.

Fisher, J. (1999, March 14). Turning a geologist's eye on the landscape. *San Jose Mercury News*, p. G2.

Fitzgerald, J. (1998, February 28). Religious battle over curriculum goes far afield. *San Jose Mercury News*, p. A11.

Friedman, S. (1991). Two decades of the environmental beat. In C. May & E. Dennis, E. (Eds.) *Media and the environment* (pp. 17-28). Washington, D.C.: Island Press.

Geniella, M. (1999, June 8). A new king of trees. *San Jose Mercury News*, p. B3.

Gottlieb, R. (1991). An odd assortment of allies: American environmentalism in the 1990s. In C. LaMay & E. Dennis (Eds.) *Media and the environment*. Washington, D.C.: Island Press.

Harper's Index. (1997, October 12). *San Jose Mercury News*, p. P1.

Harper's Index. (1999, January 10). *San Jose Mercury News*, p. C3.

Harrop, F. (1999, April 21). Return to the Arbor Day ethic. *San Jose Mercury News*, p. B7.

Hays, S. (1959/1980). *Conservation and the gospel of efficiency: The progressive conservation movement, 1890-1920*. New York: Atheneum.

Hays, S. (1987). *Beauty, health, and permanence: Environmental politics in the United States, 1955-1985*. Princeton, NJ: Princeton UP.

Helicopters in pot raids kill birds, spook stock, residents say. (1999, January 19*). San Jose Mercury News*, p. B3.

Higgins, J. (1998, October 31). WTO director creamed by pie-tossing critics. *San Jose Mercury News*, p. A11.

Hubner, J. (1998, November 29). How the desert broke my heart. *San Jose Mercury News*, p. P1.

Industry opposes study of high-tech worker cancers. (1998, December 6). *San Jose Mercury News*, p. B1.

Jaehne, D. (1992, February). *The discursive evolution of oil pollution as an environmental problem, 1930-1961.* Paper presented at the Western States Communication Association, Boise, ID.

Jaehne, D. (1991, February). *Constructing environmental problems: The genesis of oil pollution discourse in the 1920s.* Paper presented at the Western States Communication Association, Phoenix.

Johnson, S. (1999, May 31). It's not easy going green. *San Jose Mercury News*, p. C1.

Johnson, S. (1999, March 31). Water bottlers face suit. *San Jose Mercury News*, p. B1.

Kennedy, M. (1999, February 5). 18th-century English garden wins restoration medal. *San Jose Mercury News*, p. F2.

Khaikaew, T. (1999, January 16). Protests at DiCaprio film bring Thai activists notice. *San Jose Mercury News*, p. A4.

Killingsworth, J. (1996). Environmental Rhetoric. In Theresa Enos (Ed.), *Encyclopedia of rhetoric and composition: Communication from ancient times to the information age* (pp. 225-228). New York: Garland.

Kitagawa, R. (1999, March 2). A rain forest visits at Moffett. *San Jose Mercury News*, p. B1.

Krieger, L. (1999, January 27). Brain illness is not genetic. *San Jose Mercury News*, p. A1.

LaMay, C. & Dennis, E. (1991). (Eds.) *Media and the environment.* Washington, D.C.: Island Press.

Lovell, G. (1999, June 3). Landscapes alive: Whitney exhibit to open in S.J. *San Jose Mercury News*, p. B1.

Maclay, C. (1999, May 2). The terrestrial paradise. *San Jose Mercury News*, p. G1.

Marquis, C. (1998, July 16). Chocolate shortage may lead ex-coca farmers to a legal new crop. *San Jose Mercury News*, p. A1.

Martin, D. (1999, August 8). Fake pet testicles gain popularity as 'natural look.' *San Jose Mercury News*, p. A19.

Mattern, D. (1999, January 18). Great wealth—and poverty. *San Jose Mercury News*, p. B6.

McDonald, M. (1999, January 6). SOS for a Vietnam treasure. *San Jose Mercury News*, p. A1.

McKibben, B. (1992). *The age of missing information.* New York: Plume.

McNeil Jr., D. (1998, June 19). S. Africa's eccentric environmentalism. *San Jose Mercury News*, p. DD10.

Miller, J. (1999, June 3). Deadly legacy of the anthrax graveyard. *San Jose Mercury News*, p. A17.

Modified-food treaty spoils with U.S. help. (1999, February 25). *San Jose Mercury News*, p. A15.

Navarro, M. (1998, April 18). For Disney, park project more of a zoo. *San Jose Mercury News*, p. A21.

Neuzil, M. & Kovarik, W. (1996). *Mass media and environmental conflict: America's green crusades.* Thousand Oaks, CA: Sage.

O'Neill, M. (1998, December 20). New rules put agents on caviar beat. *San Jose Mercury News*, p. A8.

Parks to study bison, snowmobile relations. (1997, September 28). *San Jose Mercury News*, p. A20.

Peterson, T.R. (1998). Environmental communication: Tales of life on earth. *Quarterly Journal of Speech, 84,* 371-393.

Pet owners should be called guardians, animal activists say. (1999, August 14). *San Jose Mercury News*, p. B3.

Peyton, C. (1999, April 10). Underground houses earn soiled reputation. *San Jose Mercury News*, p. F5.

Pollution dulls birds' sex lives, research finds. (1998, November 10). *San Jose Mercury News*, p. F1.

Princeton denounced for hiring philosopher. (1999, April 18). *San Jose Mercury News*, p. A16.

Professor's extracurricular fight. (1999, July 27). *USA Today*, p. D6.

Recer, P. (1998, January 2). Drug from frog may revolutionize pain treatment. *San Jose Mercury News*, p. A7.

Reno, R. (1998, December 15). Mindless merger mania. *San Jose Mercury News*, p. B6.

Rivenburg, R. (1999, January 30). Want a read that's slick? Reptiles does the trick. *San Jose Mercury News*, p. E6.

Robertson, D. (1998, January 18). Greenpeace sailed in, life changed. *San Jose Mercury News*, p. F1

Rodebaugh, D. (1998, January 9). Sanitation complaints hit salad makers. *San Jose Mercury News*, p. B1.

Rodriguez, J. (1999, March 7). Time to tap into beauty of the creeks all around us. *San Jose Mercury News*, p. B1.

Rogers, P. (1998, April 12). Immigration question tears at environmentalists. *San Jose Mercury News*, p. A1.

Rogers, P. (1998, April 16). Web offers details on companies' pollution. *San Jose Mercury News*, p. A1.

Rosenberg, A. (1999, January 31). Making an impression. *San Jose Mercury News*, p. A23.

Sandoval, R. (1998, May 9). Mexico's blazes could cause environment to suffer. *San Jose Mercury News*, p. A1.

Schoenfeld, A., Meier, R. & Griffin, R. (1979, October). Constructing a social problem: The press and the environment. *Social Problems, 27*(1).

Schwartz, J. (1999, February 24). 'Junk science' critics discourage debate. *San Jose Mercury News*, p. B7.

Seeyle, K. (1998, March 4). Senator creates new Great Lake. *San Jose Mercury News*, p. A1.

Seipel, T. & Grant, J. (1998, August 31). Homes site gets blessing. *San Jose Mercury News*, p. B1.

Shaffer, M. (1999, July 24). San Diego: Sands of Arizona. *Arizona Republic*, p. A1.

Skrzycki, C. (1999, May 2). Case clothed: Beach bans the buff. *San Jose Mercury News*, p. A12.

Simon, J. (1998, March 8). Forward march. *San Jose Mercury News*, p. F1.

Smith, R. (1998, March 30). Deregulation of power to jolt buyers, state. *San Jose Mercury News*, p. A1.

Suryaraman, M. (1999, February 23). Frank Schiavo: SJSU teacher is environmental role model. *San Jose Mercury News*, p. B1.

Tomb, G. (1999, May 24). Learning with a catch. *San Jose Mercury News*, p. B1.

Tran, D. (1998, April 1). A culture issue. *San Jose Mercury News*, p. B1.

U.S. industry credited for drop in pollution. (1998, October 9*). San Jose Mercury News*, p. A12.

Vogel, N. (1999, June 15). The teaching trees. *San Jose Mercury News*, p. F1.

Walton, M. (1998, October 13). Gargantuan gourd breaks record. *San Jose Mercury News*, p. B1.

Water use declines as population grows. (1998, October 9). *San Jose Mercury News*, p. A12.

Weiss, R. & Gillis, J. (1999, February 14). U.S. wary of biotech accord. *San Jose Mercury News*, p. A10.

Wilson vetoes pollution bill aimed at poor. (1997, October 7). *San Jose Mercury News*, p. B1.

Woolfolk, J. (1998, March 3). Diving study stirs up debate. *San Jose Mercury News*, p. B4.

Yoon, C. (1998, May 4). Diseases threaten the world's chocolate supply. *San Jose Mercury News*, p. A10.

Yoon, C. (1998, December 8). The ultimate trickle-down theory. *San Jose Mercury News*, p. F1.

Zuckerman, B. (1998, March 18). Immigration is a hazard to our environment. *San Jose Mercury News*, p. B7.

Appendix A—Outline of Categories

I. Animals
- A. Common Land Mammals
  - 1. Pigs
  - 2. Wolves/Coyotes
  - 3. Apes/Chimps
  - 4. Antelopes
  - 5. Bats
  - 6. Beaver
  - 7. Bears/Pandas
  - 8. Bison/Buffalo
  - 9. Cats
  - 10. Camels
  - 11. Deer
  - 12. Elephants
  - 13. Ferrets
  - 14. Gators
  - 15. Goats
  - 16. Wild Horses
  - 17. Mink
  - 18. Prairie Dogs
  - 19. Raccoon
  - 20. Sheep (Bighorn)
  - 21. Skunk
- B. Common Aquatic Mammals
  - 1. Whales
  - 2. Seals
  - 3. Otters
- C. Birds/Penguins
- D. Fish/Fisheries
- E. Insects
- F. Shellfish
- G. Reptiles/Turtles
- H. Pets
- I. Zoos and Aquariums
- J. Maulings

II. Pollution
- A. Air and Smog
- B. Nuclear and Radioactive
- C. Toxic Waste and Chemical
- D. Solid Waste (Trash)
- E. Noise
  - 1. Leaf Blowers
  - 2. Airplanes
- F. Oil Spills
- G. MBTE in Water
- H. Pesticides
- I. Lead
- J. Mold (sick buildings)
- K. Animal Waste
- L. Ozone
- M. War Pollution
- N. Recreation and Tourism Pollution
- O. Large Scale Negative Environmental Impacts
- P. Global Warming
- Q. Pollution Monitoring and Information Databases
- R. Pollution Impacts on Human Health and other elements
- S. New Sites or Contexts for Pollution
- T. Pollution as Transitory and/or Humorous

III. Policy
- A. Local Land Use Issues
  - 1. Calpine Power Plant (SJ)
  - 2. Raising Park User Fees
  - 3. Cargill Salt Ponds
  - 4. Marines Landing Exercise in Monterey
  - 5. Other Specific Land Use Policy Issues
    - a. Cisco Campus
    - b. Trail Use
    - c. Town and Country Shopping Center
    - d. Farmland
    - e. Sprawl
    - f. Development Fights
    - g. Development Impacts
    - h. Charge Developers for New Park Money
  - 6. Traffic/Roads/Congestion/Transit
  - 7. Land Use Conflicts
    - a. Preservation
    - b. Redwoods
    - c. Vineyards
- B. Environmental Laws and Rules
  - 1. Laws
  - 2. Agency Regulations
  - 3. Agency Behavior in General
- C. Oil and Mining
- D. Forest Uses
  - 1. Headwaters Forest
  - 2. Logging Ethics and Policy
- E. Water Policy
  - 1. Dams
  - 2. Diversions
  - 3. Colorado River issues
  - 4. Canals
  - 5. Water Supply
  - 6. SF Bay Delta Health
- F. Parks Policy: National and State
  - 1. Cars in Yosemite
  - 2. Car Bans in general

G. Preservation of Open Space
    1. Land Purchases
    2. Open Space Policies
H. Restoration Projects
I. International Land Use Issues
J. Global Warming
    1. Climate Change Data
    2. Kyoto Conference/Treaty
K. Oceans/Fisheries
    1. Oceans Conference
L. Population
M. Food System
    1. Organic Food Label Regulations
N. Immigration

IV. Cultural Issues
A. Politics
    1. Greens
    2. Elections and Candidate Issues
    3. General Politics and Philosophy
B. Consumption
    1. Energy and Power
    2. Cars and Transit
    3. Fur
    4. Recycling
    5. Cultural philosophy re: consumption
C. Educational Stories/Research Data
D. Cultural Frontiers
    1. Culture, Animals, Habitat
    2. Adaptations
    3. Appreciations

Ecofeminism: Creating Meaning Through Discussion On A Listserv

Tina Kiewit
Department of Communication Studies
San Jose State University—San Jose, CA

Abstract

The goal of this project was to gain a clearer insight into how others come to define and understand their ecofeminist ideas. This essay explores the connection between feminism and ecology by examining several discussion threads on a listserv devoted to women and the environment. The listserv proved to be a useful tool for participants to work through their own issues to come up with ideas and concepts about gender themes and how these themes characterize their understanding of ecofeminism. Discussion threads were followed for approximately two months during 1998 and the emails were sorted and analyzed for themes.

Many of us long to live in a world that respects life in every form, a world whose people have a fierce love of and loyalty to the earth and their particular place on the earth. The world we live in is not that world, but it could be. To get there from here, we need to recognize that our own well-being is intimately connected to the well-being of the land and of other creatures. Many believe that we can get to this point by applying more traditionally feminine characteristics to our daily lives and to how we think of and treat human and non-human nature—characteristics such as caring, concern for future generations, protectiveness and responsibility towards lives besides our own, gentleness, tenderness, patience, sensitivity , nurturing, reverence for life, aesthetic intuition, receptivity. These are the qualities that are lacking in our culture's relationship to nature. Ecology requires a feminist perspective. Connecting feminism with environmentalism, as ecofeminism proposes, is an eye-opener for many who might not have otherwise focused on either issue.

A central value of ecofeminism is the worth attached to the multiple voices that form its theories and philosophies. It is these multiple voices that I became interested in pursuing. I had learned about ecofeminism from ecologists, feminists, philosophers, and theorists, and now I wanted to hear from my peers. I wanted to talk with others interested in the connection between feminism and ecology and learn about the meaning and practical applications that they were creating for ecofeminism. I began my search for this kind of peer group on the Internet. Although there are many Web sites dedicated to the topic of ecofeminism, many of them are really only a place to gather information, not for actual conversation or discussion. Then on one of the Web sites that I was reviewing, http://csf.colorado.edu, I found the email listserv "Studies on Women and the Environment" (SWE).

This looked like an excellent place for me to observe others in open and honest conversation and discussion about ecofeminism. I subscribed to the listserv (or list) in early August of 1998. During the first four months of observation I noticed a string of topic discussions that seemed to be an open place where users could work through their own issues to come up with ideas and concepts about gender themes and how these themes characterize their understanding of ecofeminism.

After only a few weeks observing the SWE Ecofeminist listserv, one email grabbed my attention. One of the participants wrote into the list to ask if anyone knew of an ecofeminist listserv that was for women only. This email message created an overwhelming response, everything from complete acceptance to anger that men would potentially be left out of the ecofeminist discussions. From my perspective, this email message seemed to be against the essence of ecofeminism and its direction—inclusion of all in the fight for global oppression. The numerous responses to the "male-free" email demonstrated to me the enormous value in pursuing open discussions on ecofeminism and gender issues within the theory.

The string of emails that followed this initial request for a "male-free" discussion area brought out several main topics for the remainder of my observation of the listserv. Gender issues were the most prevalent themes discussed. Two important topics stemmed from this area: the relationship of gender and patriarchy, and the reinforcement of patriarchy through religion.

The goal of this project is to gain a stronger insight into how others build understanding to define their ecofeminist ideas. Therefore, I will follow the main theme of gender, specifically how it weaves its way through the sub-themes of patriarchy, and religion. This format will help to determine how gender themes contribute to the meaning of ecofeminism and add to the development of the ecofeminist theory.

Ecofeminist Theories and Philosophies: A Review

There are several ecofeminist theories or philosophies, including liberal, Marxist, radical, social, anarchist, existentialist, psychoanalytic, and postmodern feminism. Ecological feminism has its roots in a wide variety of feminist theories and philosophies. The meaning is not fixed, but rather living and growing as those who help to define it grow and learn more about the connection between ecology and feminism. Since it emerged in the 1970s many people have written about the topic as the increasing consciousness of the connections between women and nature (Merchant 184). The concept of ecofeminism is still taking shape. Ongoing conversation on an academic level and conferences on communication and the environment, will help to shape the meanings of ecofeminism. What makes ecofeminism distinct is its insistence that non-human nature and the dominance of nature are feminist issues.

Although many varieties of ecofeminism exist, ecofeminists strive for the same ultimate goals: social transformation is necessary for the sake of survival and justice. Social transformation must reassess and reconstruct values and relations toward equality, cultural diversity , and nonviolence in associations that are nonhierarchical, noncompetitive, and fully participatory (Birkeland 20). Ecofeminists also agree that there are important connections between systems ("isms") of domination.

The term "ecofeminism" took its name from Francoise d'Eaubonne's term "ecofeminisme;" however, Carolyn Merchant credits Ynestra King with developing the concept of ecofeminism in 1976 at Vermont's Institute of Social Ecology. It was not until 1980 that the concept became a movement at the conference on "Women and Life on Earth: Ecofeminism in the '80s." The basic concept of ecofeminism that emerged from these events espouses that the ideology which authorizes oppressions such as those based on race, class, gender, sexuality, physical abilities, and species is the same ideology which sanctions the oppression of nature. Ecofeminism calls for an end to all oppressions, arguing that no attempt to liberate nature will be successful without an equal attempt to liberate women, or any other oppressed group (Gaard 1).

In order to understand why the environment is a feminist issue, connections between the oppression of women and of nature must be made. These connections help us to understand why feminist issues can be addressed in terms of environmental concerns. One example of such a connection is the historically consistent devaluation of women, emotion, animals, the body and nature in Western intellect. This differentiation puts women and nature in an often lost and easily overlooked category of "Other." There is no respect for Other in a patriarchal society; there is no respect for Other's'. The Other is only considered if it is of benefit to the subject (Plant 2). Feminism rejects all forms of male dominance and affirms the value of women's lives and experiences. It recognizes that no pattern of domination is necessary. It also seeks to liberate women and men from the structures of dominance that characterize patriarchy. Building on this unmasking of the ideology of a natural hierarchy of person, ecofeminism uses its ecological perspective to develop the position that there is no hierarchy in nature: among people, between people and the rest of the natural world, or among the many forms of non-human nature (King 24).

Ecofeminist theory looks at the oppression of all things as part of a hierarchy imposed on nature by humans. Our patriarchal society characterizes this theory. King suggests that "life on earth is an interconnected web, not a hierarchy. There is no natural hierarchy; human hierarchy is projected on to nature and then used to justify social domination" (19). By no means does ecofeminism call for a change of the guard from patriarchy to matriarchy. The ecological revolution that d'Eaubonne charges to lead the opposition requires destruction of male power to make way, not for female power or matriarchy, but for a new egalitarian gender relations between men and women and between humans and nature (d'Eaubonne 66-67). A gender-blind analysis can do more than cloud our understanding, it can support the status quo.

Ecofeminism calls for the inclusion of all, in helping to end oppression. By challenging the central assumptions of oppression, an inclusive ecofeminism posits the beginning of a truly liberating theory. At the heart of ecofeminist theory and practice lies a vision of a new way of conceptualizing reality, a vision that moves away from rugged individualism and an overemphasis on reason to a more inclusive focus and respectful appreciation of difference.

The ecological crisis grows on a daily basis, making it even more imperative that we challenge both the ideological assumptions and the hierarchical structures of power and domination that hold the majority of earth's inhabitants in thrall to the privileged minority. Ecological feminists claim that any feminism, environmentalism, or environmental ethic which fails to take these connections seriously, is grossly inadequate (Gaard 10). A failure to recognize connections between nature, self, human, non-human, and Other creates a disconnect which will only make the current ecological crisis worse. Establishing the nature of these connections is the major project of ecofeminism.

Method

Data gathered on this ecofeminist topic came from the emails exchanged on the SWE listserv between August 26, 1998 and September 13, 1998. I stopped collecting data on September 13 because the topic of interest began to fade. At this time, other strings of conversation began. On September 13th there was only one entry relating to the original topic, versus 10+ noted in earlier days.

I participated on the listserv as a passive observer only, never replying to emails, no matter how much they interested me. This method allowed me to review and collect the emails as data for coding and content analysis without influencing the discussion. The email data included many different topics of conversation beginning with one on August 26, 1998, entitled "Men on the Ecofem Listserve." The volumes of responses that followed this date determine what role gender themes play in the conversations about ecofeminism, through gender themes that characterize the understanding of ecofeminism.

The SWE listserv[1] seemed the most appropriate for my academic study, because it is supported and sponsored by CSF (Communications for a Sustainable Future). CSF was founded on the idea that computer networking could be used to enhance communication, with the objective of working through disparate views and ideologies to secure a more promising future. CSF, founded by Ron Roper, is supported by the infrastructure at the University of Colorado at Boulder (http://csf.colorado.edu). This was a great place for me to observe others in open and honest conversation and discussion about ecofeminism.

The email data-set needed to be organized because much of the information did not pertain to the topic of my project. For example, I removed administrative emails (emails that were mostly business-related, for listserv purposes, and emails that were written by the listserv Proxy) and other miscellaneous emails. The 300 remaining emails were strong sources of gender and ecofeminist thought. These emails were re-read and coded into two categories. The first category consisted of participants who were interested in finding a women-only space to talk about ecofeminism. This group will be called "Separatist." The second category coded "Inclusive," consisted of those participants who wanted to ensure that both men and women were represented in the email conversations about ecofeminism.

After coding the email data as either Separatist or Inclusive, I was able to determine how many of the emails fell into these two categories. My summary concludes that 48 were Separatist, about 16%. In analyzing the original emails, I used some of the original text. However, I did not use the participants' real names, but rather their email handles (email identifications) in order to maintain participants' anonymity. Additionally, I do not comment on each email, but rather analyze the two data-sets as a whole. I also included portions of emails, and in some cases entire emails, as they appeared in their original format. I did not change grammar or spelling errors, in order to maintain the authenticity of the original messages.

Separatists

The emails that make up the Separatist section of the data-set were written by what appears to be five women. I say "appears" to be, because as an email listserv participant you never meet the other participants, so there is no way to *know* participants' gender. However, those who participated in the Separatist discussion all described events that led me to believe they were women. Several talked about their children, giving birth and being raped as young girls. Additionally, most of these participants had handles and sign-offs that were female in nature. These five individuals maintained their dedication to the Separatist position throughout the data set. As ecofeminism has many voices, so did those who supported the separation of men and women on the listserv. Those who spoke for the separation of men and women on the ecofeminist listserv did not always have the same reasons for wanting this separation. However, they all remained strong to their position that a women-only list would be both beneficial and supportive for women and ecofeminism. I will discuss this in greater detail later, when I begin my full analysis of the Separatist emails.

"It only takes one spark to start a fire," or so the saying goes, and in this case it only took one email. The email that began the data-set was written by "Bunny" and it appeared harmless enough at first:

> **OT/other Ecofeminist lists?**
> *Wed, 26 Aug 1998*
> **Bunny wrote:**
>
> Does anyone know of any other Ecofeminist lists on the internet? (Hopefully a list which is free of males for they have enough dominance on the WWW as well as on this list?) I was originally looking for a list where there would be a sharing of strategies and activism and support for feminism and eco-feminism from women looking to improve the position of their sisters in today's society. Also practicle strategies to help encourage better female initiated care for the environment. Also, the allowance of freedom and a wide range of choices for women unfettered by

> stereotypes of all kinds (including feminist stereotypes).
>
> Any help on this would be much appreciated.
>
> Also would like any recommended website URLS specifically devoted to Eco-feminism.
> Kind regards,
> Bunny

Because my observation of the SWE email listserv began at about the time this original email was written, I do not have the advantage of knowing the history of the email dialogue. This means that there are many times when I can only write based both on assumption (of what was discussed previous to my arrival on the listserv) and on the content of the messages. An example of this is, based on several comments that Bunny makes in her initial email, I can only assume that stereotypes of feminists have been made in the past. Bunny indicates that she does not appreciate the stereotyping of feminists and that this may even be the reason for her initial email and inquiry into other women-only ecofeminist listservs. If Bunny feels that she is a strong feminist and that the stereotypes are directed at her and other feminists, it would be understandable that she would want to remove herself from those who are stereotyping. It appears that she felt the participation of men created a sense of silence among the women on the listserv, and she wanted a safe place for women to talk amongst themselves about ecofeminism. I can understand the interest in finding a place for women-only, especially if some of the women are feeling that they are being unfairly stereotyped. However, this initial email seemed to be against everything ecofeminism works toward, which is the inclusion of all in the fight against global oppression.

Interestingly, after Bunny's initial use of the word ecofeminism, she begins to hyphenate the word, separating "eco" from "feminism." My interpretation is that Bunny feels very strongly about the feminist part of ecofeminism. By hyphenating the word, Bunny also seems to indicate that she thinks ecology is separate from feminism. She is already separating ecology from feminism and in doing so, creating two separate groups. Bunny is the only Separatist participant who spells ecofeminism in this hyphenated manner.

The ensuing emails from the Separatist position were very supportive of Bunny's original inquiry. The participants support the idea of "women going off to find a place of their own and talking with and among other women about ecofeminism." Many of the initial emails were written in defense of this interest and need for women-only spaces.

As I continued coding I began to notice several topic patterns in the Separatist emails. These topics and words all related back to the theme of patriarchy. Those who supported separation of men and women in an ecofeminist environment seemed to feel that the separation would help to remove any traces of patriarchy in the ecofeminist discussions.

The Separatist arguments are filled with emotion, feeling and thought; however, they do not have any philosophical, theoretical, or bibliographic information in their arguments. The strongest Separatist argument, on August 26,1998, was filled with strong philosophical thought in support of the argument of Separation. DMadrone wrote:

> The world of women's thought, language, history, philosophy and culture is one that, really, is only beginning to be explored. It is terribly difficult to be endlessly baited as exclusionary when one is really only attempting to understand, focus, heal, and harvest from a world that has been silenced for so long. One of the most hurtful ways of closing off scholarship and philosophical adventures in that world is to claim that, by so doing, we are in some way evincing a pathological dislike or separatist stance from men (not that separatism is necessarily pathological). The ultimate idea is, I think, as Carlos suggested. . . inclusion. But before you can include someone in the results of your adventures, you have to take the adventure journey. And sometimes, that is best done alone.

DMadrone is the first Separatist to mention including men in the ecofeminist discussions. Up to this point, the other Separatist writers indicated that they felt it would be more beneficial to the ecofeminist cause to exclude men from the ecofeminist discourse. DMadrone introduces the idea that men do need to be included in conversation, but she feels that they can only be included after women have had a chance to "understand, focus, heal and harvest from a world that has been silenced for so long." This is particularly interesting when you realize that most ecofeminist theorists believe that all living creatures (men, women, animals, and the earth) need to be included in the fight for an ecofeminist world. Without the inclusion of all, something may be left out of the mix. DMadrone appears to feel that if men are to be included, they need to be included only after women have had a chance to break through some barriers and silences that have been created by patriarchy. This thought insinuates that men are responsible for patriarchy, and wherever they go, it will exist.

DMadrone appears to be communicating much more openly. Her email is not aggressive, defensive, or offensive, unlike many of the other Separatist emails. It is direct and even talks specifically about scholarship and philosophy and how silencing them will keep people from pursing them. She is able to cite examples, via written work, and talks often about specific authors who have written on topics she discusses. DMadrone is also the first Separatist writer to directly mention patriarchy, whereas others have only mentioned oppression and male dominance. She mentions this in an email written later in the day on August 26, 1998:

> **(no subject)**
> *Wed, 26 Aug 1998*
> **DMadrone wrote:**
>
> Women are NOT blameless when it comes to abuse. . . and NOT blameless when it comes to destroying our planet either. OUR COMMON ENEMY IS PATRIARCHY, NOT MEN. I think we all agree on that. However, the problem with patriarchy is that it produces individuals, mostly men, who are abusive. There is an excellent book: "Male Violence" Edited by John Archer. It contains the results of studies on violence, and is heavily annotated. This book is good because it addresses the issue of male v.s. female violence. ". . . we. . . acknowledge that females are quite capable of aggression, and may even be violent in some cases. But we do not let this side-track us from the much greater social problem of male violence by mistaking aggression for violence or by over-emphasizing the relatively unusual, but highly newsworthy, cases of the seriously violent wife, the female sexual abuser of children, or the woman serial killer." pg. 4. "Most human violence is carried out by men. Male violence could even be described as the major source of human suffering." There is another truly excellent book, "Real Boys" by William Pollack which discusses the innate humanity of males and the de-humanizing effect on them of growing up in a patriarchy. Good reading!
> DMadrone

DMadrone feels very strongly that women should be allowed to form women-only spaces for ecofeminism discussion. She believes that this environment will allow women to gather their thoughts as a collective whole "in order to better deal with the issues at hand." However, she does not feel that this would lead to separatism. "For women," DMadrone said, "to go off and immerse themselves in their own language and thoughts and discoveries for a while is not really the same as separatism." DMadrone's biggest fear is that men will not allow the conversation to flow in a natural way, but will interrupt this natural flow by trying to "take control" of the conversations. She fears that this will leave many women feeling silenced, as if their input into the conversation is not valid. Her argument is strong. If one is silenced by domination, they may begin to lose interest, or simply not participate in conversation.

Several times throughout the Separatist emails, the participants indicate that they feel a women-only environment would be a more feminist environment. This position puzzles me. How does not including men equate to stronger feminism? Does this go back to Bunny's initial concern about the stereotyping that feminists face? The Separatists seem to forget that both ecofeminism and feminism are not gender specific, and that neither relate to women only. Men can, and do, play a major role in the fight to end oppression for both women and for the environment. Db27594 (a participant's handle used to maintain anonymity) believes that men and women need to work together for the fight of ecofeminism. "Ultimately, efforts together—both women and men—are necessary , of course. But there are times that women may need to be with other women in their political work. And only women." Db27594 believes that women-only spaces can also be tainted with patriarchy, but states that, "it is only through being with other women first and getting out of spaces where they may continually answer to men (even if the men aren't demanding it outright, but due to socially conditioned dynamics, etc.) that they are able too become fully empowered—to reject certain patterned behaviors/responses to and with men, or to stop defining themselves in relation to men, etc." Db27594 says that it is through women-only spaces that women will be able to break free from patriarchy's rein.

The topic of religion is also mentioned in the Separatist emails. However, the Separatists are not the initiators of this conversation, but rather they only reply to the religious nature of the Inclusive emails. The Separatists seem to feel that religion is simply a way to perpetuate patriarchy. Bunny replies to one Inclusive participant's views on religion with her own views on Christianity:

> **Re: Get to the root of the problem!**
> *Sat, 29 Aug 1998*
> **bunny wrote:**
>
> Hi, I have looked into religion and eco-feminism. Christianity as preached by entrenched

religions, based on the bible as we know it, subjugates females and the Earth. But, the bible as we know it may be incorrect because it was written by men. Many things may have deliberately been left out (women had important roles at the time of the writing of the bible and before bible). I have watched people argue back and forth using quotations from the bible.

Also, I have tried to make time to look back to what some people have written about the writings in the bible. There is one interesting article about Jesus and the bible written by a qualified Englishman which is very interesting at http://www.altnews.com.au/nexus/holygrail.html and for other issues try http://www.altnews.com.au/nexus Re existing religions, what about Jainism, Essenes etc, they respect both Earth and women. The Essenes were around before Jesus walked the Earth and had great respect for women and animals.

Bunny makes points that, although opinionated, have some strong founding in history. Historically, religion has played a major part in the oppression of women. However, in her fight to be heard by those who believe that both men and women should be included in ecofeminist discourse, she fails to see that she is fighting for the same thing as the Inclusive participants—the fight to end oppression and patriarchy. The introduction of religion into the topic thread seems to make emotions sore. Several of the Separatist writers felt that they were being force-fed Christianity. And this only because one of the Inclusive authors wrote about her opinion and belief in Christianity. Interestingly, the Separatists did not feel that they were force-feeding the separation of men from ecofeminism.

As the conversations continue in the data-set the participants begin to make judgment calls about the validity of conversations and topics. The conversations that seemed to get the most reaction were those that did not follow the belief pattern that the Separatists were putting forward, that women need women-only spaces before they can include men in the fight for ecofeminism. It is at this point that many of the Separatists begin to talk about leaving the listserv. They do so in a threatening way, indicating that if they were to leave the conversation would change drastically and the dynamic nature of their contributions would be greatly missed.

Inclusive

In contrast to the Separatist email data-set, the emails that make up the Inclusive data-set are written by what appears to be both men and women. I again use the word "appears" because there is no way of really knowing the biological gender of the authors. The only information I have is the content of their written communication. The participants who wrote in support of the inclusion of both men and women on the ecofeminist listserv brought a wide variety of beliefs, thoughts, and opinions. Although their beliefs and thoughts about ecofeminism differ they all believe that both men and women should be included in ecofeminist discourse. As one Inclusive participant so eloquently wrote, "Ecofeminism is about inclusion. Ecofeminism strives to bring about the changes in human society which will allow us to continue to live on this beautiful planet as a species."

The initial email inquiring about an ecofeminist list free of men sparked interest and left the listserv participants who felt that men should be included in ecofeminist discussion feeling threatened. The Inclusive participants did not understand why or how someone fighting for the ecofeminism cause could inquire about excluding men from the mix of ecofeminist discourse. The Inclusive emails seemed to ask, "What does my biological gender have to do with the fight for ecofeminism?" The first person to respond to Bunny's inquiry was Calicea. Calicea's email was not angry or defensive. On the contrary, Calicea discussed the inclusive nature of both feminism and ecofeminism

Re: OT/other Ecofeminist lists?
Wed; 26 Aug. 1998
Calicea wrote:

Dear Bunny: I am really sorry that you want to look for an ecofeminist list free of males. I consider myself a feminist because I belive that feminist and ecofeminism are an inclusive movement that seek to build ties of solidarity, love, change for all living organisms and non-living organism that share this earth. It is very interesting but your proposition of looking for a list serve that is free of feminist stereotypes, fit very well with the mainstream stereotype about the feminist movement being anti-male or that feminist are male hating women. I belive in love, solidarity, self empowerment for human beings and this list serve gave me the chance to discuss and self empower myself learning from discussion. I cannot tell you what to do, that is your choice. I can share with you my life experience that have taught me that those that want to change the society and that to build a better world is to choose from inclusion, wholenss, sharing experiences, dreams, soul between men

and women and defining ourselves as human beings.

With Solidarity

Calicea's email was exactly the kind of reply that I would expect. This email came from the heart, but also included a strong defense for the inclusion of men in ecofeminist discourse. Calicea explains that ecofeminism does not see biological gender, but rather is blind to gender, and calls for the inclusion of all genders in the fight against global oppression. Calicea not only talked about biological genders role in this argument, but also talked about femininity and masculinity , which are typically considered socially constructed characteristics.

Calicea's email was not the only Inclusive email that discussed the gender characteristics of femininity and masculinity. Several of the Inclusive listserv participants wrote about their strong connection with their feminine characteristics. They indicated that this connection to the feminine side should be considered before the Separatists remove all men from the list. If this was going to be turned into a feminine issue, they felt that they had as much of a right to be included as the biological women. JPaisain wrote:

> **Separatism and the paradox of the battered male**
> *Wed, 26 Aug 1998*
> **JPaisain wrote:**
>
> I am also homosexual and have an extremely developed "feminine" side for which I was ostracized, harassed and beaten for during most of my developing years. I've spent a lot of time wanting to get away from all the heterosexuals in the world, especially men, but women too. But I've realized that for my OWN PERSONAL GROWTH I have to learn how to deal with these people and be okay. It's a struggle and it's a hard one. But little by little I'm learning not to be as afraid, and to love and protect myself, my interests, and my planet.
>
> Good luck.
> Paisain

The emails discussing femininity and masculinity were often followed by discussion of the "over masculinization of society." Wbason writes, "I think that you are right. All of society is over masculine IMO, men and women both. How do we change this?" This was not the first time (or the last) that an Inclusive author asked a very thought-provoking question. It is as if the Inclusive participants were interested in creating a place (via the ecofeminist email listserv) to truly learn and communicate openly about the topic of ecofeminism. The Inclusive participants used the list to discuss topics pertaining to ecofeminism and were less likely to promote personal causes on the listserv.

Other thought-provoking emails came in the defense of the inclusion of men in the ecofeminist list. One such email, written by Inclusive participant King, discussed the broad and beneficial side of ecofeminism. King explains that creating an "ecofemale" listserv would be fine, for those who felt it necessary. However, he felt that this kind of listserv would defeat the purpose of open discussion about ecofeminism:

> Reduced to its biological roots it involves men and women together supporting the nurturing sustainability of the feminine reproductive investment in ongoing life. Ecofemale is not a sustainable vision, because the female sex alone doesn't form a living ecology. We are sexual beings—that is our ultimate altruism and our mortal doom as well. The 'immortal age' comes only through sexual reconciliation and forgiveness, not cloning. Once you separate from your complementary gender, you are mortal. Keeping y chromosomes in jars is a very lonely life and not the verdant way of nature, but mechanism run riot—the death of nature in Carolyn's own words. You will have to work it out together with men in the end. Better for biodiversity to be sooner rather than later. Please tell me. . . in detail. . . love

The reduction of ecofeminism to "its biological roots," as King states, is a problem with the Separatist idea. Separating the men from the women will only weaken the ecofeminist argument. Not because women cannot do it alone, but rather because including both men and women includes both genders and both genders' concerns and issues with oppression.

The topic of gender and how it relates to ecofeminism becomes lost for a short time, as the Separatists begin to bring in topics unrelated to the gender themes previously mentioned. The focus was brought back to Separatist vs. Inclusive with the Inclusive email written by JPaisain.

> **Separatism and the paradox of the battered male**
> *Wed, 26 Aug 1998*
> **JPaisain wrote:**
>
> I am dismayed at the recent posts about wanting to find an ecofeminist listserve "free of males"

> and by feminists essentialism leading to separatism. I am male and an ecofeminist. And Calicea is right when he says that eco-feminism is about inclusion. Ecofeminism strives to bring about the changes in human society which will allow us to continue to live on this beautiful planet as a species. If we remain divided, continually reinforcing the separations between us (and offending people in the process), we shall not succeed. The eco-feminist concept of loving care extends not only to your fellow woman, to animals, and the earth, but also to men who are working in this same area. We are working towards a common goal and I do not feel that your offensive comments about men will do anything at all to help our cause.

JPaisain believes that women and men should both be included in the ecofeminist listserv and in discussions about ecofeminism. JPaisain also thinks that patriarchy is the common enemy, not men. This marks the first inclusion of the patriarchy topic in the Inclusive emails. The topic of patriarchy is addressed very differently in the Inclusive data-set. The Inclusive participants believe that the root of oppression is patriarchy. Unlike the Separatists, they do not blame men for oppression or patriarchy. They feel that both men and women have contributed to the creation and perpetuation of patriarchy in our society. Contrary to the Separatist position, the Inclusive participants to not believe that "men" are the problem.

> **Separatism and the paradox of the battered male**
> *Wed, 26 Aug 1998*
> **JPaisain wrote:**
>
> Women are NOT blameless when it comes to abuse. . . and NOT blameless when it comes to destroying our planet either. OUR COMMON ENEMY IS PATRIARCHY, NOT MEN. If you are so unwilling to participate in discussion with half the planet, how do you ever want to get anything done? The SCUM Manifesto by Valerie Solanas is an interesting and REALLY SCARY proposition advocating the murder of most of the male "species" described by her as an "inferior, incomplete woman." That's the same thing the stupid Greeks said about women.

JPaisain believes that if men are the ones who perpetuate patriarchy, they do so because of society, not because of their biological gender and definitely not because they enjoy oppressing others. This Inclusive participant believes that in order to end oppression, a change needs to occur at the level of socialization and how we teach our children about oppression, domination and gender power struggles. Jpaisain believes that both men and women need to work to end oppression and patriarchy.

The topic of patriarchy begins to play a major role in the conversations and one Inclusive participant introduces the topic of religion. Ecolady speaks from a Christian upbringing (information gathered via her earlier written communication) and she feels very strongly that religion plays a large role in teaching patriarchal thinking:

> **Get to the root of the problem!**
> *Fri, 28 Aug 1998*
> **Ecolady writes:**
>
> Hi!
> The problem started when man began thinking that he alone was created in God's image and that woman is only a companion and thus worthy of as much recognition and respect—woman as subordinate helpmate—. Really—go back, dig deeper you will never solve the problem by over-analyzining social structures—the problem is religion—we need a holistic religion—a oneness of true love for life itself—fertility and the feminine face of creation—please stop beating a dead horse—patriarchies will never change until man and woman become equal in every aspect of life—but especially in fertility/life issues and religion!!! We can now offer religious proof that woman are equally divine and sacred as man—and the Earth is also sacred—now isn't that beautiful—would you like to know more—this is no sad and sorry story—this is the divine unfolding of a grand and mysterious epoch. If we come together we can make it happen!
>
> This is a just a plea to anyone inclined to really solve the problem once and for all! If you do not change attitudes about who the creator(s) of Earth is you will never solve the problem! The problem is deeply embedded in our psyches (sp?)—so dig deep—join us back at the tree of life back to our roots—back to sacred ancient understandings of life on Earth! Reconnect with your co-defenders/co-creators and to the Whole/Holistic truth once and for all!
> Thanks and love.

Ecolady calls for both men and women to search for the feminine side of religion and to move past the patriarchy that is deeply embedded in out society. This email marks the first attempt to really look at

how patriarchy and religion are taught through vehicles such as religion.

Ecolady's email creates an interesting array of responses. The Inclusive emails begin to explore and discuss different religions and how religion can positively change the perpetuation of domination. The response to this email from the Separatists is interesting. They seem to agree with Ecolady about connections between religion, patriarchy and the perpetuation of oppression. The topic of religion begins to make some of the Separatist participants uncomfortable. They do not feel that the topic is conclusive to the discussion of ecofeminism and do not want to be "force fed" religion.

The topic of religion appears to make both the Separatist and the Inclusive parties less then comfortable. They appear to agree on many issues relating to religion but disagree on many more. Within the Inclusive email data-set the authors begin make comments and voice beliefs that seem inappropriate to ecofeminist discourse. The final Inclusive email written about religion seems to sum up the issue of religion and the perpetuation of patriarchy. Jpaisain discusses the beginnings of patriarchy:

> Patriarchal oppression has roots that go way back before the bible to the beginnings of mans understanding concerning fertility. When man discovered that he could impregnate women and that the holy cycle of birth and life was dually dependent upon his participation and his actions and not solely upon divine intervention through the previously-revered-as-goddess females in his company, patriarchy was born. Therefore, patriarchy can, from one vantage point, be seen largely as a reaction to previously held women's privilege in a society that privileged women because of their seemingly miraculous ability to recreate life.

As is the case with the Separatist emails and positions, the Inclusive participants begin to lose focus and do not seem to see that they are talking about the same thing. All of the participants, both Separatist and Inclusive, want to work towards an ecofeminist society, one that will be free of oppressions and domination. They seem to lose sight of this in their discussions. They begin speaking on a highly emotional level and begin taking offense and becoming offensive.

Conclusion

When I began participating on the SWE ecofeminist email listserv I was simply interested in talking about ecofeminism with peers. I wanted to know what they thought about the philosophy and theory. I also wanted to know how they were applying ecofeminism to their daily lives and practices. When the topic of conversation began to focus on gender and the role that gender plays in ecofeminism, my interest began to change. How would those interested in creating a Separate ecofeminist email listserv free of men defend this position?

What I found was that the Separatists all seemed to be concerned with patriarchy and how it contributed to male supremacy and the perpetuation of masculine culture. Most ecofeminists follow radical feminism in identifying patriarchy, and particularly Western patriarchy, as the main source of global ecological destruction. The Separatists seem to miss that patriarchy and its influences are the very thing that ecofeminism is fighting to change. The Separatists reason as if they were the only ones interested in ending the perpetuation of patriarchy, and as if the only way to accomplish this was to work in an environment free of men.

In comparing the emails from the Inclusive and the Separatist groups over time, I noticed that those who are for a separate email listserv seem to be grounding their arguments on emotion, which precludes logical analysis. Although there is nothing wrong with including emotion in an argument, there does seem to be a lack of logic and reason in their arguments. In contrast, both Calicea and JPaisan (Inclusive authors) talk about the importance of including men in the discussion—the participation of men in and of itself is a positive direction for ecofeminism, since it helps to establish the connection between all humans in the fight to end oppression.

One of the things that came up repeatedly, in reading and analyzing the emails, was that all participants on the list seemed to have different ideas of the definition of ecofeminism and what it encompassed. This discrepancy most likely comes from several factors. First, ecofeminism is still a relatively new theory; and, therefore, the participants of the list serve are writing with many different understandings. There were many participants (particularly those interested in separatism) who appeared to be in their infancy of comprehending the ecofeminist theories. Although it is understandable that women would like to have places to talk about topics that seem to relate uniquely to women, creating such a space for the topic of ecofeminism could ultimately be defeating for the cause. It was as if the participants pushing for separatism were looking at the world through early feminist glasses. Bunny wrote, "No one else but women could possibly understand how we are feeling, therefore, we need to be with women-only to talk this out."

Secondly, I think that the different concepts of ecofeminism that the participants discussed are evi-

dence of the many different views of ecofeminism. This argument comes from the fact that ecofeminism is based on the study of ecology and feminism, and there are many different kinds of feminism. This poses an interesting question. If this listserv was established to discuss ecofeminism, and ecofeminism includes the multiple voices of feminism, is it possible that the participants will never agree?

In this particular case the Separatist and the Inclusive never did agree. Eventually the Separatist vs. Inclusive discussions ended, however resolution was never met. It was as if they agreed to disagree. The listserv participants had all had an opportunity to voice their thoughts, beliefs and opinions via this Internet email listserv, and they simply stopped talking about the topic of men on the ecofeminist listserv. It is quite possible that all or a few of the women who composed the Separatist group decided to go and begin their own "Male-free" ecofeminist listserv. If they did so, they never discussed it again on the listserv. I also believe that the arguments put forth by the Inclusive participants were well thought out and relied strongly on ecofeminist theories and philosophies, not emotion.

Communication via the Internet was a great way to allow people across countries and cultures to have open discussion about the topic of ecofeminism. The participants seemed to learn a lot about ecofeminism through this dialogue. However, I felt that the lack of face-to-face communication was evident in the way that the listserv participants talked to each other. There were several times throughout the data-set that tones of conversations and topics mentioned were inappropriate, and I think that this is due to the lack of physical interaction between the participants. At one point the listserv Proxy sent an email message reminder to the participants about the etiquette of email listserv participation. I believe that if the participants had the opportunity for face-to-face interaction, they would have been less aggressive and defensive in their replies and responses.

As Janis Birkeland said, "Ecofeminism is about a social transformation that must reassess and reconstruct values and relations toward equality, cultural diversity, and nonviolence in associations that are nonhierarchical, noncompetitive and fully participatory" (14). This transformation will only occur through open and interactive discussions. Although there were some problems with the Internet communication that I observed, I believe that with the advent of the World Wide Web, the Internet and email listservs in particular, will become a widely used tool for discussions like the one that I followed. The key is to use this medium as a source of communication.

Notes

1. An email listserv is an email account that is linked to many different email addresses. When a person subscribes to an email listserv, s/he begins receiving emails from all participants who write. These emails are sent to the listserv address which is an alias that contains the email address of all subscribers. For example, if I send an email to listserv@csf.colorado.edu, that message would be distributed to all of the people who are subscribed to receive emails. In this case the SWE email listserv has hundreds of participants. The listserv allows conversations, discussions, and interactions regarding one topic to occur over the Internet and is one of the few (if only) forms of communication that allows hundreds of people from all over the world to participate in conversations in "real-time." The advent of electronic communication is radically changing the way people communicate, and I wanted to be able to take advantage of this rapid-fire communication tool. Today's technology allows people who have access to electronic mail (email) systems to instantly exchange messages in various forms allover the world.

Works Cited

Birkeland, Janis. "Ecofeminism: Linking Theory and Practice." *Ecofeminism: Woman, Animals and Nature*. Ed. Greta Gaard. Philadelphia: Temple UP, 1993. 13-59.

d'Eaubonne, Francoise. "Feminism or Death." *New French Feminism: An Anthology*. Ed. Elaine Marks and Isabelle de Courtivron. New York: Schocken Books, 1981. Originally published as "Le Feminism ou la Mort" (Paris: Pierre Horay, 1974).

Gaard, Greta. "Living Interconnections with Animals and Nature." *Ecofeminism: Women, Animals and Nature*. Ed. Greta Gaard. Philadelphia: Temple UP, 1993. 1-12.

Internet Web Site References:
http://csf.colorado.edu
http://www.enviroweb.org/eve/
http://www.macalester.edu/~phil29/welcome.html
http://www-rcf.usc.edu/~orenstei/ecofem

King, Ynestra. "The Ecology of Feminism and the Feminism of Ecology." *Healing the Wounds: The Promise of Ecofeminism.* Ed. Judith Plant. Philadelphia: New Society Publishers, 1989. 18-28.

Mellor, Mary. *Feminism and Ecology.* New York: New York UP, 1997.

Merchant, Carolyn. *Radical Ecology: The Search for a Livable World.* New York: Routledge, 1992.

Plant, Judith. "Toward a New World: An Introduction." *Healing the Wounds: The Promise of Ecofeminism.* Ed. Judith Plant. Philadelphia: New Society Publishers, 1989. 1-6.

Warren, Karen. "Taking Empirical Data Seriously: An Ecofeminist Philosophical Perspective." In *Ecofeminism: Women, Culture, Nature.* Ed. Karen Warren. Indianapolis: Indiana UP, 1997. 3-20.

Mediated Environmental Messages

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Levels of Influence on Environmental Reporting in India: Hegemony and Constraints on the Press

Elizabeth Burch
Department of Communication Studies
Sonoma State University—Rohnert Park, CA

Abstract

This analysis adapts Shoemaker and Reese's theoretical framework of the hierarchy of intra- and extra-organizational influences to investigate whether the framing of the environmental sustainability and development debate in India was affected by political ideology. It was found that the papers' political ideologies did not necessarily affect their support for either paradigm, thus the notion of hegemony did not prevail in this case. Themes of advocacy versus objectivity, freedom of the press, market journalism and cultural values strongly motivated environmental reporting. As in the Shoemaker and Reese model, intra-organizational cultural factors were most influential in framing coverage of the environment.

Introduction

This paper examines the performance of the Indian English-language print press as it pertains to a particularly salient debate on the environment in developing countries today: that economic development may be in conflict with environmental sustainability. One highly controversial hydro-electric project, the building of the Narmada Dam in Western India, illustrates that debate quite clearly.

In light of Gramsci's notion of hegemony, this study investigates the context of press performance in India, as well as the portrayal of the Narmada Dam issue in national newspapers. It examines the following questions about environmental journalism in India. 1) How was the Narmada Dam controversy "framed" in the Indian English-language press? 2) What contextual factors, forces and actors most influenced framing of the Narmada Dam controversy there? 3) What is the relationship between Narmada coverage and the levels of influence in which the Indian press operate? The purpose is to lead to a better understanding of the constraints imposed upon environmental journalists in developing countries, such as India, who cover this complex economic development/environmental sustainability debate.

This exploratory study sheds light on the "culture" of environmental journalism in India and is a step in understanding the role that contextual forces play in the media's portrayal of environmental issues. In addition, it provides evidence that models of levels of influence upon news content are useful tools in explaining press performance in developing countries, just as they are in the west. However, hegemony theory may not always apply within a Third World context.

Since the lion's share of communication research on environmental journalism has been conducted within a Western context, theoretical perspectives on press performance are predominantly Western-oriented. By focusing on one case study of environmental journalism in a developing country context, this study assesses the validity of Western press performance theories as they address the stark realities among the Third World press. Thus, the investigation is likely to generate new hypotheses for future research on the topic.

Background

In the world today the dominant paradigm of the belief in mastery over nature or progress through science and technology (Hansen, 1991), is said to be giving way to a new environmental paradigm (Dunlap and K. D. Van Liere, 1984; Murphy and Dee, 1995). This shift toward concern for the environment is meant to show the link between growth and a normative ethic of environmental sustainability (World Commission on Environment and Development, 1987; Goodland, Daly, El Serafy and von Droste, 1991). Yet, the reality in developing countries is that a heavy burden of foreign debt and a lack of capital have pushed the Southern hemisphere to bypass some environmental protections. Thus, economic development has become the dominant goal.

In India, a country the United Nations Development Program ranks among one of the least developed in the world, modernization has often led to environmental degradation (Human Development Report, 1995). Yet, the push toward environmentally sustainable development remains a critical concern. Within

the locus of what has become a major controversy, stands the press. As Indian scholar Badri writes, "Journalism has come a long way to witness the day when the fragile earth depends so highly upon the competency and proficiency of journalists" (1991, p. 15).

Numerous constraints color coverage of the environment in India. Although a democratic nation today, government threats to press freedom still exist as they did during the print press' tenuous beginnings under British colonial rule in the year 1780 (Yadava, 1991; "Family Settlement will Split Indian Express," 1995). Subtle pressure on content comes in the form of taxes or control of imported newsprint (on which the press is highly dependent), licensing of imported printing machinery and prohibition of subscriptions to foreign news agencies. The government also controls accreditation of journalists. Likewise, government advertising accounts for about 30 percent in Indian dailies, thus pressure from government advertisers is a concern (Shah, 1990). Additional pressures include government surveillance of press activities and physical assaults and arrests of journalists, although direct attacks are rare and typically limited to rural-based regions (Dutt, 1995).

Despite these and other constraints, Indian correspondents write on pivotal environmental issues, trying to address the economic development/environmental sustainability question.[1] As this and other studies show, the job is a formidable one (Friedman and Friedman, 1988; Friedman, Dunwoody and Rogers, 1986). The complexity of issues the press negotiates in covering the environment in India is well illustrated in the hotly debated case of the Indian government's Narmada Dam development project, initially funded by the World Bank. Originally conceived in the 1940s, the $3.6 billion project typifies many of the problems economic growth can impose on landless tribal peoples. The fight over Narmada has become highly politicized. Consequently, the issue has received extensive coverage in the Indian press.

Literature Review

As Gurevich and Levy write, the media become "a site on which various social groups, institutions and ideologies struggle over the definition and construction of social reality" or meaning (1985, p. 19). Thus, as Tuchman finds, news is a "negotiated enterprise" (1978, p. 6). It is the contextual forces within which the press operate that affects news content or "framing" of the news (Gans, 1979). In defining frames, Goffman writes, "[f]rames are schemata of interpretation" used to "locate, perceive, identify and label" (1974). Gamson and Modigliani maintain the organizing structure of the news story is the frame, which helps give meaning and make sense of the issue (1989). The press are part of a larger social environment (Rachlin, 1988) and the framing of news is "the end-product of a complex process" (Hall, Critcher, Jefferson, Clarke and Roberts, 1978, p. 53). But how can we explain this process?

Dunwoody and Griffith (1993) apply the theory of news "frames," in an examination of stories about environmental risk in the United States (Greenberg, Sachsman, Sandman and Salomone, 1989; Sandman, Sachsman, Greenberg and Gochfeld, 1987). They investigate how reporters write about highly controversial issues, saying it is possible to "see" the impact of a political structure on the news. Their study shows that the homogeneity or heterogeneity of "community structures" in which the press is based affects quality of coverage of environmental issues (Dunwoody and Griffin, 1977). Thus, reports in pluralistic settings were more likely to reflect conflicting views than news in less diverse communities. Dunwoody and Griffith also note that "occupational and organizational norms" play a key role in framing environmental news as well. Further cataloguing of factors playing a part in the news production process helps to facilitate analysis. For instance, Hirsh examines trends in the study of mass communication identifying what he calls "closed system" (occupational and organizational) and "open system" (external institutional) research (Hirsh, 1977).

In their study of media content, Shoemaker and Reese develop a model of a hierarchy of influences on reporting from an individual- to societal-level (1991). The micro- to macro-level analysis identifies five predictors on content (respectively): professional norms; media routines; the role of organizations; "extra-media" factors (such as government intervention, advertisers or audiences); and affect of ideology on news practices. The model facilitates study of the "sociology of news," by looking at how content is shaped by the characteristics of the media, media workers and the media environment.

Shoemaker and Reese note that levels tend to overlap, one often blending into another. A look at professional norms and media routines, for example, illustrates this overlap. Environmental reporters in the U.S. become socialized into the field of journalism, adapting to professional (or "occupational") norms of the job (Breed, 1955). They are said to embrace the "noble ideals" of responsibility and objectivity, which create a standard in the field. Yet in his book, *Deciding What's News*, Gans writes that the ideal of objectivity is rarely ever attained in full (1979). One reason could be the role of routines—those repeated patterns or practices that facilitate decision-making under

deadline. The profession routinizes the news gathering process through beat coverage, which fosters a heavy reliance on "routine channels"—press releases, press conferences and so on (Sigal, 1973). The problem is that news from routine channels is often manipulated by interest groups hoping to "build the agenda" of the press (Berkowitz, 1987). Likewise the over-use of "official channels" of a beat, such as governmental experts, may also bias the news (Mishra, 1995; "Credibility Crisis for Lucknow Newspapers," 1995).[2]

Shoemaker and Reese's model can be used to explain why the media frame issues in certain ways. For example, Gitlin discusses how the perceived pressure of the economic interests of news organizations can influence the selection of stories by gatekeepers (White, 1950) of certain versions of reality over others (1980). In environmental news, the press tend to emphasize "sexy" or sensationalized issues, such as stories on certain endangered species (whales over plankton) because they are more likely to sell a story to the audience. Likewise, since media operate within a larger extra-media context, Gitlin, who examines hegemony, says that core ideological systems affect the framing of news in ways that are consonant with the prevailing power structure. This can be seen in the portrayal of the Exxon Valdez oil spill in Prince William Sound where the U.S. mainstream press marginalized Native American concerns (Daley and O'Neill, 1991). Thus, environmental stories are sometimes oversimplified leaving out minority voices in a controversy. As Gitlin notes, referring to hegemony theory,[3] with reality emerging from the "omnipresent media. . . the media have become core systems for the distribution of ideology" (and selected realities which can reflect biases) (1980).

Looking at environmental news in a South Asian context, Friedman and Friedman studied the constraints at play in environmental news, identifying several factors specific to the regional context that affect content (1989; 1988). These include a lack of financial commitment to support coverage of rural-based issues or science training for journalists; inadequate press laws against censorship (such as the Freedom of Information Act); price fixing of raw materials, like paper; as well as a variety of other factors, each of which could be catalogued to fit into the Shoemaker/Reese model. Shah's study of "societal, occupational and communicator-level factors" in India showed that the content of Indian news can not be attributed to one single factor or set of factors at only one level (1990, p. 1040). This having been said, one can ask if some factors and levels are more influential than others when it comes to examining environmental news in India and why is this so?

Conceptual Framework

The hierarchy of levels of influence provides a useful conceptual framework for understanding what affects newsmaking because with so many factors at play it is difficult to identify which are the most formidable. The Shoemaker and Reese model of the levels of influences on mass media content illustrates that constraints on the press are indeed hierarchical (1991). The implication is that micro-level factors are the most influential in predicting the portrayal of news content. By combining the "levels of influence" paradigm with framing theory, inquiry into the linkage of content with constraints on press performance is facilitated. For instance, in Liebler's investigation of the framing of civil disorder in newspapers in the U.S., she found that social structural variables predicted framing most consistently (1997). The task of assigning a hierarchy remains confounded, however, since as Liebler found, the organizational level was not necessarily subsumed by more macro-level factors. In fact, newsroom diversity also played a significant role in the framing of controversies. For instance, in Gandy's study on the media's framing of U.S. minorities in the news, he finds that not only are the proportion of African Americans in the marketplace a powerful explanatory factor for the framing of race in the news but the racial makeup of newsroom staff also plays an important role (1994).

In examining which levels may be most influential, Liebler finds that factors operative on different levels change with the context. Liebler's research, among others, provides a basis for study into the levels of influence on environmental news frames in a non-western context. Likewise, a contextual approach toward press performance lends inspiration for the reconceptionalization of the classic Shoemaker and Reese model. It is therefore possible to examine a new framework of a hierarchy which analyzes the extra- and intra-organizational political, economic and cultural levels of influences on framing (Mody, 1988). In the case of news on development and environment issues in the Third World, a lexicon of the factors, forces and actors (Friedman and Friedman, 1989; Friedman and Friedman, 1988) in the context of India that have may have a relationship to coverage of the Narmada Dam project in the Indian English-language press provided a useful framework for analysis (see Figures 1 and 2).

Research Questions

The following question (condensed from several individual questions) that led to a contextual analysis of environmental coverage in India was examined:

(Q1): Which extra- and intra-organizational political, economic and cultural factors most affect news of the Narmada Dam in *The Times of India* (a pro-government paper) in comparison to the *Indian Express* (an anti-government paper)?

The content analysis study of coverage of the Narmada Dam in India looked at the following questions:

(Q1): Did the pro-government newspaper under study (*The Times of India*) tend to publish more stories with pro-dam headlines or conditional pro-dam headlines (prominence) on the Narmada Dam issue), while the anti-government newspaper (the *Indian Express*) tend to publish more anti-dam headlines in stories of the issue?

(Q2): Was *The Times of India* more likely to use the names of famous pro-dam "stars" (a form of prominence dealing with sensationalism) of the Narmada Dam controversy than anti-dam "stars" in headlines for stories on the issue, while the *Indian Express* was more likely to use the names of famous anti-dam "stars" of the Narmada Dam controversy than pro-dam "stars" in headlines for stories on the issue?

(Q3): Did *The Times of India* tend to publish a more pro-dam tone (considered as bias in editorials, features or hard news/features), while the *Indian Express* tended to publish a more anti-dam tone?

(Q4): Did *The Times of India* tend to include more pro-dam kinds of sources (Indian government, industry and pro-dam non-governmental organizations), while the *Indian Express* tended to include more anti-dam kinds of sources (villagers and anti-dam non-governmental organizations)?

(Q5): Did *The Times of India* tend to emphasize economic development or quantification themes (arguments) in stories on the dam, while the *Indian Express* tend to emphasize more environmental sustainability themes (arguments)?

(Q6): Did *The Times of India* tend to publish more episodic (hard news) stories on the Narmada Dam issue, while the *Indian Express* tended to publish more thematic (analysis, features or editorial) stories of the issue?

Method

A period of three months of fieldwork was undertaken in India from November 1995 to January 1996 to conduct in-depth interviews with reporters and editors from the Indian English-language press and collect newspaper articles on the Narmada Dam issue. Initially 18 reporters from nine Indian English-language dailies participated in one hour interviews based on a prepared list of open-ended questions developed from Figures 1 and 2. The questions examined the journalists' perspectives on internal and external political, cultural and economic constraints on environmental reporting in India. In particular, subjects were asked to recall their experiences in covering the Narmada Dam controversy in light of various factors, including the political, economic and cultural environment in India, as well as within the media industry itself. From the data collected, two newspapers, *The Times of India* and the *Indian Express*, were selected for comparison in this study based on three criteria. (1) Both are said to exercise an important agenda-setting role among policy-makers in government as well as the vernacular (regional) press (Haque, 1986). (2) Both are among the largest circulation of English-language newspapers in India (Merrill and Fisher, 1980; McDonald, 1994). (3) *The Times of India* is characterized by Indian reporters as a paper most closely aligned with the government of India and supportive of its development agenda, while the *Indian Express* is considered to be least aligned with the government, thus providing variance in the study.

The Narmada dam is a project that will have a great impact in India. That impact could be negative or positive depending upon various positions purported by stakeholders involved. The years 1989 to 1993 were considered a critical period in the evolution of the debate over the dam, thus a purposive sample of 194 news articles from that time published in *The Times of India* (120) and the *Indian Express* (74) were content analyzed.[4] Coverage was coded according to the following variables: prominence (headlines—pro- or anti-dam and sensationalized); editorial tone (pro- or anti-dam); kinds of sources (pro- or anti-dam); environmental sustainability or economic development themes (pro- or anti-dam); and story type (shorter hard news or longer features/ editorials). The data were organized into cross-breaks. Cramer's V and Phi were the statistics used to measure the degree of association between variables.

FIGURE 1
The Relationship of Extra-Organizational Context to Text

CONTEXTUAL FACTORS
(Data collected via interviews)

CONTENT CHARACTERISTICS
(Data collected via content analysis)

I. EXTRA-ORGANIZATIONAL (SOCIETAL) FACTORS

A. Political Level
1. Access to Sources
   a. intergovernmental donor agencies (such as the World Bank)
   b. foreign governmental donor agencies
   c. national government
   d. impacted state governments (Maharashtra, M. P., and Gujarat)
   e. local (village) governments
   f. international, national, state or localized industries
   g. international or domestic environmental activist organizations
   h. international or national university-affiliated scientists
   i. domestic courts
   j. non-affiliated impacted villagers

2. Government Control
   a. press laws (censorship: prior restraint in periods of national "emergencies")
   b. denial of citizenship
   c. arrest (and violence)
   d. access to documents
   e. bureaucracies
   f. newsprint supply
   g. low rent in government buildings
   h. threat of government libel suits

B. Economic Level
1. Externalities
   a. "vested" advertiser revenue (pressure from dam-related industries)
   b. "vested" government revenue (pressure from government)
   c. newspaper circulation (pressure to maintain)
   d. investors to newspapers (pressure from industry)
   e. threat of private libel suits
   f. government licenses
   g. tax on raw materials (paper)
   h. competition with foreign media
   i. competition with domestic media
   j. innovations of news technologies

C. Cultural Level
1. Target Audience Interest
   a. urban elites (readers, electronic media)
   b. regional readers (vernacular press)
   c. audience cultural resonances perceived by reporters

NOTE: Characteristics below repeat for each contextual factor

Tone
Prominence
Type of Story
Kinds of Sources
Themes

FIGURE 2
The Relationship of Intra-Organizational Context to Text

II. INTRA-ORGANIZATIONAL FACTORS

A. Political Level
   1. Practitioner Ideology
      a. publishers (party membership)
      b. editors (party membership)
      c. reporters (party membership)

   2. Historical Development of Print
      (British colonialism; freedom movement; elite press issues versus vernacular press issues; development journalism)

B. Economic Level
   1. Business Orientation
      a. type of ownership (private ownership, family squabbles)
      b. employer/employee relations (capricious management policies affecting rights and freedom of editors and reporters; job/salary uncertainties; union membership)

   2. Financial Commitment
      funding of environment beat (reporters' science literacy training; travel to environmental sites; number of environmental reporters; resources: number of wire services and news agencies subscribed to, kind of wire services and news agencies used, such as foreign or domestic, access to Internet sources)

C. Cultural Level
   1. Gatekeeper Bias
      (lack of interest in environmental stories: political emphasis; rural/urban or Northern India/Southern India orientation)

   2. Routines
      (environment beat; source/document selection and use, such as press releases; subscription to environmental journals; rapport with sources; deadline pressures)

   3. Professional Norms
      (journalism education, accreditation; lack of prestige; membership in professional organizations, such as the Asian Forum of Environmental Journalists, Society of Environmental Journalists, etc.; environmental advocacy approach); objectivity tradition

   4. Individual Background

CONTENT CHARACTERISTICS
(Data collected via content analysis)

Note: Characteristics below repeat for each contextual factor

Tone
Prominence
Type of Story
Kinds of Sources
Themes

After pretests of the instrument were conducted, two researchers coded a random sample of 20 percent of the stories included in the study in order to assess intercoder reliability. Holsti's formula produced agreement between 90 percent to 98 percent of the time for the nominal level data. Scott's pi (which corrects for chance agreement between coders) averaged at 84 percent. One measure, editorial tone, produced a Scott's pi of 65 percent, however, only three cases out of the 40 articles sampled fit this category. The level of Scott's pi is very sensitive to the total cases used in the test. Holsti's agreement on the same measure produced a result of .98, which was deemed acceptable. Pearson r correlation coefficients on the number of sources in stories produced an average of 99.2 percent.[5]

Interview Data Findings

Based on Question 1 for the contextual analysis of environmental reporting in India, we expected framing decisions on coverage of the Narmada dam to be influenced by a variety of intra- and extra-organizational factors. The task was to identify a hierarchy of constraints upon press performance and see if there were any differences in this hierarchy between papers with opposing political ideologies. The primary difference in decision-making between the papers was an extra-organizational factor. *The Times of India* and the *Indian Express* had somewhat different audiences in terms of political ideology, thus it was expected that positions on the dam would vary accordingly. However, although readers between the papers might hold opposing views of government plans for national development, the majority shared similar characteristics in terms of education and socio-economic status.[6] Therefore, according to interviewees, the approach to writing environmental stories between the papers was fairly similar, despite the internal political pressure from management to take respectively opposing stands on economic development issues. Interview subjects at both papers said that internal journalistic cultural values (gatekeeping practices, development of an environmental beat and views on advocacy versus objectivity) were stronger than the differences in political ideology between their publishers. It was found that on almost all factors at both papers the journalists felt they worked under similar kinds of constraints.

The intra-organizational cultural level was found to be the most influential upon media content, according to the journalists' self reports. In response to questions about what sorts of factors affected their reporting on environmental issues, journalists from both papers attempted to characterize their level of commitment to the beat. All described themselves as environmental advocates and all were also "anti-dam" (with qualifications). Most were quite vocal on the point and said they faced a good deal of ridicule for being too "pro-environment." Journalists also said they were still committed to the ideal of objectivity, however, which presented a paradox not often explicitly discussed in American journalistic circles. In other words, although they openly expressed the opinion that the dam would lead to detrimental effects on villagers, their stories were generally constructed to include sources from both sides of the issue. "We have tried to tread a very narrow path between supporting environmental causes and developmental causes," said one reporter. "I have tried to take a balanced position whenever possible." Another reporter interviewed agreed with this stance but complained that the standard of objectivity was sometimes taken to a level of absurdity. "If you see a lot of people being beaten up," she said, "you are going to report that. You are not going to sit back and say, 'Let us be objective.'"

While concern for credibility played a part in balancing the use of sources, framing of stories on the dam was in part due to routines of the newsroom. For instance, most of the sources readily available to urban-based reporters were pro-dam government officials. Thus, those kinds of sources were often included in pro-environmental stories because the already "overburdened journalists" felt institutional sources were so accessible. On the other hand, the activist group, the Narmada Bachao Andolan (NBA), the Save Narmada Movement, managed to generate and sustain interest in the anti-dam side of the story as well since its leader, Medha Patkar, was very charismatic. The story made the news because of Patkar-driven large scale events, like demonstrations and hunger strikes, that fit the news values of the press (it was hard news). Also, the NBA provided easy access to information on an almost daily basis via faxed press releases on the topic to the newsroom.

Access to information was a key concern for all the interview subjects. Most were members of the Forum for Environmental Journalists of India (FEJI) but said that the organization needed to become more active if it was to provide any real support of journalists in the workplace. All said that the organization had suffered due to a lack of funds that would provide infrastructure support, such as the development of e-mail capabilities and so forth. A lack of leadership in the organization was also a problem. One reporter said that the culture of journalism in India is too competitive for FEJI to survive. To overcome this need to hoard information, as one reporter said jokingly, "I think the person who should run this organization

should have a pathological need to disseminate information."

All the journalists said they felt that management views, such as a lack of interest in environmental issues, played a strong role in affecting their reporting on the environment. Later on in the controversy (about 1994), this led to quite a struggle for one of the interviewees. Finally, he, along with three other senior editors, resigned from their paper because of the pressure from management to avoid coverage of certain issues, including the Narmada Dam. The reporter recounted the time his managing editor let it be known that it would be policy to avoid any stories about the anti-dam activist Medha Patkar. Thus, for him this made explicit the kind of power management exerted over content in the paper. If Patkar's picture or name came with the story, it would not be published. Management said this was due to the drop in circulation of the paper that would occur at the mention of her name. The interviewee for the study said, however, that everyone knew the real reason—the advertisers in affected areas in the western Indian states would threaten to withdraw their advertisements from the paper each time a story on the dam would include Patkar.

Viewed collectively, the qualitative data fit into a series of patterns wherein certain over-riding themes constraining coverage were repeatedly mentioned. The themes included the tension between objectivity and advocacy journalism; the democratic value of a free press in a developing nation such as India; India's policy of economic liberalization, which created a market-based approach to journalism; and cultural resonance (the perceived cultural values of the newspapers' target audience).

Content Analysis Findings

It would appear India's two leading English-language newspapers frame environmental news regarding the controversial Narmada more similarly than not, in spite of differences between them in terms of political ideology. The exception was in the case of framing of headlines.

For content analysis questions 1 and 2, which examined whether headlines would vary between the pro-government *The Times of India* and the anti-government *Indian Express*, some differences were detected between papers (see appendix for tables). *The Times of India* used more pro-dam and conditional headlines than the *Indian Express* (there were over 10 percent more pro-dam and conditional headlines in *The Times* than the *Express*).[7] Likewise, *The Times of India* tended to publish more headlines with pro-dam stars' names than the *Indian Express* (the *Express* used anti-dam stars in headlines 10 percent of the time more than *The Times*). Both these findings do reflect minor differences in editorial policy toward the Narmada Dam. Thus, there may be limited evidence to justify a hypothesis that pro-government papers in India support the building of the Narmada Dam more than anti-government papers. However, since the data indicated a fairly weak relationship between the ideology of each paper and their use of headlines (see Phi and Cramer's V for both variables in Tables 1 and 2 in Appendix I) a stronger hypothesis from this finding may be that Indian-English language papers are likely to sensationalize the Narmada Dam issue in order to sell papers. The focus on colorful personalities on the issue presented in headlines approximately 30 percent of the time provides some evidence for this argument.

Answering questions 3, 4 and 5, both papers published similar content in terms of editorial bias (tone), kinds of sources included and themes emphasized. Based on editorial bias and themes, both papers typically expressed some level of anti-dam bias, despite the decidedly pro-government/pro-development stance of *The Times of India* (Tables 3-7 in Appendix I). For instance, stories in both papers reflected more environmental sustainability themes than economic development themes (84 percent within *The Times of India* and 86 percent with the *Indian Express*). The sustainability argument most emphasized within both papers included those that focused on the ideas of "protest," "human and environmental impacts," and "review of the project." In terms of sources, however, there seemed to be a balance in coverage of the issue. Both papers used close to an equal percentage of pro-dam and anti-dam sources. The most used source was government officials, followed closely by anti-dam non-governmental organizations and villagers. As stated above, the use of sources is probably less a factor of bias in reporting and more due to routines of the beat.

Answering question six, the data shows that both papers tended to over-simplify the issue by presenting the majority of stories in the form of hard news (Table 8 in Appendix I shows approximately 80 percent). The assumption was that feature pieces tend to be longer and thus provide space for the complexity of discussions in debates over environmental sustainability and economic development.

Discussion

The overall aim of this study was to examine the relationship between those factors, forces and actors that constrained press performance in English-language newspapers in India and the portrayal of environ-

mental news in India's two opposing English-language newspapers. Although we expected framing decisions might vary more on a controversial environmental issue (like the Narmada Dam) between a newspaper with a pro-government and an anti-government editorial stance, with the exception of prominence (headlines) in framing, this was not the case. Thus, the prevailing power structure in India did not necessarily affect the framing of environmental news within the country's English-language press.

Findings of this study lend serious doubt to the justification for a hypothesis that English-language papers in India with opposing political ideologies produce substantive differences in framing of environmental news. Therefore, it provides evidence that hegemony theory does not fully explain the Indian press experience as it pertains to coverage of the environment, at least among the English-language national press. Given the homogeneity of results between papers, it was useful to unearth the primary constraints affecting press performance and framing of news.[8]

In determining what factors do play a role in influencing news production in India, the study found that the intra-organizational cultural level was most important in constraining environmental reporting in India, followed by factors on the extra-organizational political level. These levels subsumed the extra-organizational cultural level, which was the next most important. Less critical in framing of Indian environmental news were the intra-organizational political level and, interestingly, given the importance of financial concerns in developing countries, the intra- and extra- organizational economic levels, which were found to exert an equal strength of influence upon framing.

Hypotheses could be generated from these findings. For instance, (H1) More than any other factors constraining India's English-language dailies, newsroom cultural values (an intra-organizational cultural factor) predict the framing of environmental news. (H2) Advertiser pressure (an extra-organizational economic factor) is more likely to predict framing of environmental news in local-language papers in India than in the Indian English-language press. Many more hypotheses of this kind could be developed and tested in the future.

Various internal and external political, economic and cultural factors were said to bias Indian news coverage toward an environmental sustainability perspective in some cases, according to the interviews with the Indian journalists. Other factors, they said, led to over-simplification and sensationalizing of environmental issues. To explain the portrayal of the environment in the news, journalists repeatedly referred to the four over-riding constructs (mentioned previously) that they felt tended to constrain coverage of the environment in India. These included: A) Objectivity versus Advocacy; B) Democracy and India's Free Press; C) Market Journalism; and D) Cultural Resonance. These factors manifested in the day-to-day activities of the Indian press in a number of ways that can be compared to those faced by environmental journalists in the U.S. Two aspects of the findings should be discussed in greater depth. The intra-organizational level (of professional norms, routines and gatekeeper bias) is important since it was found to exert the most influence on reporters' activities. Also, examination of the particular professional norm of objectivity versus advocacy journalism, which is a factor within the intra-organizational level, helps to clarify discussions of the environmental sustainability/economic development debate as it plays out in the Indian press.

Environmental journalism in the West is held up to a professional norm of objectivity in which credibility of reports must be rigorously maintained, letting the audience "come to its own conclusions" (Gans, 1979, p. 189). One stereotype of news coverage in developing countries has been that objectivity is often lacking. However, this study found that in India this assessment does not explain the case.

Evidence suggests that the professional norm of objectivity was neither entirely rejected nor embraced in India but rather fell into a gray area, as is sometimes the case in the U.S. as well. For instance, Rogers describes the prototypical "good science story" saying that the journalistic tradition in the U.S. is to seek after truth and fairness by using a two-handed approach—balancing information "'on the one hand' with information 'on the other hand'" (*What Makes a Good Science Story?* 1986, p. 107). Environmental journalists in the U.S. find the problem to be a daily struggle. They say their goal is to be fair and honest, letting the public decide 'truth' for themselves, according to Jim Detjen, president of the International Federation of Environmental Journalists (IFEJ) (personal communication, March 5, 1997). The issue is rather complex for journalists in general. Johnstone, Slawski and Bowman state that journalists often endorsed a participant role as well as a neutral role toward news production (1976). Based on this research, Weaver and Wilhoit suggest that U.S. journalists do not actually fit into these dichotomous belief systems, but rather, tend to follow one or more of three approaches toward press functions, adversarial, interpretive, and disseminator (1986).[9] Reporters in India said they applied the rules of objectivity, that their stories served an important informational function and they also took

sides in certain stories. Thus, just as the Weaver/Wilhoit study found of American journalism, Indian journalists are also extremely pluralistic in their conceptions of media roles.

Participants in the study viewed environmental advocacy journalism as a norm of the profession. All characterized themselves as advocates for the environment, as well as "development writers," and were forthright in their criticism of the Narmada Dam project organizers, although some expressed the view that both sides might consider a compromise at some point. In the case of news on the Narmada, reporters showed great support in covering the issue, and thus overcoming the limits imposed by gatekeepers in the culture of the newsroom. They often had to fight for space to present the issue, and despite enormous criticism that compromised the credibility of their reputations, fight they did. Some journalists spent their own salaries in order to cover the issue on location in its rural setting, instead of relying on the plethora of press releases received in the city newsroom regarding the project.

In describing coverage of the dam, journalists said they expressed their views by demonstrating a certain tone in their writing. The style of writing likely found precedence in the country's socio-historical context. For instance, although the principle of objectivity was inherited from a press system borne under British rule, Indian newspapers played a seminal role in the country's nationalist struggle and were not afraid to take a stand in their reports, voicing criticism of colonial domination. Likewise, in a shift from the days when "development journalism" was expected to fully support government policies (Aggarwala, 1979), journalists today regularly question the validity of government-funded industrial development projects, expressing their dissent either openly or in more subtle ways in the news. Thus, the historically-rooted advocacy norm elicited a certain bias in the text. For example, in editorials (which by nature are opinionated) editors wrote about their dissent to the project. This was also the case on any feature-style stories (literally in features and hard/news features, as operationalized in the study). This lent credibility to the paper since it could be viewed as objective by Indian journalists' standards—it was free of government pressure. Loaded words, phrases or metaphors portrayed a judgmental attitude toward governmental supporters of the dam. Editorials registered their mistrust of project promoters, such as the World Bank, questioning the overall legitimacy of government or foreign-imposed development. Foremost was the viewpoint that modernization would decimate India's cultural integrity by destroying tribal village practices. Those practices were said to show a commitment to land preservation, without which India would not survive. In total, the tone of Narmada editorials was unequivocally against the Narmada development in India or this type of top-down macro-development projects within the developing world in general, because the costs outweighed the benefits. This showed that the principle of sustainability, as operationalized within this research, prevailed in this form of the text on Narmada coverage.

Beat reporting played a role in shaping coverage. Overcoming pressure to parrot publisher support of governmental policies may have only been possible by the most veteran reporters, as Breed found with U.S. journalists, since experienced newspeople are experts at using their knowledge to subvert policy (1955). As is the norm, old-time staffers were the ones typically writing editorials. This bias filtered into general stories as well. Thus, the study showed that despite enormous pressure to conform to the enforced objectivity standards within the journalistic profession in India, it was found that, in general, an environmental ethic was supported in the framing of themes in coverage on the dam. This was reflected in the dominance of environmental sustainability themes used in stories in both newspapers under study. These themes were overwhelmingly focused on the anti-dam aspects of the story, such as the negative impacts of the project and anti-dam protests.

Some journalists felt the objectivity argument was later used to manipulate coverage to be more in favor of the project when in fact it was gatekeeper bias that played a stronger role. For instance, at *The Times of India*, the paper's owners received a lot of pressure from pro-dam business interests to avoid coverage of the dam altogether, or to present it in a positive light. Despite the environmental advocacy of reporters at the paper, this pressure may have managed to filter into the most overt aspect of coverage—headlines, which were written by editors closely linked to management. The study found that *The Times of India* used more pro-dam headlines than the *Indian Express*.

Journalists had described themselves as objective as well as advocating for the environment. Therefore, it was not surprising that stories used an approximately equal number of pro- and anti-dam sources. However, routines may have also been a factor in creating a balance of source use as well. As Coulson and Lacy found in their study of economic news of motor vehicle emission standards in U.S. newspapers, specialty reporters tend to provide more balanced coverage than general assignment reporters (1997). Those with more experience covering environmental and scientific issues tended to be more balanced in their reporting. In the case of India, those interviewed

considered themselves environmental reporters, although they also carried the burden of covering other beats, especially when the legislature was in session in government. Beat reporting routinizes news gathering and helps journalists to cultivate a greater variety of sources than those covering an issue for the first time. This may have contributed to a balancing of claims-makers in Narmada news.

The characterization of environmental reporters in India becomes important when trying to establish how debates over the environment are portrayed. Indian reporters from the English-language press felt the media play an important role in national development, saying their voice is critical in setting governmental policy. To a lesser degree, they felt that they did help to educate the public, although the local-language press was seen to have an overall greater impact on India's general public. Reporters said the national press was viewed as more objective than local newspapers because it was less open to the forces of corruption, an issue considered of great importance in India.

In short, the study found that the intra-organizational cultural factor of professional norms toward objectivity versus advocacy led to an environmental bias in terms of tone of coverage and themes. The intra-organizational cultural factor of gatekeeper bias constrained the framing of headlines in papers while objectivity norms and routines regarding beat specialization helped to balance the use of sources.

By examining environmental reporting in India, this study expanded Friedman's and Friedman's assertion on environmental news production in Asia that the socio-historical context there encompasses a complexity of political, economic and cultural constraints (1989). Likewise, it found agreement for Friedman's statement that environmental reporting around the world is no easy task. Thus, charges of sensationalism, oversimplification and bias of environmental news must be grounded in consideration for the constraints affecting press performance (Friedman, 1983).

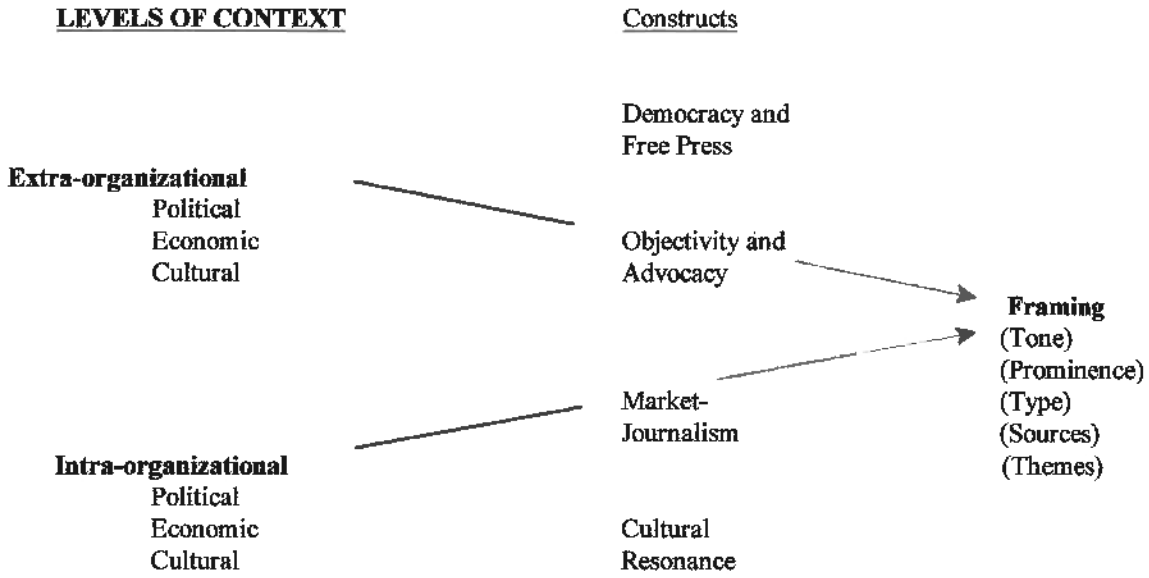
This research shows that the model of hierarchy of levels of influence also applies within a Third World context, wherein the micro-level was the most dominant in predicting framing.[10] Figure 3 and Model 1 illustrate the influences upon environmental reporting in India.

Conclusion

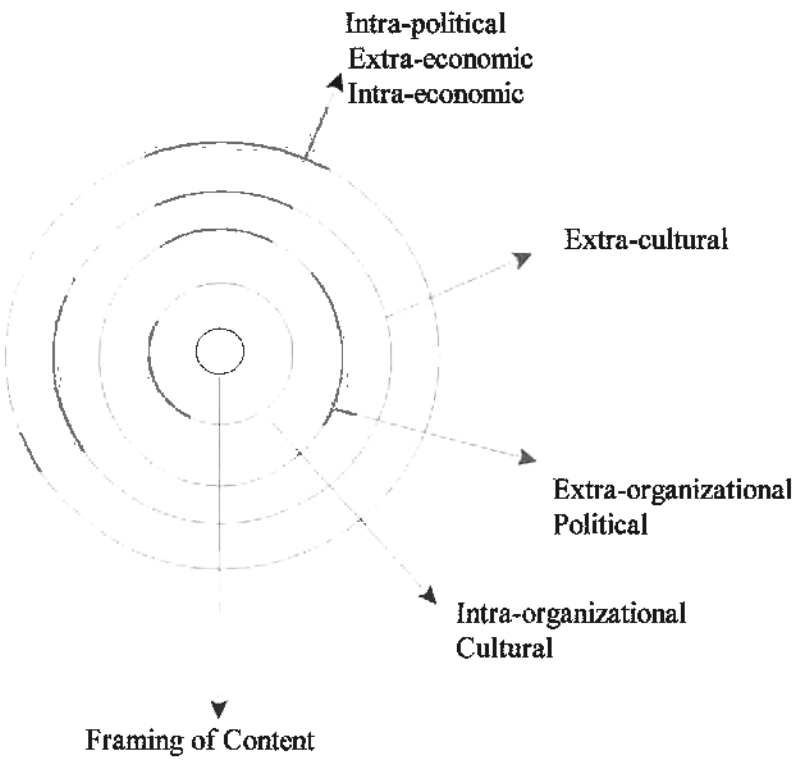
A complex combination of intra- and extra-organizational contextual factors constrained press performance in India; thus, construction of the environmental sustainability and economic development debate was mediated by a multiplicity of factors on different levels. Political, economic and cultural constraints upon two of the country's leading English-language newspapers were found to be similar, except for political ideology (an intra-organizational factor) and perceived target audience (an extra-organizational cultural factor).

Despite the opposing political ideologies of the newspapers under study, both portrayed the Narmada Dam controversy similarly, except in the case of headlines (*The Times of India* tended to support the dam, while the *Indian Express* opposed it). Differences in internal political, and external cultural factors help to explain the variation found between the two papers on this variable. Based on this one difference, however, it cannot be said that all pro-government papers in India will necessarily support economic development while all anti-government papers support environmental sustainability. It is likely that because of the overwhelming similarities in contextual forces constraining the national press in India, framing of the sustainability/ development debate was found to be somewhat uniform between Indian national newspapers, with the sustainability paradigm legitimized in the press to a certain degree.

FIGURE 3
Environmental Journalism in India: Contextual Forces and Framing
The Times of India* versus the *Indian Express



MODEL 1
Hierarchy of Intra- and Extra-organizational Influences on Environmental News Content in the Indian English-language Press



Notes

1. Such as Darryl D'Monte, Bittu Sahgal, Demandeep Singh, Kalpana Sharma and others.

2. A small minority among the press in India has suffered from a lack of credibility due to the acceptance of bribes (money, favors, etc.) from government officials seeking positive publicity.

3. Wherein a ruling coalition advances the interests that function according to a dominant political economy.

4. While the TOI published more articles than the IE, articles in the latter tended to contain one more paragraph on average (TOI. had a mean = 9.5; IE had a mean = 10.5), thus were a bit longer. While longer articles are often interpreted to be more in-depth, this is not necessarily so in this case. Future studies should examine length of article in terms of word count.

5. Reliability indexes: Editorial Tone (Scott's pi= .65/Holsti = .98); Headlines Focus on Stars (pi=.92/H=.98); Headlines Pro/Anti Dam (pi=.86/H=.93); Story Type (pi=.90/H=.95); Theme (pi=.87/H=.90).

6. As perceived by the interview subjects, not readership surveys.

7. Conditional headlines were those that accepted the viability of the project yet had concerns about the process of implementation.

8. Future studies should compare national and regional papers within India or national papers between countries, which would likely provide greater variance.

9. They assert that the dominant professional role is interpretive, followed closely by the disseminator orientation. In their study, a third of the time these roles were followed in tandem. The adversarial role was rated to be the least important.

10. Constraints will likely vary based upon geographic location and environmental controversy.

References

Aggarwala, N. K. (1979). What is development news? *Journal of Communication, 29*, 181-182.

Badri, M. A. (1991). Mass communication and the challenges on global environmental protection. *Journal of Development Communication, 1* (2), 1-16.

Berkowitz, D. (1987). TV news sources and news channels: A study in agenda-building. *Journalism Quarterly, 64*, 508-513.

Breed, W. (1955). Social control in the newsroom: A functional analysis. *Social Forces, 33* (1), 326-335.

Coulson, D. C. & Lacy, S. (1997, August). *Newspaper economic coverage of motor vehicle standards*. Paper presented at the meeting of the Association of Education in Journalism and Mass Communication, Chicago, IL.

Credibility crisis for Lucknow newspapers. (1995, August 4). *The Hindu*, p. 9.

Daley, P. & O'Neill, D. (1991). 'Sad is too mild a word': Press coverage of the Exxon Valdez oil spill. *Journal of Communication, 41*(3), 42-57.

Dunlap, R. E. & Van Liere, K. D. (1983). Commitment to the dominant social paradigm and concern for environmental quality. *Social Science Quarterly, 65*, 1013-1028.

Dunwoody, S. & Griffin, R. (1993). Journalistic strategies for reporting long-term environmental issues: A case study of three Superfund sites. In A. Hansen (Ed.), *The mass media and environmental issues*, (pp. 22-50). London: Leicester UP.

Dutt, E. (1995, March 24). Treatment of journalists is assessed. *India Today*, p. 36.

Family settlement will split Indian Express. (1995, February 17). *India Abroad*.

Friedman, S. M. (1983). Environmental reporting: Problem child of the media. *Environment, 25*(10), 24-29.

Friedman, S, M., Dunwoody, S. & Rogers, C. L. (1986). *Scientists and journalists: Reporting science as news*. New York: The Free Press.

Friedman, S. M. & Friedman, K. A. (1988). *Reporting on the environment: A handbook for journalists.* Bangkok, Thailand: The United Nations Economic and Social Commission for Asia and the Pacific.

Friedman, S. M. & Friedman, K. A. (1989). Environmental journalism: Guardian of the Asian commons. *Environment, 31* (5), 7-37.

Gamson, W. A. & Modigliani, A. (1989). Media discourse and public opinion on nuclear power: A constructionist approach. *American Journal of Sociology, 95* (1), 1-37.

Gans, H. J. (1979). *Deciding what's news: A study of CBS evening news, NBC nightly news, Newsweek and Time.* New York: Vintage Books.

Gitlin, T. (1980). *The whole world is watching.* Berkeley: U of California P.

Gandy, O. (1993, Summer). From bad to worse: The media's framing of race and risk. *Media Studies Journal*, 39-48.

Goffman, E. (1974). *Frame analysis: An essay on the organization of experience.* New York: Harper & Row.

Goodland, R., Daly, H., El Serafy, S. & von Droste B. (Eds.). (1991). *Environmentally sustainable economic development: Building on Bruntland.* Paris, France: UNESCO.

Gramsci, A. (1971). *Selections from the prison notebook of Antonio Gramsci.* London: Lawrence and Wishart.

Greenberg, M. R., Sachsman, D. B., Sandman, P. M. & Salomone, K. L. (1989). Risk, drama and geography in coverage of environmental risk by network TV. *Journalism Quarterly, 66*(2), 267-276.

Gurevich, M. & Levy, M. R. (Eds.) 1985. *Mass communication review yearbook 5.* Beverly Hills, CA: Sage, 19.

Hansen, A. (1991). The media and the social construction of the environment. *Media, Culture and Society, 13*, 443-458.

Hall, S., Critcher, C., Jefferson, T., Clarke, J. & Roberts, B. (1978). *Policing the crisis: Mugging the state, and law and order.* London: MacMillan.

Haque, M. (1986). Is development news more salient then human interest stories in Indian elite press? *Gazette, 38*, 83-99.

Hirsh, P. (1977). *Strategies for communication research.* Beverly Hills, CA: Sage.

Human development report. (1995). Oxford, England: Oxford UP.

Johnstone, J., Slawski, E., & Bowman, W. (1976). *The news people.* Urbana: U of Illinois P.

Liebler, C. M. (1997, May). *Individual, organizational and social structural influences on newspaper framing of civil disorder.* Paper presented at the meeting of the International Communication Association, Montreal, Quebec.

McDonald, H. (1994, March 24). Changing times. *Far Eastern Economic Review*, 22-23, 26.

McQuail, D. (1987). *Mass communication theory: An introduction* (2nd ed.). London: Sage.

Merrill, J. C. & Fisher, H. A. (1980). *The world's great dailies: Profiles of fifty newspapers.* New York: Hastings House.

Mishra, D. (1995, September 1). India's scribes who take bribes. *India Post*, p. A20.

Mody, B. (1988). Development communication: From media effects to media contexts. *Media Development, 3*, 35-37.

Murphy, P. & Dee, J. (1995, May). *Reconciling the preferences of environmental activists and corporate policy-makers.* Paper presented at meeting of the International Communication Association, Albuquerque, NM.

Rachlin, A. (1988). *News as hegemonic reality: American political culture and the framing of the news.* New York: Praeger.

Sandman, P. M., Sachsman, D. B., Greenberg, M. R. & Gochfeld, M. (1987). *Environmental risk and the press.* New Brunswick, NJ: Transaction Books.

Shoemaker, P. J. & Reese, S. D. (1991). *Mediating the message: Theories of influences on mass media content.* New York: Longman.

Shah, H. (1990). Factors influencing development news production at three Indian dailies. *Journalism Quarterly, 67*, 1034-1041.

Sigal, L. (1973). *Reporters and officials: The organization and politics of newsmaking*. Lexington, MA: DC Heath.

Tuchman, G. (1978). *Making news*. New York: The Free Press.

Weaver, D. H., & Wilhoit, G. C. (1986). *The American journalist: A portrait of U.S. news people and their work*. Bloomington: Indiana UP.

What makes a good science story? (1986). Panel discussion with Ira Flatow, Dennis S. O'Leary, Joann E. Rodgers, Stephen H. Schneider, and Robert J. Trotter. In S. M. Friedman, S. Dunwoody, & C. L. Rogers (Eds.), *Scientists and Journalists: Reporting Science as News* (pp. 103-115). New York: The Free Press.

White, D. M. (1950). The gatekeeper: A case study in the selection of news. *Journalism Quarterly*, (27), 383-390.

World Commission on Environment and Development. (1987). *Our common future*. Oxford, England: Oxford UP.

Yadava, J.S. (1991). Press systems in India. *Media Asia, 18*(3), 132-136, 142-147.

APPENDIX I – TABLES

TABLE 1
Topic - Headlines Pro or Anti-Dam By Combined Categories

Topic	"Progov" Newspaper	"Antigov" Newspaper	
Headline-Pro-dam & Condition	60 54.1%	30 42.8%	90 49.7%
Headline-Anti-dam	51 45.9%	40 57.1%	91 50.3%
	111 61.3%	70 38.7%	181 100%

Phi = .11, Cramer's V = .11

TABLE 2
Focus on Stars - Headlines Pro or Anti-Dam Broken Down By Category

FocusStars	"Progov" Newspaper	"Antigov" Newspaper	
Headline-Anti-dam	22 18.3%	21 28.4%	43 22.2%
Headline-Pro-dam	11 9.2%	3 4.1%	14 7.2%
Headline-No Stars	87 72.5%	50 67.6%	137 70.6%
	120 61.9%	74 38.1%	194 100%

Phi = .14, Cramer's V = .14

TABLE 3
Editorial Bias - Pro or Anti-dam

Bias	"Progov" Newspaper	"Antigov" Newspaper	
Anti-dam	7 5.8%	6 8.1%	13 6.7%
Not Apply	113 94.2%	68 91.9%	181 93.3%
	120 61.9%	74 38.1%	194 100%

Phi = .06, Cramer's V = .06

TABLE 4
Sources - Pro or Anti-Dam By Combined Categories

Sources	"Progov" Newspaper	"Antigov" Newspaper	
Pro-dam	204 52.2%	125 49.6%	329 51.2%
Anti-dam	187 47.8%	127 50.4%	314 48.8%
	391 60.8%	252 39.2%	643 100%

Phi = .03, Cramer's V = .03

TABLE 5
Sources - Pro or Anti-Dam Broken Down By Category

Source #s	"Progov"	"Antigov"
Indian Gov (Pro)	119/22.4%	73/21.8%
Industry (Pro)	38/7.5%	14/4.2%
Pro-dam NGOs	47/8.8%	38/11.3%
Foreign Gov (Neut)	34/6.4%	25/7.5%
Educat. Experts (N)	29/5.5%	21/6.3%
Courts (N)	23/4.3%	5/1.5%
Villagers (Anti)	88/16.6%	64/19%
Anti-dam NGOs	99/18.6%	63/18.8%
Other	47/8.4%	28/8.4%
Unidentified	8/1.5%	4/1.2%
	532	335

TABLE 6
Theme - Environmental Sustainability Vs. Economic Development
By Combined Categories

Themes	"Progov" Newspaper	"Antigov" Newspaper	
Environ. Sustain.	99 83.9%	59 85.5%	158 84.5%
Econ. Develop.	19 16.1%	10 14.5%	29 15.5%
	118 63.1%	69 36.8%	187 100%

Phi = .02, Cramer's V = .02

TABLE 7
Theme - Environmental Sustainability Vs. Economic Development
Broken Down By Category

Themes	"Progov"	"Antigov"	
(ES) H/E Impact	31/26%	12/16%	43/22.2%
Project Review	22/18%	13/17%	35/18%
Mistrust Project	8/6%	4/5%	12/6.2%
Top Down Devel.	2/2%	2/3%	4/2.1%
Protest	36/30%	28/38%	64/33%
(ED) Mac-dam Devel.	6/5%	2/3%	8/4.1%
Height Compromise	1/1%	1/1%	2/1%
Finance	10/8%	5/7%	15/7.7%
Mistrust Anti-dam	2/2%	2/3%	4/2.1%
Other	2/2%	5/7%	7/3.6%
	120	74	194
	61.9%	38.1%	100%

TABLE 8
Type - Episodic or Thematic News By Combined Categories

Type	"Progov" Newspaper	"Antigov" Newspaper	
Episodic (Hard News)	95 79.8%	61 82.4%	156 80.8%
Thematic	24 20.2%	13 17.6%	38 19.7%
	119	74	193
	61.7%	38.3%	100%

Phi = .03, Cramer's V = .03

German Media Coverage of Environmental Issues: A Comparative Analysis

Michael E. Nitz
School of Communication
University of Idaho—Moscow, ID

Abstract

This study is part of an ongoing effort to examine news coverage of environmental issues. Research suggests that the media, in particular television, are the primary and often only source people will turn to for information about environmental issues. Drawing on work examining U.S. news coverage of environmental issues, the paper attempts to determine whether German news coverage differs in any way. Newscasts were recorded and analyzed for how they framed the issue of global warming. This included visuals, notions of responsibility, sources or viewpoints, and economic, political, and scientific aspects. Newspapers were also coded due to their significant impact on policy-makers decisions in Germany. The paper attempts to serve as a basis for comparing how different countries' media cover global warming issues.

There is a perplexingly wide range of involvement, interest, and identification with environmental issues. Citizens seem able to display a wide variety of concern for environmental issues depending on the specific issue, demographic factors, and even geographical location (Andrews, 1998; Carmen, 1998; Klineberg, McKeever, & Rothenbach, 1998). Environmental concern is associated with many different trade-offs that stimulate inconsistent responses (Klineberg, et al., 1998, p. 752). Some scholars assert that citizens are expressing increased concern over the number and variety of environmental problems (McClellan, 1992; Pope, 1992). Neuzil and Kovarik (1996) note that newspaper readers have identified environmental news as the fastest growing topic of news interest.

Yet, Moore (1995) found that on the 25th American Earth Day, most Americans are placing less urgency on the problem. Ungar (1992) notes that global warming cries from scientists did not get much attention until the drought of 1988. It then achieved the status of social scare. Ungar goes on to claim that environmental claims will most likely be honored when they coincide with real-world events. It appears (as McComas & Shanahan, 1999, note in a quotation of Hetzer & Gotzenbach), that something spectacular must occur for people to pay attention to the environment. Demand attenuation and issue redirection processes have reduced global warming's standing as a celebrity social problem (Trumbo, 1991). When the weather abates, the risk becomes more difficult to assess.

The environment is certainly important, but not a topic people spend much time thinking about (Ader, 1995). Wilkins' and Patterson's (1991) survey results indicate that while 35 percent worry a great deal about the environment, only four percent list it as the most serious problem. Even in the listing of environmental problems, global warming ranked tenth. Ungar (1995) notes that since the scientific understanding of global warming is increasingly uncertain and since global warming is scarcely a lived experience like other pollution problems, it becomes exceedingly difficult to motivate people to be concerned. While nearly 60 percent wanted immediate and drastic action in 1991 to preserve the environment, only 35 percent felt the same in 1995.

Still, most (83%) believe that the U.S. needs to take at least some additional action to prevent the spread of global warming. Additionally most Americans (62%) prefer protecting the environment over economic growth. This is also the case in Germany.

Justification for Germany

Germany was chosen as it was the host country for the author's Fulbright scholarship. Germany has long been a center of power in Europe and with the return of the capital to Berlin, Germany is positioned to be a bridge between Western and Eastern Europe. Its citizens recently elected an environmental party into the ruling coalition government. Schoenbach and Becker (1995) state that, in Germany, the environment is very high on the agendas of both the public and the media. Brosius and Kepplinger (1990) have pointed out some strong agenda-setting effects for environmental issues in German media. There is strong interest and much popular support in Germany for the development of ecologically safe energy sources and production processes, as well as widespread public awareness of environmental problems and broad support for environmental protection measures and initiatives. Global warming is a potential problem that transcends international boundaries. Therefore, it

behooves researchers to examine the media coverage in a number of countries.

Why Media?

Research suggests that the media are the primary and often the only source people turn to for information about environmental issues (Shanahan & McComas, 1997). Dunwoody and Neuwirth (1991) note that even while people may prefer interpersonal channels, few of these channels may be available in the early onset stage of risk situation. Consequently, the person is forced to rely on the media for information. This is especially the case since most have little direct experience with pollution (Atwater, Salwen, & Anderson, 1985). In an ideal world, the media would strive to present numerous, in-depth environmental stories producing a well-informed public. This paper examines that media coverage of environmental issues, specifically global warming.

Media Coverage of Environmental Issues

Television coverage of the environment appears to have many shortcomings (Jarvis & Nitz, 1997; Nitz, Jarvis, & Kenski, 1996). Scholars have alleged that news coverage is poisoned by inconsistencies, distortions, cyclical and sporadic attention, and a misrepresentation of data (Adler, 1992; Boyle, 1993; Greider, 1992; Nitz & Jarvis, 1998; Shanahan & McComas, 1997). While some media outlets employ a reporter on an environmental beat, a "rule of least effort" seems to be generally applicable to the large majority of environmental issues (Griffin & Dunwoody, 1995, p. 281). In an effort to be sensational, timely, and simple, the media tend to underemphasize risks and overdramatize spins on disputes in environmental reporting (Sachsman, 1991). Problems and conflicts are mentioned over solutions (Jaehne, 1990). Definitions of what constitutes a hazard or risk constantly changes (Singer & Endreny, 1993). Most agree that the media often cover the environment with a barrage of skewed uncertainties and misinformation (Cantrill, 1993; Chepesiuk, 1993; Stavins, 1995). This leads to what perhaps is a paradoxical finding that increased television attention to environmental issues actually decreases attention to the environment (Lacey & Longman, 1993; Shanahan & McComas, 1997).

Shanahan (1996) notes that the environment, is relatively absent on prime-time programming as well. Journalists themselves admit that the coverage of complicated environmental issues lacks credibility, with only 30 percent saying coverage is good. Bowman (1996) claims environmental problems do not fit the mold and get ignored. Thus, as Griffin and Dunwoody (1995) note, there is still much to learn about the content of mass mediated risk messages.

Global Warming

The problem of global warming illustrates a story that has many facets—politics, economics, science, environment, and culture. The scientific community is still debating the potential impacts of global warming (Weber, 1996). A qualified judgment of the economic impacts of environmental politics demands a good deal of background information. Finally, the inherently global effects of global warming requires a deeper insight into international relations. Thus, the recent Summit in Kyoto, Japan was chosen as the event to analyze.

Coverage of global warming seems to suffer much of the same deficiencies as other environmental coverage (Jarvis & Nitz, 1997). While global warming received a flurry of coverage for a short time in 1992, just prior to the Rio Summit, most of this coverage centered on then President Bush's unwillingness to go to Brazil to sign a treaty. A majority of these stories were framed from a political rather than a technical perspective (Lacey & Longman, 1993; McClellan, 1992).

The media first put global warming on the agenda in the late 1980s, but as Mazur and Lee (1993) note, there was more coverage of human drama at the bottom of the world than of the scientific discussions and discoveries that led to the drama. The story moved forward more through political controversy than by new science. The media certainly did not invent global warming but the long delay between experts' recognition of a potential problem and the media coverage equals a considerable exercising of latitude on editors' part. Wilkins and Patterson (1991) use a telling headline, "Media coverage chills greenhouse effect."

Newspapers do not fare much better than television. Amazingly, in a NEXIS search Wilkins and Patterson (1991) found *no* matches for greenhouse effect or global warming. Ruben (1994) analyzed headlines on April 15, 1993 and found rampant inconsistencies. Headlines ran the gamut from "Wider damage to earth's ozone layer is feared" to "After 2000, outlook for ozone layer looks good." Wilkins (1993) notes that while some values in print media coverage of global warming are helpful, the impact of these values de-emphasizes future and the role of ethical value choices in covering global warming, both of which are "essential" to public understanding of global warming (p. 71). McComas and Shanahan (1999) found a cyclical pattern of attention and non-attention to environmental issues. Newspapers, as Eilders (1997) notes, still maintain some vestige of unique

frames and perspectives from which to cover environmental issues. These frameworks guide everything from who is responsible for pollution to agreement on the science of global warming.

Theoretical Perspective

The project adapts framing theory as the groundwork for analyzing media content. The news media play a powerful role in framing political discussion (Popkin, 1991). Shanahan (1996) states it is not only important to look at what issues the mass media address, but, perhaps even more importantly, how these issues are covered. The media can have a strong impact in constructing social reality by actively setting and creating frames of reference for audiences. Entman (1993) defines framing as selection salience—the media select some aspects and make them more salient. This paper attempts to help clarify the fractured paradigm of framing (Entman, 1993) and tries to fill in some missing links in an attempt to develop a more complete model of framing (Scheufele, 1999). This paper specifically is concerned with how media frame issues, with particular concern to responsibility.

Iyengar (1991) suggested that news reports may be usefully analyzed by their "thematic" or "episodic" content. The thematic framing of news attempts to place events in a broad context of related events, to show effects of events, to discuss possible implications and outcomes that may result. It gives the viewer helpful background knowledge regarding the cause and effect of problems. In general, thematic stories do better at informing citizens.

Episodic framing, by contrast, presents public issues as concrete events, as specific instances, occurring more or less in isolation. It only provides snapshots of an issue. It too can enhance learning, but the learning is often disjointed and unconnected to a larger contextual picture. Singer and Endreny (1993) state the media do not report on hazards, but speculate more on instances of hazards.

Most studies have found television to be predominately episodic (Iyengar, 1991; Nitz et al., 1996; Schoenbach & Becker, 1995). Schoenbach and Becker note that German and European television focuses on events over processes. The impact of such episodic story-telling has potential to have a priming effect on the public's perceptions of salience of sources and symbols used in environmental coverage (Iyengar, 1991; Iyengar & Kinder, 1987). Public opinion responds then often not to events, but to the reporting of these events. It makes a good deal of difference which events are emphasized, reported, and ignored. Citizens are smart but they do not have time for analysis so they trust like-minded agents.

Responsibility and Solutions

The seriousness of framing comes with attributions of responsibility. Causal responsibility addresses the source of a problem while treatment responsibility addresses who is to solve a problem. Responsibility also deals with costs. The effect, Iyengar (1991) contends, "is to generally induce attributions of responsibility to individual victims or perpetrators rather than to broad societal forces, and hence the ultimate political impact of framing is pro-establishment" (p. 16). Singer and Endreny (1993) found that the media attributions of responsibility center on responsibility for prevention. Yet, the media still tend to commit the fundamental attribution error of assigning too much responsibility to individuals.

Citizens have a tendency to throw up their hands in despair when trying to comprehend the complexities of an issue. It becomes harder to reach consensus when conflict and controversy are the headline of the day. When such news is reduced to reporting spectacles that marginalize importance of individual participation, voters become skeptical and remove themselves from political process, or even worse, participate with misinformation. The media seem to define social problems, and promise solutions, yet have no agenda for implementation. To the degree that people do not hold society responsible for issues, they are less apt to favor government initiatives.

A framing process in which the media ferret out those responsible for causing problems rather than excavating potential solutions for those problems does little to encourage rational decision-making at the policy level. Policy-makers tend to blame each other rather than work together to achieve a solution. When policy-makers can agree, they will need the consent of the governed. This is nearly impossible since such television coverage hinders the ability of individuals to comprehend the significance of a problem, let alone form an opinion in favor of preventive solutions.

This study also specifically examined any costs or impacts of global warming. Are the alleged effects of global warming more serious on animals, the economy, or eco-systems? The inclusion or exclusion of discussions on costs (either economical or social) would seem to have a strong impact on policy-making, with solutions producing the most cost and least benefit being those that get rejected.

Sources/viewpoints/bias. The sources selected for information could be significant determinants of media's potential ability to prime viewers about the nature of a particular issue. A focus on only one type

of source perpetuates distortions and biases. Journalists tend to use the most available source when seeking information for environmental sources (Davis, 1995; Friedman, 1991). The information regarding motivations and backgrounds of these sources is often glossed over. It is not uncommon to hear testimony from a "top federal scientist" who consults for a chemical company that dioxin is harmless or to learn from a "biologist" working for the Sierra Club that this same dioxin is deadly. This could lead to certain viewpoints or biases creeping into news stories. The sources selected for information could be significant determinants of the media's potential ability to prime viewers about the nature of particular issues (Stallings, 1990).

Cantrill and Oravec (1996) note that with "our environment, what we say is what we see. . . " (p.1). Greenberg et al. (1989) found that the key sources are bystanders, government officials, and corporate officials. Hansen (1991) indicates that the government or someone in a position of public body authority usually are cited most often. Wilkins and Patterson (1991) noted that print media relied most heavily on scientists. Trumbo (1991) has stated that scientists are decreasing in value as news sources as global warming issues become increasingly politicized.

Government officials are usually the first choice. However, the news media often rely heavily on scientists or scientific reports of information on global warming (Jarvis & Nitz, 1997). Unfortunately, journalists tend to use the most available eyes when seeking information for environmental issues (Davis, 1995; Friedman, 1991; Hendry, 1994). While some media in communities with high pollution tend to employ a reporter on the environmental beat, most media operate under a principle of least effort (Alger, 1996; Griffin & Dunwoody, 1995, King & Schudson, 1995). King and Schudson note that Washington, D.C. reporters use no documents in 75% of their stories. Carroll and Tuggle (1997) label this passively discovered news.

Consequently, this paper examined whether news stories were biased predominantly towards/against certain countries, businesses, or the environment. In addition, the study explored whose voice is heard on this issue of global warming. Of particular importance is the presentation of this information.

Technical/cultural Focus. Paystrup (1994), in addressing the issue of re-introducing wolves into Yellowstone National Park, notes that technical approaches focus narrowly on scientific risks or report the results of scientific studies. In contrast, cultural approaches expand the focus to include the lay public's perception of dangers and threats that are "broader and deeper than those associated with the actual risk event itself" (p. 1). Paystrup and others (Lange, 1993; Moore, 1993) posit that many conflicts between those who are "pro and anti-environment" often go beyond mere reporting of numbers and evolve into fierce battlegrounds between advocates of a person's right to earn a living and advocates of preserving living species and eco-systems in their natural state.

Technical-cultural distinctions become important for global warming in that people are more likely to practice environmentally sound behavior if advocacy messages are simple, clear, and understandable. Findings indicate that most sources are scientists and that most stories contain technical foci with an emphasis on scientific reports, computer models, and predictions of risk (Nitz & Jarvis, 1998). The key finding is that the best (ones in which the public actually learns something) environmental stories appear to be those featuring scientists. However, the caveat must be tendered that these scientists (and other sources) would have more impact within the context of cultural stories. Cultural stories may be best suited for citizen learning (Paystrup, 1994), since they speak within a framework that simplifies complicated issues into a language the public can understand. People are much more receptive to a cultural frame that is easily understood and that drives home the negative consequences of inaction. Cultural stories are longer and seem to be able to increase the public's awareness and understanding of global warming issues. Further, whether journalists admit it or not, they base their work in certain values and these values permeate news accounts (Wilkins, 1993). The values (knowledge, progress and innocence) replicate in some crucial ways the values of the scientific community. Yet Hansen (1991) admonishes that culture can privilege the advancement of some issues at the expense of others.

Visuals. A question for research regards whether visual or verbal messages have greater impact on viewer learning. In examining how viewers process information, Graber (1989) suggests several reasons why individuals are more adept at processing visual over verbal messages. First, the ability to process visual information begins early in life, so that most individuals acquire this skill despite differences in education and literacy. Hence, the processing of visual information does not depend necessarily on cognitive skills. Second, because seeing is believing, individuals who both see and hear information feel more as if they experienced the situation. Third, audio-visual messages carry more information, such as important facial expressions and body language. Because small amounts of personal information can displace larger amounts of impersonal information

(Kinder, Peters, Abelson, & Fiske, 1980) these visual images can be powerful in message reception and cognition. Finally, visuals, especially of non-dramatic situations, break through to even low attention viewers, increasing the chance that these citizens may learn from the information in the televised stories. Thus, the visuals can affect the amount and type of learning a person takes away from television viewing.

Specific Aspects of Theoretical Issues. This study was particularly interested in how the theoretical issues mentioned above played out in economic, political, and scientific areas. As Cantrill and Oravec (1996) point out, "solving the puzzle of environmental communication requires diligent attention to myriad factors, including the forces of cognition, context, and culture. . . " (p. 4). The debate is not only about scientific issues, but rather on political and moral ones as well. It encompasses ideological views, political views, and moral convictions.

Economic. Environmental degradation has its roots in economic processes and is seen to depend on different levels of economic activities and how they develop. Subsequently, global warming is also considered to be a result of economic activities. The IPCC asserts that there is a "discernible human influence" on the world's climate. The question, however, is that many of the proposed changes are claimed to be disadvantageous and costly for economic progress. Since news values conflict (Jamieson & Campbell, 1992), it would seem logical to believe that environmental protection and the well-being of industry would be portrayed as being at odds with one another.

Sustainability is a concept that merges economical and environmental interests. Sustainability implies that an economic system oriented towards long term growth needs to keep costs and benefits of economic activities in balance. In this context, nature is considered a resource. A society that is interested in long-term sustainability will attempt to internalize such external costs, so the cost—as well as benefits—appear on the account of the "polluter" (polluter pay principle).

Political. One of the most controversial issues in the framing of television news stories on global warming is the question of responsibility for the causes and treatments of the problem. Nitz and Jarvis (1998) found that political frames occupy a significant, and often primary, position in news stories on the environment. While the public can learn from television, the five or more political sources per story (in political stories) indicates Cantrill's (1993) briar patch of ideas is becoming more and more tangled as sources in these stories simply bicker rather than propose concrete solutions to problems. The prevalence and length of political stories is troubling; it is possible that the conflict and drama intrinsic to political news may encourage individuals to take environmental stories less seriously. This study endeavored to examine whether there are special countries or governments being blamed for their stances and actions.

Scientific. News programs could approach the difficult task of explaining the complex science inherent in global warming in one of two ways. First, they could explain the science to give the viewer some background knowledge. Second, they could adopt a rather critical attitude towards the issue and examine the "quality" of the science. No one knows what the long-term consequences of global warming might be. It is important to examine how televised news media cover the science aspect, since many industries, as well as many environmental organizations, have their "scientists" who claim that the world is overreacting when it proposes solutions to global warming or that the corporate world is "green washing" citizens.

Note On Media Used

Television has been chosen as the primary media source for three reasons. First, television is the most utilized source for political and public affairs information (Ansolabehere, Behr & Iyengar, 1993). This, as stated previously, is especially the case for environmental issues (Greenberg et al., 1989) with two-thirds stating television is their major source for information. Sixty percent of this group go on to claim television is their *only* source. Singer and Endreny (1989) also support this by asserting that most risk information comes from mass media. Second, "Television is deemed more credible than print because seeing is believing" (Graber, 1989, p. 149). One of the special cases of beliefs or opinions is images (Schoenbach & Becker, 1995). Opinions can exist not only about persons or issues but also about images associated with these persons and issues. This research is further buttressed by evidence that one of the primary conversation topics among individuals is television content (Rubinstein, 1995; Stallings, 1990). Third, the importance of visual images is a burgeoning topic in media studies (Crigler, Just, & Neuman, 1994; Messaris, 1994). Neuzil and Kovarik (1996) note that one of the key changes in environmental stories is the influence and popularity of television. Environmental stories are particularly "mediagenic" (Cracknell, 1993), yet these pictures can be a source of power or peril for television newscasters (Ropeik, 1996).

Newspapers

Television is an ever-growing ubiquitous and popular source of information in Germany (Kleinsteuber & Thomass, 1998). Yet, newspapers still play a significant role in influencing opinion (Brosius & Kepplinger, 1990; Wilkins, 1993). Eilders (1997) notes that this is especially the case in Germany. Thus, newspapers were also coded.

Method

Television ratings were used to determine the top German news programs for analysis. Based on this market data, the top television news broadcasts are RTL, ARD-Tagesschau, Sat.1, and ZDF-heute. Tagesschau and heute usually are in the top ten shows of the week. RTL and SAT.1 are privately-run television networks, while ARD and ZDF are traditional, government-supported networks. Additional justification for selecting these as the main television channels in Germany is supported by work done in Germany (Kleinsteuber & Thomass, 1998). Thus, a good cross-section of different channels was obtained. Content analyses were conducted to look at the frequency of reports.

For the duration of the conference (approximately 2 weeks in December, 1997), daily television news programs from four different daily German news programs (ARD-Tageschau, ZDF-heute, RTL, and Sat.1) were recorded. A total of 40 news stories were coded by three coders. Coders were trained beforehand. Stories were coded for visuals and the aspects of framing mentioned above. A 2/3 rule was used when discrepancies arose. Intercoder reliability was acceptable (r=.73). The unit of analysis was the news segment (each segment begins with the network anchor in the studio and ends either back in the studio or when another topic is introduced).

The top five newspapers (as based on circulation) were coded for any story about the Kyoto conference or global warming. The five newspapers were *Bild, Frankfurter Allgemeine Zeitung, Suedeutsche Zeitung, Tageszeitung,* and *Frankfurter Rundschau.* Papers were coded for dominant story focus/theme (see McComas & Shanahan, 1999), as well as on the basis of the above-mentioned framing theory dimensions. All stories (i.e., not just front page) discussing the Kyoto Summit and climate were coded.

Results

Results from the content analysis of German televised newscasts indicated that most television stories exhibit a thematic focus with responsibility for the cause and treatment of environmental problems lying primarily at the feet of countries (U.S.). Stories tended to emphasize conflict between the economy and the environment. Most television newscasts predicted that global warming has a negative impact on eco-systems. Interestingly, however, no specific costs were mentioned. Government officials were far and away the primary source for German television journalists. These officials were usually portrayed as being at odds with each other. This could be due to the fact that the coding was done during the Kyoto Summit. However, it is consistent with other research stating that news organizations value political conflict in their environmental news stories (Jamieson & Campbell, 1992; Jarvis & Nitz, 1997). Scientific agreement (i.e. most scientists accept that global warming is a threat) was inherent in the newsstories. Finally, most visuals were of conference delegates in an assembly hall. Smoke-stacks and protesters also received prominent camera time.

Framing

Episodic versus Thematic. An encouraging 87 percent of all stories were mainly thematic. German television (at least in the Kyoto context) seems to do a much better job at providing in-depth background than American television. In terms of responsibility, countries (again, mostly the United States) receive most (88%) of the blame for problems and solutions (53%). This could have been an artifact of the summit. However, as stories were examined more closely, it became apparent that assigning of responsibility went beyond mere blaming countries for hindering negotiations and blamed countries and governments for the actual pollution. The news only reluctantly put the accusation on business and industry.

The United States received a crushing judgment from German television. Nearly 42 percent of newscasts were biased negatively towards the United States. Other countries receiving specific blame as polluters were Japan, Canada, Australia and Russia (all approximately eight percent).

An interesting side note on the question of responsibility was that the United States was more often held responsible for solving the problem than for causing the problem. One would think that the country which is held responsible for causing the problem is held equally responsible for the treatment.

Cost/impact. Most stories seemed to claim a negative impact on the environment. More specifically, the eco-system was mentioned as receiving the brunt (23%) of the damage. Industry came in second with ten percent. The car industry was particularly singled out as suffering from restrictions on dioxide

emissions. Loss of jobs was also a big concern. Health and the "next generation" were the only other victims receiving any significant mention (4%). None of the news stories on the climate conference made any reference at all to costs of any kind—financial, social, or human.

Source/viewpoint/bias. Government officials were quoted nearly 69 percent of the time. Interestingly, journalists came in second with 41 percent. Environmental groups were third at 29 percent. Business groups were quoted 10 percent of the time. The car industry made the rather interesting assertion that it is not cars but traffic jams that are responsible for global warming. The percentages add up to more than 100 percent since most stories expressed several viewpoints.

In general, most stories (82%) were negatively biased towards countries. Essentially, the assertion was that certain countries were making the process of finding a solution much more difficult than it needed to be. While most newscasts assumed that global warming was harmful (state of scientific agreement), businesses received a rather mixed rating. Businesses attempting to clean up the environment were usually portrayed as doing so only for image-making and not out of any concern for the environment.

The public stations were the most objective. ARD considered by far the largest number of viewpoints. On the whole, the governments' viewpoints were considered most often, followed by journalists' views and environmental groups. Viewpoints of businesses were rarely shown.

Technical/cultural. Approximately 34 percent of stories were predominantly technical in focus. Mixed stories occurred 26 percent of the time, with cultural stories being aired with a 12 percent frequency.

Visuals. Nearly 53 percent of stories had some combination of visuals and graphics in their story. Most visuals (33%) were of convention-goers sitting around at tables "arguing." Smokestacks, an old visual standby, were seen 25 percent of the time. Protesters also got plenty of air time (22%). Most of the computer-animated graphics showed emission reduction rates and simulations of the global warming process (12%).

Economic Aspects. When the environment and economy were brought up, it was primarily due to a state of conflict (10%). Thus, the co-existence envisioned by sustainability advocates does not appear to be present in this sample of German television newscasts. Solutions to decrease global warming are (at least in the context of this sample) generally seen as obstacles to a strong economy. Interestingly, the "struggle" between the environment and the economy is not one between good and evil, but merely one between costs and benefits.

Political Aspects. Conflict was once again the primary theme (85%) of most stories. First World 'arrogance" towards the Third World was mentioned four percent of the time. Harmony was mainly present in only six percent of reports. The overwhelming majority of news programs described the conference as a site of conflict. The reason for this difference lies in the different emission rates promoted by the participating countries. However, these divergent rates—as can be learned by print media coverage of the conference—develop out of different economic interests and different levels of economic potential. U.S. and European differences were also a key theme, especially in the area of cultural attitudes towards environmental issues.

Scientific Aspects. When the concept of a consensus that there is a discernible human influence on the climate appears, approximately 16 percent of news stories indicated that there is scientific agreement. About six percent of stories noted disagreement among scientists. While some of the German channels ran special documentaries on global warming (previewed during the regular newscast), the news coverage appeared to assume that the viewers watch every single day, because from Day Two of the conference onwards, references were made to scientific facts and phrases (such as greenhouse effect) without further explanation.

Newspaper

A total of 104 stories were coded. In general, the newspapers coded in this study emphasized international relations as a primary theme. Most newspapers were highly critical of the United States and were most disappointed individually by Al Gore. It was felt that Gore's Kyoto speech was too pandering to the industry and U.S. government party lines and hurt his image of being "Mr. Environment." Thus, conflict between countries, rather than harmony, was emphasized. Even when an agreement was reached, the newspapers in this study offered many caveats. For example, will the United States hold up its end of the bargain? We needed to do more! What will the developing countries do? Can they hold up *their* end?!

However, the newspapers were much better than television at providing thematic, scientific background. General science background was a second

major theme. Every newspaper addressed the scientific controversy at least once during the two weeks of the conference. Charts and graphs illuminated and explained the six greenhouse gases, portrayed the emissions of most of the major countries in the world, bragged about Germany's reduction of emissions in comparison with other industrial countries, and generally elucidated the nature of the problem.

With regards to responsibility, most newspapers placed blame at the foot of a country or countries (United States, Japan). The responsibility was centered around international relations, however, and not with solving environmental problems directly. Germany and European Union lands were praised for taking steps, albeit too small, towards reducing emissions.

Sources were usually either scientists or delegates. Most delegates were government officials so there was some cross-fertilization of sources here. There was a decidingly negative bias towards countries and leaders of countries that were environmentally and politically irresponsible or even arrogant. The viewpoints of countries and science were the predominant foci. Interestingly, journalists were the main source (via editorials) in almost 20 percent of the stories.

The newspapers presented an interesting mix of technical and cultural themes. While there was a heavy dosage of statistics and facts about the issue, most newspapers featured stories on the cultural factors that make the United States the "#1 sinner in environmental crimes." In addition, a theme of First World and European arrogance in relation to Third World developing lands emerged.

Visuals were fairly consistent across newspapers, with many showing the same photo. Photos included tired delegates sleeping in lounges, delegates attending exhibits of solar energy and drinking solar-heated tea, and protesters holding placards. Of course, the traditional geisha girl and Shinto temple provided a nice backdrop. Science-themed articles would show pictures of icebergs or nature scenes. The proverbial smokestack also was evident. Political cartoons would emphasize the conflict between First and Third World countries.

Economic, political, and scientific focus varied by newspapers. As mentioned earlier, most newspapers utilized international relations as a predominant theme. Some papers, however, would adopt a cultural twist to this theme. The cultural mores of the United States became a reason the political arena was so filled with strife. Other papers adopted a more economic viewpoint, especially the *Frankfurter Allgemeine Zeitung*. Coverage of the science of global warming was very even-handed. Every paper had at least one, perhaps obligatory, article on controversy among scientists. Yet even here, scientific statistics were used to trumpet Europe's cultural superiority in matters concerning environmental politics.

Bild. This newspaper is number one in terms of readership in Germany. It is designated as "boulevard press,", is right-wing in its political bent, and is a mixture of sex (the first page usually features topless women), politics, and editorials. Nonetheless, it is the most-read newspaper, even by politicians and policy-makers (Eilders, 1997). There were only five stories on Kyoto and global warming during the two-week time period. All of these were no more than one paragraph in length. This inherently led to an episodic focus. The stories were heavily biased towards the United States as a culprit for causing the foot-dragging in international negotiations for a treaty. International relations was the predominant theme.

Frankfurter Allgemeine Zeitung. Probably the most respected paper in Germany for business leaders and policy-makers, the *"FAZ"* is the second most-read newspaper. It was extremely objective as its 37 stories (most of any paper) were evenly mixed between general science background (33%) and international relations (33%). As might be expected nearly 25 percent of stories had economics as a predominant theme. Sources were evenly divided among politicians, economists, business leaders, and scientists. Each was represented in approximately 25 percent of the stories. The viewpoints of science, politics, and economics were addressed (33% each). However, more stories were episodic (67%) than thematic (33%). This may be due to fact that this paper usually appeared to include many stories with fewer column inches. It also adopted a mixed focus towards countries and the environment. It was the most scientific of any paper as it addressed scientific controversy in an objective, two-sided format. Many of its stories with scientific themes centered around engineering better ideas for sustainability such as traffic design. Responsibility was assigned in nearly two-thirds of all stories, both for causal (55%) and for treatment (66%). As a side note, the best political cartoon was found here. Two Sumo wrestlers, one for economics and one for ecology, were facing off.

Sueddeutsche Zeitung. Published in Munich, this paper is generally moderate in political tone and is usually found among the top three newspapers in terms of readership (Eilders, 1997). There was a total of thirty stories about Kyoto and global warming. Two-thirds (62%) of the stories adopted a theme of international relations, with the remaining themes divided among general science background (15%),

economics (5%), consequences of warming (5%), and current weather status (6%). Politicians were the most utilized source (50%). Scientists were present in 30% of the stories. Keeping with the style of the *Frankfurter Allgemeine Zeitung*, viewpoints of scientists (33%), countries/governments (40%), and specific politicians (40%) were equally stressed. In terms of framing, 60 percent of stories adopted a thematic focus, with 40 percent operating from an episodic frame. This newspaper was fairly mixed in its bias towards the environment and countries. In the environmental arena, the reporter would state how global warming could be catastrophic, yet it also emphasized that research is still evolving. In the governmental field, stories would give credit to countries trying to improve the environment and blame to those seen as inhibiting progress. Nearly two-thirds (65%) of stories assigned causal and treatment responsibility. The United States received most of the blame, but usually indirectly: "U.S. is bad," says delegate.

Frankfurter Rundschau. This newspaper is usually fifth in terms of readership. It serves as a more right-leaning counterpart to the "*FAZ.*" There was a total of 17 stories on Kyoto and global warming. This paper was heavy on pictures and headlines. Almost 95% of its stories were focused around international relations and conflict. The only stories with different themes were one on controversy and two with general science background. Pictures would show people in doctors' garb standing around a globe model or children holding hands around a globe model. Sources were mostly delegates (33%) and politicians (40%). Viewpoints of governments (50%) and journalists (30%) were most common. Stories were evenly split between thematic (9 stories) and episodic (8 stories). Most of the negative bias was directed at the United States (European Union must watch them to keep them in line). Responsibility was assigned in 13 out of the 17 stories.

Tageszeitung. This newspaper is definitely left of center. It was the most cultural of the five newspapers with most of its stories trying to incorporate some element of the "American way of life." There was a total of 15 stories. Twelve adopted international relations as the main theme. Nearly 33 percent of the stories focused on consequences, the most of any paper. There was definite drumbeat of doom in the "*TAZ.*" The environment is in bad shape and it is all the Americans' fault. This paper was the most anti-American. Responsibility was placed at Americans' doorstep in 50% of the stories. However, an attempt was made at reporting on polls done in the United States showing how most Americans care for the environment.

Discussion

Despite the scientific background leading to the need for the conference, the Kyoto conference (at least as portrayed on German television), was an event of diplomatic, economic, and environmental relevance. Science was clearly not on the menu of delegates since they apparently took the science stressing the urgency of the problem for granted. Thus, there was no need for the news to continually stress the importance or reliability of scientific facts on a daily basis. Science was a starting point for focusing on diplomacy and economy. However, the science at beginning of the conference mixed up the greenhouse effect with the ozone hole, two different concepts. No program revealed their sources in more detail than citing "scientists." No program mentioned that man-made CO_2 emissions are one possible, but not necessarily the only reason for the rising CO_2 concentration. The news programs evaded the complexity of the issue by presenting the best known theory—and the most fearsome ("ill behaving mankind will destroy itself").

Some hope may be taken from the more present scientific focus in the newspapers. Unfortunately, in Germany (as in the U.S.), television is the number one source of information for most Germans (Kleinsteuber & Thomass, 1998; Schoenbach & Becker, 1995). Germans read more newspapers, yet it is often the *Bild Zeitung*.

As described in previous research (Nitz & Jarvis, 1998), political conflict seemed to be the name of the game. This is certainly not inconsistent with the news value of conflict (Jamieson & Campbell, 1992). Conflict always creates suspense and is more interesting to watch than scientists explaining complicated environmental processes. But this mode of reporting does not offer helpful information for the viewer to make up his or her mind. The costs of such an approach are an uninformed electorate and superficial discussion. Public opinion responds often not to events or social trends themselves, but to the reporting of events. It makes a good deal of difference which events are emphasized, reported, and ignored. Citizens are smart but they do not have time for analysis so they trust like-minded agents.

The notion of responsibility is critical. There has been plenty of blame thrown around for the culprits responsible for pollution. Environmental issues are complex with many groups deserving some modicum of blame. What is needed for better management of resources and policy-making is a thorough discus-

sion of how the world can work together to solve a problem.

A couple of other interesting findings are worthy of mention. First, costs were scarcely present in the news stories. Without referring to financial costs, the resistance against a reduction of emission rates makes no sense. Without referring to social costs of economic production, the demand for reduction of emission rates is more difficult to justify. Without the possibility of lives lost, the urgency of the topic becomes more murky. By ignoring the possible costs of a reduction of emission rates, the German news programs left out a substantial part of the issues in Kyoto. By describing the conflicts of various nations without explaining their motivation, German TV left a number of big question marks with the audience and delivered incomplete information.

Second, the nature of sources differed in two significant ways from Nitz and Jarvis' (1998) work. Business was rare as a source. This is interesting since it is often considered to be one of the deciding factors in environmental politics. For example, it would be advantageous for viewers to get some background information on the pressure of industry on government in order to get a more favorable result from the conference. This would provide more information on the various influences essential for a better understanding of the course of the conference and its outcome. The fact that correspondents or journalists are a commonly occurring source is especially questionable as no qualifications are ever mentioned and judgment is primarily presented as "objective" with no countering view.

While the public can learn from stories with multiple sources, too many sources can lead to fertilization and expansions of Cantrill's (1992) confusing briar patch of ideas as the sources simply bicker rather than propose concrete solutions. Further, it might be helpful as Greenberg, et al. (1989) state, for sources to make their data visual.

This paper extends the work on media coverage of environmental issues to a German context. It attempts to offer a basis for comparing how different countries' media cover global warming issues. Global warming is a scientifically complex issue for many individuals. The complexity is exacerbated when scientists report puzzling findings, such as blizzards, are actually effects of global warming, editorials proclaim that warming and cooling operate in cycles, and media pundits place blame on natural sources of global warming such as volcanic emissions. Mazur and Lee (1991) state that global warming could even be beneficial in the minds of some, much as many would see insect loss as a benefit of development.

Nonetheless, one strategy might be to look at the role of involvement. Perhaps the high-involvement viewer already follows the development of the issues and consequently already possesses in-depth, thematic information. The non-involved viewer just needs to know the reason for the conference, since the news of the week is not global warming but the conference. Thus, for the non-involved viewer, it might be better to reduce the vast quantities of background information to some brief explanations in the actual news programs. The details are then explained in special, more specific shows for anyone who is still interested. Or as this study showed, the more involved citizen can turn to newspapers for scientific background.

Research on media global warming stories can call attention to and indicate a need to remedy some of these inconsistencies in environmental reporting. Since global warming allegedly affects the entire world, it behooves future researchers of environmental communication to continue to examine these inconsistencies in different countries in order to help disentangle citizens and policy-makers from the "briar patch." There exists a symbiotic relationship among elites, interest groups and elected officials for what issues are politically important. The mass media has added another voice (Wilkins and Patterson, 1991). It is critical to remember Bowman's (1996) caution that government spending and policy-making on environmental problems is shaped in response to a public that gets most of its environmental information at the doorstep and in the living room.

References

Ader, C. (1995). A longitudinal study of agenda setting for the issue of environmental pollution. *Journalism and Mass Communication Quarterly, 2*, 300-311.

Adler, J. (1992). Little green lies: The environmental miseducation of America's children. *Policy Review, 56*, 18-27.

Alger, D. (1996). *The media and politics*. Englewood Cliffs, NJ: Prentice-Hall.

Andrews, C. (1998). Public policy and the geography of U.S. environmentalism. *Social Science Quarterly, 79*, 55-73.

Ansolabehere, S., Behr, R., & Iyengar, S. (1993). *The media game: American politics in the television age*. New York: MacMillan.

Atwater, T., Salwen, M., & Anderson, R. (1985). Media agenda setting with environmental issues. *Journalism Quarterly, 62*, 393-397.

Bowman, C. (1996). Needed: A recommitment. *Nieman Reports, 40*, 5-8.

Boyle, R. (1993). All the news that's fit to twist: Misleading news on the environment. *The Amicus Journal, 15*, 9.

Brosius, H., & Kepplinger, H. (1990). The agenda-setting function of television news. *Communication Research, 17*, 183-211.

Cantrill, J. (1993). Communication and our environment: Categorizing research in environmental advocacy. *Journal of Applied Communication Research, 21*, 36-66.

Cantrill, J., & Oravec, C. (1996) (Eds.), *The symbolic earth: Discourse and our creation of the environment*. Lexington: U of Kentucky P.

Carmen, C. (1998). Dimensions of Environmental Policy Support in the U.S. *Social Science Quarterly, 79*, 717-733.

Carroll, R., & Tuggle, V. (1997). The world outside: Local TV news' treatment of imported news. *Journalism and Mass Communication Quarterly, 74*, 123-133.

Chepesiuk, R. (1993). Covering the environmental beat. *Editor and Publisher, 126*, 18-21.

Cracknell, J. (1993). Issue arenas, pressure groups, and environmental agendas. In A. Hansen (Ed.), *The mass media and environmental issues* (pp. 3-21). New York: Leicester UP.

Crigler, A., Just, M., & Neuman, W. (1994). Interpreting visual versus audio messages in television news. *Journal of Communication, 44*, 132-152.

Davis, J. (1995). The effects of message framing on response to environmental communications. *Journalism and Mass Communication Quarterly, 72*, 285-299.

Dunwoody, S., & Neuwirth, K. (1991). Coming to terms with the impact of communication on scientific and technological risk judgements. In L. Wilkinson & P. Patterson (Eds.), *Risky business: Communicating issues of science, risk, and public policy* (pp. 11-30). Westport, CT: Greenwood.

Eilders, C. (1997). *Editorials and public opinion*. Paper presented at the annual International Conference on Media and Politics, Brussels.

Entman, R. (1993). Framing: Towards clarification of a fractured paradigm. *Journal of Communication, 43*, 51-58.

Friedman, S. (1991). Two decades of the environmental beat. In LeMay, C., & E. Dennis (Eds.), *Media and the environment*. Washington, D.C.: Island Press.

Graber, D. (1989). *Mass media and American politics*. Washington, D.C.: Congressional Quarterly Press.

Greenberg, M., Sandman, P., Sachsman, D., & Salomone, K. (1989). Network television news coverage of environmental risks. *Environment, 31*, 16-20, 40-43.

Greider, W. (1992). *Who will tell the people? The betrayal of American democracy*. New York: Simon and Schuster.

Griffin, R., & Dunwoody, S. (1995). Impacts of information subsidies and community structure on local press coverage of environmental contamination. *Journalism and Mass Communication Quarterly, 72*, 271-284.

Hansen, A. (1991). The media and the social construction of the environment. *Media, Culture, and Society, 13*, 443-458.

Hendry, J. (1994). *The three voices of the media: A case study of the television media's coverage of the controversy surrounding a toxic waste incinerator*. Paper presented at the annual conference of the Speech Communication Association, New Orleans, LA.

Iyengar, S. (1991). *Is anyone responsible? How television frames political issues*. Chicago: U of Chicago P.

Iyengar, S., & Kinder, D. (1987). *News that matters: Television and American public opinion*. Chicago: U of Chicago P.

Jaehne, D. (1990). *From polluted environment to endangered planet: Ideology and environment in*

Time, 1969-1989. Paper presented at the annual meeting of the Speech Communication Association, Chicago, IL.

Jamieson, K., & Campbell, K. (1992). *The interplay of influence: News, advertising, politics, and the mass media (3rd ed.)*. Belmont, CA: Wadsworth.

Jarvis, S., & Nitz, M. (1997, Nov.). *Mediated meteorologists: Scientists as sources in televised news stories about global warming*. Paper presented at the annual meeting of the National Communication Association. Chicago, IL.

King, E., & Schudson, M. (1995). The press and the illusion of public opinion: The strange case of Ronald Reagan's popularity. In C. Salmon, and T. Glasser (Eds.), *Public opinion and the communication of consent* (pp. 132-155). New York: Guilford.

Kleinsteuber, H., & Thomass, B. (1998, April). TV in Deutschland. *Deutschland: Magazine on Politics, Culture, Business and Science, 2*, 24-30.

Klineberg, S., McKeever, M., & Rothenbach, B. (1998). Demographic predictors of environmental concern: It does make a difference how it is measured. *Social Science Quarterly, 79*, 734-753.

Lacey, C., & Longman, D. (1993). The press and public access to the environment and development debate. *The Sociological Review, 41*, 207-244.

Mazur, A., & Lee, J. (1993). Sounding the global alarm: Environmental issues in the U.S. national news. *Social Studies of Science, 23*, 681-720.

McClellan, S. (1992). Gearing up for green coverage: Media coverage of the earth summit in Rio de Janeiro. *Broadcasting, 122*, 14-17.

McComas, K., & Shanahan, J. (1999). Impact of narratives. *Communication Research, 26*, 30-57.

Messaris, P. (1994). *Visual literacy: Image, mind, and reality*. Boulder, CO: Westside.

Moore, D. (1995). Public sense of urgency about environmental issues wanes. *The Gallup Poll Monthly, 3*, 17-20.

Neuzil, M., & Kovarik, W. (1996). *Mass media and environmental conflict: America's green crusades*. Beverly Hills, CA: Sage.

Nitz, M., & Jarvis, S. (1998, Sept.). *Science in the News: The potential impact of scientists as sources in televised news stories about global warming*. Paper presented at the 5th Annual International Conference on Public Communication of Science and Technology. Berlin.

Nitz, M., Jarvis, S., & Kenski, H. (1996). Television news coverage of global warming. *World Resource Review, 8*, 158-173.

Paystrup, P. (1994, Nov.). *There's more to it than crying wolf: Uncovering deeper concerns behind an endangered species recovery plan's "Not-in-my-backyard" protest*. Paper presented at the annual conference of the Speech Communication Association, New Orleans, LA.

Pope, C. (1992). Alive and kicking: Mythical backlash against environmentalism. *Sierra, 77*, 16.

Popkin, S. (1991). *The reasoning voter: Communication and persuasion in Presidential campaigns*. Chicago: U of Chicago P.

Ropeik, D. (1996). The challenges to TV. *Nieman Reports, 40*, 21-23.

Ruben, B. (1994). Backtalk: Environmental problems are being misrepresented in the media. *Environmental Action Magazine, 25*, 11-17.

Rubinstein, S. (1995). *Surveying public opinion.* Belmont, CA: Wadsworth.

Sachsman, D. (1991, May). *Environmental risk communication the mass media.* Paper presented at the annual meeting of the International Communication Association, Chicago, IL.

Schoenbach, K., & Becker, L. (1995). Origins and consequences of mediated public opinion. In C. Salmon, and T. Glasser (Eds.), *Public opinion and the communication of consent* (pp. 323-347). New York: Guilford.

Scheufele, D. (1999). Framing as a theory of media effects. *Journal of Communication*, 103-122.

Shanahan, J. (1996). Green but unseen: Marginalizing the environment on television. In M. Morgan, & S. Leggett (Eds.), *Mainstream(s) and margins: Cultural politics in the 90s* (pp. 176-193). Westport, CT: Greenwood.

Shanahan, J., & McComas, K. (1997). Television's portrayal of the environment: 1991-1995. *Journalism and Mass Communication Quarterly, 74*, 147-159.

Singer, E., & Endreny, P. (1993). *Reporting on risk.* New York: Russell Sage.

Stallings, R. (1990). Media discourse and the social construction of risk. *Social Problems, 37*, 80-95.

Stavins, R. (1995). Environmental policy: Better media coverage of risks urged. *Nieman Reports, 49*, 12.

Trumbo, C. (1996). Constructing climate change: Claims and frames in U.S. news coverage of an environmental issue. *Public Understanding of Science, 5*, 269-283.

Ungar, S. (1992). The rise and (relative) decline of global warming as a social problem. *The Sociological Quarterly, 33*, 483-501.

Ungar, S. (1995). Social scares and global warming: Beyond the Rio convention. *Society and Natural Resources, 8*, 443-456.

Weber, G. (1996). *Global warming: The rest of the story.* Wiesbaden, Germany: Dr. Boettigers Verlag-GmbH.

Wilkins, L. (1993). Between facts and values: Print media coverage of the greenhouse effect. 1987-1990. *Public Understanding of Science, 2*, 71-84.

Wilkins, L., & Patterson, P. (1991). Science as symbol: The media chills the greenhouse effect. In L. Wilkinson, & P. Patterson (Eds.), *Risky business: Communicating issues of science, risk, and public policy* (pp. 159-176). Westport, CT: Greenwood.

Selling Hybrid Corn, Transforming American Agriculture

Jean P. Retzinger*
Group Major in Mass Communications
University of California, Berkeley—Berkeley, CA

Abstract

This paper examines strategies used to promote hybrid corn seeds in articles, editorials, and advertisements published in Wallaces' Farmer from 1926 to 1946. The near total adoption of hybrid corn within this period is argued to have resulted in significant ideological and material changes in farming practices. The persuasive strategies analyzed include media saturation, bandwagon tactics, and appeals to farmers' core values and fears. The most prominent emotional appeals in hybrid corn advertisements both reinforced and altered ideas of "independence" and "individualism." The paper concludes by suggesting parallels between this historical campaign and the current one surrounding genetically modified seeds.

> To talk about "the environment" as something apart from us is to separate us from the environment. We were, afterall, made from the environment. We are maintained by it. The subject-object dualism has given us the notion that it is possible to isolate parts of the environment that we don't like.
>
> Wes Jackson, "Meeting the Expectations of the Land"

Perhaps no more obvious and direct link exists between humans and the environment than the foods we eat. Yet except in the case of a handful of specific controversies (such as the use of rBGH for milk production) or scares (such as Alar on fruits), agricultural policies and practices remain outside the scope of most environmentalist activism, research, and writing. Only a small percentage of Americans show much interest in the practices used in raising food crops (as evidenced in part by purchasing organic foods).[1] Fewer still may be knowledgeable about the economics and structure (a system of vertical integration) of American agriculture. But human health—as well as the health of rural lands, waters, and rural communities—rests upon the plants, animals, and the methods for their production found on US farms.[2] Current agricultural practices deserve attention from environmentalists—and current practices can be understood best, I believe, if attention is directed at the processes by which agriculture has been transformed during this century into agribusiness.

Farm technologies, along with research and development (funded both federally and commercially) and broader ideological imperatives, play a crucial role in shaping agriculture. Numerous examinations of barbed wire, tractors, irrigation systems, and plant and animal genetics fill library shelves, yet the introduction of one key "technology"—hybrid corn—has been largely overlooked except by agricultural historians. Hybrid corn represents one of the first direct challenges to the idea—and experience—of the farmer as an independent producer. An analysis of the introduction and subsequent adoption of hybrid corn by American farmers beginning in the 1920s offers one means of understanding the radical transformation of farming practices in this century. Of particular importance for cultural historians and media scholars are the rhetorical messages about these seeds found both in popular press sources (particularly articles and advertising in magazines such as *Wallaces' Farmer*, *Farm Journal*, and *Successful Farming* directed at a farm audience) as well as in government publications (such as the *Agricultural Yearbook*). Hybrid seeds challenge some of the most powerful values associated with farming: independence and self-reliance. It is important, then, to examine the strategies employed by advertisers and echoed in government publications which persuaded farmers to compromise those values.

Hybrid seeds are notable for one especially important departure from traditional farming practices: they must be purchased from a seed company each and every year. Prior to the introduction of hybrids, farmers selected and saved seed from the crops they raised and planted them the following year. Careful seed selection from open-pollinated corn could steadily improve yields by favoring those plants best suited to a particular soil and climate and resistant to local pests.[3] Hybrid seeds offered a different means of increasing crop yields. Hybrids, the result of crossing distinct inbred parent varieties of corn, typically out-perform both of the parent varieties and

most open-pollinated varieties available in the 1920s and 30s.[4] Estimates vary, but researchers credit hybrids with increasing overall corn yields during this period from 10 to 50%. But a hybrid's increased yields occur only in the first generation. Seeds saved from that crop and planted the following year show a marked decrease in yields. Farmers desiring to maintain high yields in their corn fields need to purchase new seeds each year. Perhaps it is not surprising, then, to learn that the impetus for breeding hybrid seeds came from seed companies which could thus turn seed into a commodity with a perpetual market. The seed company retains the parent varieties, selling only the crossed seed. George Shull and Edward East, two early plant breeders, recognized the advantage of hybrids for corporate interests, noting in 1919 that hybrids represented "the first time in agricultural history that a seedsman is enabled to gain the full benefit from a desirable origination of his own" (quoted in Lewontin 55).

My paper examines advertisements and articles about hybrid corn in *Wallaces' Farmer* from 1926 to 1946, the years spanning the development and near-total adoption of hybrid seed. As the leading agricultural journal of its day ("read by more than 925 of all the farm families in Iowa" according to its own report in December 1936), *Wallaces' Farmer* played a central role in promoting hybrid corn to farmers throughout the Corn Belt, and thus its articles and advertising for hybrid seed deserve close examination. This family-owned, bi-weekly publication (bearing the slogan "Good Farming, Clear Thinking, Right Living") prospered with a circulation of over 260,000 readers, and provided three generations of Wallaces a prominent voice in agricultural matters.[5] Henry A. Wallace, grandson of the paper's founder, was one of the earliest and most vocal proponents of hybrid corn. In 1926 he founded the Hi-Bred Corn Company. The name has since changed to Pioneer Hi-Bred International, Incorporated. As the largest seed company in the world, it boasted "after-tax profits of $73.7 million on revenues of $884.7 million in the fiscal year ending 31 August 1986" (Wallace and Brown 117). In 1998, Pioneer earned $1.8 billion in sales and controlled 42% (a leading share) of the North American corn seed market (Heuslein 174).

For this study, a random selection of volumes of *Wallaces' Farmer* from 1926 through 1946 were examined for articles, editorials, and advertisements pertaining to hybrid corn. This preliminary sampling quickly indicated that advertisements for hybrid corn underwent a marked shift both in number and size/complexity after 1936, so the sampling expanded to include all issues of *Wallaces' Farmer* from January 1936 through December 1941.[6] The remainder of this paper discusses the most noticeable patterns and advertising strategies exhibited in these materials.

The first step in promoting hybrid corn was simply to gain farmers' attention and to keep the readers of *Wallaces' Farmer* regularly informed about the development, adoption, and "success" of hybrid seeds. Articles and advertisements alike in *Wallaces' Farmer* and *Iowa Homestead* undertook this task. Henry A. Wallace claimed that under his editorship, from 1921 until 1933, "there was seldom an issue of *Wallaces' Farmer* that did not contain at least one article on hybrid corn" (Wallace and Brown 116).[7] While this claim didn't stand up under closer examination, *Wallaces' Farmer* did manage to incorporate regular news items related to hybrid corn. Beginning in 1920, *Wallaces' Farmer* ran articles presenting the results of the "Corn Yield Contests" in Iowa which listed the names of the plant breeders, corn varieties, and farmers whose corn yields (bushels per acre) were the highest for their region of the state. In the 1920s and 1930s these lists were divided into open-pollinated and hybrid varieties. By 1940 only hybrid corns were listed. When a Pioneer variety won one of these contests, *Wallaces' Farmer* presented the victory as a news item. Competing hybrid seed companies detailed their successes in their advertisements. The "Banner Trophy," awarded each year to the top-ranking variety in the state, was a frequent icon in ads for each of the major hybrid seed companies.

In an obvious bandwagon strategy, ads and articles also boasted of the number of farmers who had planted hybrids (or a particular company's hybrids) and the number of acres of corn planted in hybrids. A 1938 advertisement for Pfister Hybrid Seed Corn noted, "The sale of Pfister Hybrids has grown from 225 bushels in 1934 to 270,000 in 1937—enough to plant over 2,000,000 acres in 1938." A 1939 ad for Pioneer featured a photograph of a young farmer holding an ear of corn and the statement, "I am ONE of the 140,000 Cornbelt Farmers who PROFITED in 1939 by planting PIONEER." In slightly smaller type font the ad proclaimed, "Less than 100 users in 1926. More than 140,000 in 1939." In the same year, an ad for DeKalb included a photograph of Mr. Thomas H. Roberts, General Manager of the DeKalb Agricultural Association with the over-sized headline reading, "'Thank you, Iowa Farmers,' says Tom Roberts, 'for almost 2,000,000 acres planted in DeKalb Quality Hybrids'" (March 1939). The following year DeKalb's ad read, "5 million acres in 1940," and in 1941 DeKalb boasted, "DeKalb lines the road this year with SIX MILLION 'Acres of Gold'" (September 1941). DeKalb found another way to emphasize the demand for its hybrid corn in October of 1940 with ad copy proclaiming,

"Last year during the important part of the DeKalb selling season, orders came in at the rate of 200 bushels an hour. This year DeKalb orders are pouring in at the rate of 2000 bushels an hour." It's easy to guess the ad's clinching sales line: "you had better place an order with your local DeKalb dealer now if you want to be sure of getting the best DeKalb varieties."

The number of acres planted in hybrid corn was frequently presented in small news items as well. These items stressed the extraordinarily rapid rate of adoption of hybrid seed, especially in the corn belt. An October 1941 article, whose title, "Hybrid Corn Acres Grow," constituted a reassuring pun, reported the findings of the U.S. Department of Agriculture's latest crop survey. In 1941, "one-third of the corn acreage of the United States was planted to hybrid corn." The article continued:

> A few years ago, hybrid corn was something that only a few experimenters grew. Even in 1938, only 23 per cent of the corn belt's acreage was in hybrids. But in 1941, the corn belt has 61 per cent in hybrids, and Iowa, the leading state, has 95 per cent of its corn land in hybrid strains. . . .
>
> While Iowa leads the corn belt as well as the nation, Illinois, with 87 per cent, comes close. (653-17)

In 1946 a news item bore the subtitle, "After 13 Years, Open-Pollinated Has Only One Acre Per 1,000 in Iowa; Yields Are Up" (August 17, 1946, 22-766). The implication of all of these figures, of course, was that farmers needed to adopt hybrid seed corn themselves, or risk "falling behind" the times.

Farmers were offered other sources of information about hybrids as well to induce them to make the switch from open-pollinated corn (or from other hybrids). Ads repeatedly encouraged their readers to send away for free pamphlets or brochures with titles like "Acres of Gold" ("a beautifully illustrated corn variety booklet") offered by DeKalb or Funk's 25th Hybrid Seed Crop New Picture Bulletin, a "beautiful rotogravure issue" of its seed catalogue. Other print ads reminded readers to tune in to Herb Plambeck's Farm Markets radio program (broadcast daily on WHO), or "Ben Adams Party" (Saturday night on various radio stations), so that farmers could catch the company's radio advertisements as well. A few seed companies sponsored their own programs. Thompson Hybrid Corn Co., creators of the Tomahawk brand, sponsored the "Tomahawk Newstime" which aired every Sunday morning. Pioneer invited farmers in 1939 to tune in to the "Special Pioneer Dinner-Hour Music Program at 12:15 every Monday, Wednesday and Friday noon" or listen to "C.M. Wilson and his Pioneer Farm News Broadcast at 6:15 every Tuesday, Thursday, and Saturday morning." In the mid-1940s, Funk ads began to feature "Great Stories about Corn," stories which also aired on nearly a dozen Midwestern radio stations.

While these constant updates on hybrid corn breeding, adoption, and performance, then, were probably crucial in encouraging farmers to try the new seeds, advertisements in *Wallaces' Farmer* and Iowa Homestead enlisted other more specific rhetorical appeals that deserve attention as well.

Advertising serves as perhaps the central institution for the circulation and maintenance of cultural values or ideology. As Sut Jhally has argued, "advertising. . . does not work by creating values and attitudes out of nothing but by drawing upon and rechanneling concerns that the target audience (and the culture) already shares" (79-80). Whether appealing to readers' most cherished ideals or their most profound fears, advertising employs visual and verbal devices intended to link a commodity with the values and attitudes endorsed by its target audience. In the process, advertising not only reinforces those beliefs, but adjusts them as needed so that they may encompass new technologies or consumer goods. Cultural values, thus, are dynamic rather than static. Their meaning can and does change over time, though they must retain at least traces of their historical significance in order to resonate with their contemporary audiences. To be successful advertising must negotiate cultural tensions, reconciling past and present, building on existing attitudes and attaching them to new commodities (and with them new material practices). Of particular interest are the ways in which the core values associated with farming—"independence" and "individualism"—are altered to match the interests of corporate capitalism.

Thomas Jefferson's 1787 pronouncement in his Notes on the State of Virginia that "those who labour in the earth are the chosen people of God" was based on his belief that "dependence begets subservience and venality, suffocates the germ of virtue, and prepares fit tools for the designs of ambition" (1982, 164-65). For Jefferson, then, a farmer's chief virtue was his economic independence and the concomitant spirit of individualism. Though the practice of self-sufficiency Jefferson advocated was short-lived even in rural America,[8] the traits of independence and individualism persisted as a cultural ideal for the American farmer (and, arguably, still figure prominently in the agricultural imagination). Already by the 1930s, in their simplest, functional form, independence and individualism seemed associated with a

person's abilities to make his or her own decisions, to determine "what and when to plant, how to till, when to harvest, what and when to market, when and how to process, and when to consume, and from these decisions flow. . . his well-being" (Turner 1008). Farmers continued to make day-to-day operational decisions, but within increasingly circumscribed parameters. The expanding reach and power of industry (from farm implement manufacturers to seed companies) rapidly usurped a farmers' ability to make more substantive decisions. Viable alternatives to the agricultural practices promoted by industrialists became difficult if not impossible for farmers to choose. But advertising excels at marketing the illusion of "choice."

The remainder of this paper looks at the many advertisements and articles found in *Wallaces' Farmer* in the 1930s and 40s which enlist the ideals of independence and individualism in altered forms better suited to the goals of commercial seedsmen. These (largely implicit) references to individualism and independence serve as by far the most frequent appeals found within hybrid seed advertisements during this period, and a constitute a strategy employed by every seed company in one form or another.

Individualism 1: The Naming of Names

One tactic used repeatedly in these ads is the focus on individuals and individual achievement—whether business entrepreneurs, researchers, or farmers. Underlying this emphasis is an attempt to build a simple equation in which each of the elements is interchangeable: a good man = a good corn = a good company.

Nearly every hybrid seed company during this period produced advertisements identifying (and "humanizing") their founders and/or researchers. The effort seemed directed at "personalizing" these corporate names. Funk's boasted of the long history of its family farm in Bloomington, Illinois. One 1940 ad included a photograph of a portion of the Funk Farms, described (somewhat inscrutably) as "taken last summer in the same place where in 1824, Isaac Funk, the first of four generations of Funk Farmers, found shelter for his cattle in the primeval forests, feed and pasture from the trackless prairies and a market which he established by long overland drives to what is now the Chicago Packinghouse district." Other Funk ads spotlighted Isaac's grandson "Gene" Funk who in 1916, together with Dr. Jim Holbert (a plant breeder), developed and marketed "the first hybrid corn seed sold commercially." Another ad named Ted Funk, "one of the four sons of President E. D. Funk in the fourth generation operating Funk Farms since 1824." Funk ads, in fact, more than any other company, emphasized their long history and capitalized on their status as "first" in marketing hybrid seed.

Lester Pfister's photograph appeared in several ads for Pfister's hybrids, including ads disguised as regular columns under the titles "Hybrid Corn News" and later "Let's Talk About. . . Hybrid Corn" with the byline by Lester Pfister. (Pfister also appeared in ads for farm implements, such as a 1939 advertisement for high compression Oliver 70's tractors.) Only one advertisement for the Henry Field Seed Co. was found, but it bore Henry Field's photograph and his self-proclaimed status as "Iowa's leading seedsman." Lowe Improved Hybrids placed photographs of Lawrence Lowe, Chief Executive, and Prof. Oren Bolin, Associate Corn Breeder, at the top of some of its 1940s advertising. DeKalb's founder was never mentioned in its ads, but its plant breeders, Charlie Gunn and R.R. St. John, "the two men who developed DeKalb's winning hybrids" were. The caption next to a 1938 photograph of Charlie Gunn described him as a former "Colorado dirt farmer" and "graduate of the 'College of Hard Knocks'." The brief paragraph about Gunn concluded, "with us since 1925, we can add, 'He's one swell gent'" [sic]. His partner, R. R. St. John ("we call him 'Saint'") is described in the same ad as "as likable a man as you'll ever meet."

One consequence of the emphasis on entrepreneurial individualism was increased competition in the ceaseless endeavor to be named "best" or "champion." Such competitions existed not just among corn breeders or marketers, but among those who grew and harvested corn. Cornfields became contest sites. There farmers vied to raise the most corn per acre (or even the longest-standing corn) and an even more select group of individuals strove to husk corn at record-breaking speeds.

In the period between the two World Wars, state and national cornhusking championships apparently grew into a major sporting event. A small item in the November 21st, 1936 issue of *Wallaces' Farmer* credited Henry Wallace as having invented the husking contest 15 years earlier (817-21). The first national contest, held in 1924, drew only 200 spectators. In 1940, a crowd of 150,000 was on hand to witness an Illinois farmer named Irvin Bauman set a record: 46.71 bushels husked in 80 minutes. *Wallaces' Farmer*, which began offering the prize money for state and national cornhusking championships, featured a number of articles on the contests each autumn. In October 1940 it described the National Cornhusking Contest as "the most spectacular sports event ever held in America." A secondary

contest of sorts developed to determine whose field would host the event.

Nearly all of the hybrid seed companies capitalized on the contests in every way they could. "At *both* the STATE and NATIONAL Husking Contests It's Iowealth, King of the Hybrids," boasted a 1938 advertisement by the Michael-Leonard Seed Company of Sioux City, Iowa:

> At Ringstead, Iowa, on Oct. 27, Iowa's 1938 husking championship will be decided—in a field of Iowealth hybrid corn.
>
> Then, at Sioux Falls, South Dakota, on Nov. 3, the National championship will be decided—again in a field of Iowealth hybrid corn.

In 1940, a Funk's "G" Hybrid field was selected for the Iowa State Husking Contest—and an advertisement for Funk's features a photograph of the farm's manager as well as the contest organizer standing in the field inspecting ears of corn.

The "celebrities" created by these contests made their appearance in hybrid corn ads as well. Similar to today's sports figures endorsing a particular basketball shoe or soft drink, the "stars" of various agricultural contests lent their name and testimony to various hybrids. Marion Link, the 1940 National Runner-Up and Iowa Champion in the annual cornhusking contest, endorsed Funk's "G" hybrids, claiming, "I never picked any corn that husked easier than Funk's G-53." (Some cornhusking champions went on to endorse other products as well, including Union Leader Tobacco.) An October 1941 advertisement for Funk's, appearing two weeks before the National Contest, featured Theodore Schafer whose field would serve as the contest site along with photographs and information about three state and national champions: Marion Link, O'Dell Ivers, and Stanley Yeager. Three weeks later, Funk's won praise from the 1941 Champion Floyd Wise (who husked 45.37 bushels of Funk's "G" Hybrid in 80 minutes to set a new record) and 3rd place finisher Ivyl Carlson. Irvin Bauman (the 1940 National Cornhusking Champion from Illinois—and still-reigning champion), described himself as "a 100% Pfister farmer." The equation between a man and his corn is particularly pronounced in this advertisement. The ad notes that "like Pfister Hybrids themselves" Bauman's state and national cornhusking record "parallels Pfister's brilliant averages." The celebrity and the product are not only linked, they are nearly identical.

DeKalb apparently never found a cornhusking champion to promote its hybrids, but its ads relied most heavily of all on testimonials. One ad showed Jake Berkes, "well-known DeKalb County farmer standing in his Championship Field planted with DeKalb Quality Hybrids," while another featured Roland Resler of Illinois, "1939 DeKalb National Corn Growing Champion. Yield—171.67 bushels per acre." But DeKalb incorporated the names of ordinary farmers in their ads as well, emphasizing the many farmers whose high yields broke former records. In October 1938, DeKalb boasted that "300 farmers beat 125 bushel per acre" with DeKalb hybrid seed. The ad presented a map of Iowa and indicated the names and farm sites of 49 Iowa farmers, along with their "winning" farm yields. A second DeKalb ad presented the 1939 corn yield results and listed the names and home counties of 60 Iowa farmers, along with bushels per acre and the hybrid variety they had planted. Pioneer, on the other hand, rarely named the individuals pictured in its ads and chose instead to feature testimonials from the Iowa Agricultural Experiment Station. Only in the mid-1940s did Pioneer create ads which named and pictured the year's "Corn Champions" with their record corn yields.

Individualism 2: Every Man on His Own/"Survival of the Fittest"

The emphasis on individual achievement in hybrid corn ads of this period seemed to quickly lend itself to pseudo-scientific notions of superiority and progress. Again, the equation of a good man = a good corn = a good company seemed the rule, as did its converse form. The suggestion was that those who had failed were fatally flawed.

Ralph Turner (1940), writing in the *Yearbook of Agriculture, 1940*, attempted to clarify differing interpretations of "individualism" held by urban and rural populations. For Turner, understanding this difference—and the gradual adoption of the urban definitions by rural residents—helps to explain what he terms "The Cultural Setting of Agricultural Problems." He writes,

> Whereas in the historic rural economy—under conditions of wilderness resources, simple technology, and slight social interdependence —liberty was the positive fact of individual effort and responsibility, in the rising urban economy it became, at least in a major aspect, a lack of responsibility for the social consequences of individual economic action. A fundamental difference between the two interpretations becomes clear when it is realized that the urban interpretation offers a theoretical justification of economic inequality, while the rural interpretation embodies an emotional attach-

> ment to equality, both economic and political. (1012-1013)

The advertisements for hybrid seeds offer some evidence to support Turner's argument. Interspersed with the promotion and celebration of hybrid "vigor" and success in competitions are occasional hints that not everyone is sharing equally in the hybrid bounty. As agricultural technologies and practices began to change, the very landscape of rural America was altered as well: more corn, but fewer farms, fewer farm animals, and fewer farmers. "Individualism" was pressed into service to both explain and justify those changes.

Hybrid seed helped put into play a series of linked and overlapping events. While farmers were competing to grow more and more corn, its market price was steadily falling (due to overproduction) at the same time that demand was decreasing. Farmers began purchasing tractors and corn pickers in record number (machines that were well-suited to the new hybrid varieties), but the machinery displaced farm animals and farm laborers alike. In 1939 the demand for corn had decreased by four percent, due in large measure to the disappearance of work animals on farms, and a need for alternative uses for corn became more pressing. Industrial use accounted for a little less than three percent of the corn crop in that same year. Henry A. Wallace (on leave of absence as the editor of *Wallaces' Farmer* while he served as Secretary of Agriculture) devoted Department of Agriculture research funds to find more industrial uses for farm products, including corn. Federal programs like the WPA offered some assistance to farmers left without land or a means of support.

In 1939, *Wallaces' Farmer* presented the results of a survey it had conducted to determine if the number of Iowa farmers was shrinking and what was happening to farmers who were crowded off the land.[9] The survey discovered that "an average of one farm family for every school district. . . had been crowded out as a result of the buying or renting of additional farms by other people. . . . If this survey is typical of the state," the article continued, "it means that over 6 per cent of Iowa's farm families have been pushed off their farms in the last three years" (July 29, 1939, 447-3). The article quoted the individuals surveyed as pointing out that "some of those who had quit farming weren't really crowded out. They 'just couldn't make a go of it' or 'were too shiftless to make a living anywhere' or 'didn't have any business farming for themselves'" (Ibid.). Eight months later, *Wallaces' Farmer* ran a cover story entitled "Men Left Without Land" which reported that "there are around 2,000 new landless tenants in Iowa at this moment" and included interviews and photographs of some of the displaced farm laborers (March 9, 1940, 172-1). Read against these changes occurring across Iowa and the rest of the Corn Belt, some of the hybrid seed ads begin to take on a darker tone.

Iowealth (produced by the Michael-Leonard Seed Company of Sioux City, Iowa), dubbed its corn the "king of the hybrids" and filled its advertising pages with dubious morality tales. One such ad read, "The easy spender cuts a wide swath while he lasts. But the thrifty fellow, putting away a reserve as he goes along, is the one who wins out in the end." The ad featured two photographs: the first of a young man seated at a table between two women, cigarettes and drinks in front of them; the second of another man turning in his cash at a bank window. While the ad is ostensibly about corn and its ability to withstand wind, drought, or poor soil, the moral lesson is clear: those who fail have only themselves to blame. A second Iowealth advertisement proclaims, "Strong men face the wind. Weak men falter." The ad depicts two different men crossing a field, one doubled over, clutching his jacket; the second striding upright, his jacket wide open, a grin upon his face. Dividing the photos is a drawing of a single stalk of corn, standing straight. "The king of the hybrids" forms a visual match to only one of the men; the other, like an inferior corn, has no place on a modern farm.

A 1938 advertisement for Pfister bore the headline "Let the weaklings die!" Bordered by two photographs of Lester Pfister and his corn plants ("courtesy of *Life* Magazine"), the ad told the story of Pfister's personal courage:

> During the drouth of 1930, Lester Pfister was advised to irrigate, rather than risk the loss of his precious Inbreds, fruit of five years' patient bagging, selecting, testing.
>
> Pfister was heavily in debt, all hope for his future planted with the seeds of these Inbreds in the soil of his El Paso, Illinois, farm. Yet the instinct of the Master Corn Breeder decided him, 'If they can't take it, let them die!'

In a second Pfister ad, this one imitating a newspaper column under the banner "Hybrid Corn News," (described as "Published by Illinois Hybrid Corn Growers Association, El Paso, Illinois, in the Interest of Straight Thinking About Hybrid Seed Corn") the subtitle read, "Survival of the Fittest." The ad copy noted the failure of some formerly successful hybrids to sustain their high yields in the wet season of 1938. Those that fared well in 1938 and "three, four, and five consecutive seasons" Pfister pronounced as the

"hardy survivors in the race for the survival of the fittest." No specific seed companies or varieties are named, but underneath the column is a list of all of the Pfister seed dealers in Iowa.

An unsigned editorial in *Wallaces' Farmer* in June 1926 also bore the title "Survival of the Fittest." The editorial offers a highly confusing and contradictory analysis of the farm situation, noting "whether we like it or not, methods of farming are rapidly changing." The column continues,

> We are greatly increasing our efficiency at a time when we don't need it. But, that doesn't make any difference. The farmer who doesn't keep his eyes open, ready to grab helpful methods as fast as they appear, is going to get left. . . .
>
> The unfortunate thing about this remorseless competition is that so many other folks are trying to do exactly the same things as *Wallaces' Farmer*. . . .
>
> It may be possible for readers of *Wallaces' Farmer* to get a slight jump on the clientele of the county agents and the agricultural colleges and this slight advantage may be enough to make the difference between survival and going under.

The editorial argues for farmers to keep up—at a task that isn't necessary—or risk getting left behind. Thus it criticizes competition while simultaneously championing it. It denounces its own competitors (county agents and agricultural colleges who are advocating exactly the same farming practices) while urging farmers to remain loyal to its own advice. The ultimate message appears to be that only *Wallaces' Farmer* can be trusted to guide farmers through the perilous times ahead. Independence of thought is clearly no longer a quality to be esteemed for the American farmer.

The changing nature of farming ideals and values, though, seem most pronounced in a 1939 DeKalb's advertisement. The ad looks familiar initially, featuring a farmer standing against a backdrop of corn plants with the headline "'Thank you' says Iowa's John Byson to Dekalb Quality Hybrids. . . for 178 bushels of corn per acre." This contrasts curiously with the DeKalb ad published in *Wallaces' Farmer* only a few weeks earlier—in which the General Manager of the DeKalb Association was thanking Iowa farmers. While the ad celebrates an individual farmer, it makes clear who is ultimately responsible for his corn crop. His success is due no longer to his own independent action and individual achievement, but to DeKalb. "From now on," Byson is quoted as saying, "I'm depending on DeKalb." Set apart from the rest of the text is the line, "You, too can depend on DeKalb!" and in case readers still hadn't quite gotten the message, the text repeats the phrase, stating, "You can depend on DeKalb for germination, maturity, yield, resistance, and growing strength. You can depend on DeKalb to go to market in prime quality—to command premium prices." Thus, with the development and adoption of hybrid seeds, farmers are encouraged to depend on a beneficent giant for their well-being. DeKalb's claim that "70,153 Iowa farm families depend on DeKalb" encourages the belief (or hope) that those families will survive, despite the growing odds against them.

This inquiry represents more than a disinterested examination of the past. Numerous studies have already celebrated hybrid seeds as "truly one of the most important advances made in all the thousands of years since man first began cultivating special food-bearing plants" (Crabb xv). Berlan and Lewontin passionately argue otherwise—and conclude their essay with the suggestion that "a truly scientific endeavor would now be to compute the social costs of hybrid corn" (47). The campaign by seed companies to promote hybrid corn played on some of the most deeply held core values as well as the most pronounced fears and insecurities of farmers. Within a 40-year period, the campaign not only succeeded in selling a product (resulting in the near total adoption of hybrid seed over open-pollinated corn varieties), but also profoundly altered the practice of farming and a farmer's image and identity. In selling hybrid corn, seed companies also sold the transformation of agriculture into agribusiness and farmers into factory workers, locked into a system of vertical integration.[10] The social, economic, and ecological consequences of the now nearly total adoption of hybrid over open-pollinated seed are serious—for all of us, though, not just for farmers. These repercussions include changes in the status and viability of small farmers and with them the rural communities dependent on them, the increased use of fertilizers, pesticides, and herbicides, and the increased risk of a single plant pathogen destroying millions of acres of a crop because of its genetic uniformity. Current agricultural practices affect the health and well-being of all of us, not just the farmers who live on and work agricultural lands. Our bodies, too, are at risk.

This inquiry also prefigures research needed to examine the most recent transformation occurring within U.S.—and now global—agriculture: the increasing adoption of bio-engineered seeds. The latest reports echo those of the 1930s. "As of last year," reports Jane Kay in 1999, "growers in the United States, Argentina, Canada, Australia, Mexico, Spain,

France, and South Africa dedicated 69.5 million acres to genetically modified crops, a 16-fold increase over just two years" (A1). These crops include Roundup-Ready soybeans (engineered to withstand heavy doses of the Monsanto herbicide) or potatoes containing a gene that will poison the Colorado potato beetle. Currently 16 million acres of corn in the US (nearly 27% of the total crop) are planted with genetically engineered varieties. So are 19 million acres of soybeans (27% of the total crop), 5.8 million acres of cotton (44% of the total crop), and 50,000 acres of potatoes (3% of the total crop). No one yet understands nor can predict what the full consequences of this will be—in part because little testing has been conducted on crops in the field or on the animals (including humans) who consume these crops. And as yet, no legislation has been drafted even to require the labeling of such crops for consumers. One key difference between the development and adoption of bio-tech foods and hybrid seeds is that present-day scientists and consumers are sounding a more vocal opposition. We need to examine the ideographs, the links between rhetoric and ideology, that are entangled in this controversy.

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Notes

1. According to recent market research, 7 percent of the U.S. population can be classified as "true naturals," the organic industry's regular shoppers (Emerich 20).

2. Current agricultural practices have far-reaching environmental and social repercussions. These are evidenced by contemporary soil erosion rates which exceed those of the "dust bowl," depletion and contamination of ancient aquifers, ground water contamination, increased use of fossil fuels in the form of pesticides, herbicides, and fuels used to power farm equipment or irrigation systems. Additionally, poverty rates in rural communities currently rival those of urban centers, and independent, small town business are closing at a rate of 16,000 a year . (For further information see, Davidson; Jackson; Wendell Berry, *Another Turn of the Crank* and *The Unsettling of America*; Judith D. Soule and Jon K. Piper, *Farming in Nature's Image*; Ronald Poincelot, *Toward a More Sustainable Agriculture*; and Hightower.)

3. Most turn of the century corn yield contests held at county fairs across the Corn Belt rewarded corn that looked good, though such corn didn't necessarily translate into high yields. These contests may have actually been responsible for decreasing corn yields prior to the introduction of hybrid seed. See Berlan and Lewontin, Wallace and Brown.

4. Researchers and geneticists do not yet fully understand or agree upon an explanation for "hybrid vigor" (the ability of hybrid offspring to produce higher yields than either of the parent varieties). There is reason to believe that standard breeding and selection practices of open-pollinated corn could in time have matched the gains in yield produced by hybrid seed. See Lewontin, 56.

5. Henry C. Wallace assumed the duties of Secretary of Agriculture under President Warren G. Harding. Henry A. Wallace served as Secretary of Agriculture under Theodore Roosevelt and as Vice President from 1941 to 1945. In 1948 as the Progressive Party candidate, he ran for the presidency.

6. A total of two advertisements for hybrid corn were found in the 1926 volume (26 issues) of *Wallaces' Farmer*, both of which could be classified in Raymond Williams' term as a "simple announcement." One of these was a small two-inch square announcement stating that "Crosses of Inbred Strains of Corn Won Iowa Corn Yield Contest" and urging farmers to read chapters 32 and 33 of *Corn and Corn Growing* by Wallace and Bressman. In contrast, a single representative issue of *Wallaces' Farmer* in 1938 (February 26) contained five hybrid corn advertisements, two of them full-page ads, two employing color, and all five employing some

version of the advertising strategies detailed in this essay.

7. In the revised edition of *Corn and Its Early Fathers*, William L. Brown's additional chapter detailing the contributions of Henry A. Wallace to the development of hybrid corn argues that Wallace, "more than any other individual. . . was responsible for introducing hybrid corn to the American farmer" (118). Brown continues, "There is little doubt that without his consistent promotion of hybrids, this new type of corn would not have been accepted as early as it was. In 1933, less than 1 percent of the corn acreage in the Corn Belt was planted with hybrids. Ten years later, 78 percent was hybrid. By 1965 virtually all of the corn acreage of the Corn Belt was growing hybrids and more than 95 percent of the total U.S. corn acreage was planted with hybrid seeds. So, in less than forty years the open-pollinated varieties of corn were almost completely replaced by hybrids. The rapid change is even more remarkable when it is realized that hybrids were introduced at the depths of an agricultural depression when corn was selling at a price of ten cents per bushel, and that the cost of hybrid seed was many times what farmers were accustomed to paying" (118).

8. Calls to "modernize" and to view farming as a business, I've discovered, have fairly deep roots. *The Prairie Farmer* argued in 1868, "The old rule that a farmer should produce all that he required, and that the surplus represented his gains, is part of the past. Agriculture, like all other business, is better for its subdivisions, each one growing that which is best suited to his soil, skill, climate, and market, and with its proceeds purchase his other needs" (quoted in Johnstone 144). Similarly, the *Cornell Countryman* chastised farmers in 1904, "Now the object of farming is not primarily to make a living, but it is to make money. To this end it is to be conducted upon the same business basis as any other producing industry" (quoted in Johnstone 145). A 1928 issue of *Wallaces' Farmer* carried this concept one step further in an article whose subtitle read, "An Argument for Putting Corporate Methods into Agricultural Production" (9 March 1928, 376-6).

9. The survey reported that "of the farmers who have been crowded off the land, 17% go on W.P.A. Relief, 20% get jobs in town, 37% farm elsewhere, 7% work as farm hands, and 19% do some other kind of work" (July 29, 1939, 447-3).

10. According to its website, "Pioneer produces, markets and sells hybrid seed corn in nearly 70 countries worldwide. The company also markets and sells hybrids or improved varieties of sorghum, sunflower, soybean, alfalfa, canola and wheat, as well as forage and grain additives. Worldwide, Pioneer sells products through a variety of organizations, including wholly owned subsidiaries, joint ventures, sales representatives, and independent dealers. . . . In January 1998, DuPont and Pioneer formed Optimum Quality Grains, L.L.C., to create opportunities to speed the discovery, development, and delivery of value-added end-use traits that benefit farmers, livestock producers, industrial users, and consumers worldwide." In addition to developing and selling seed, Pioneer makes silage and hay innoculants, sells crop insurance, contracts with farmers to grow crops, offers financial and marketing services (including marketing education seminars) to farmers, markets discard grain and cobs, and sells real estate in a planned community (Green Meadows, Inc.) near Johnston, Iowa. (See http://www.pioneer.com). In 1999 DuPont bought Pioneer; it is now part of an even larger corporate structure which manufactures and sells (bio)chemicals, agricultural products, automotive products, electronics, (bio)medical products, fibers, pharmaceuticals, imaging systems, polymers, and polyester.

Works Cited

Berlan, Jean-Pierre and Richard Lewontin. "The Political Economy of Hybrid Corn." *Monthly Review* 38 (July-August 1986): 35-47.

Crabb, A. Richard. *The Hybrid Corn Makers: Prophets of Plenty.* New Brunswick, NJ: Rutgers UP, 1948.

Davidson, Osha Gray. *Broken Heartland: The Rise of America's Rural Ghetto.* Expanded ed. Iowa City: U of Iowa P, 1996.

Eisenhower, Milton S., Ed. "Corn Hybrids." *Yearbook of Agriculture, 1933*. Washington, D.C.: United States GPO, 1933.

Emerich, Monica. "Profiling the Core Organic Products Consumer." *Natural Foods Merchandiser* 18 (January 1997): 20.

Fitzgerald, Deborah. *The Business of Breeding: Hybrid Corn in Illinois, 1890-1940*. Ithaca, NY: Cornell UP, 1990.

Heuslein, William. "Down on the Farm and in the Lab." *Forbes* (11 January 1999): 174.

Hightower, Jim. *Hard Tomatoes, Hard Times: The Original Hightower Report, Unexpurgated, of the Agribusiness Accountability Project on the Failure of America's Land Grant College Complex and Selected Additional Views of the Problems and Prospects of American Agriculture in the Late Seventies*. Cambridge, MA: Schenkman, 1978.

Jackson, Wes. *Altars of UnHewn Stone: Science and the Earth*. San Francisco: North Point, 1987.

Jefferson, Thomas. *Notes on the State of Virginia*. William Peden, ed. New York: W.W. Norton, 1982 [1787].

Jhally, Sut. "Image-Based Culture: Advertising and Popular Culture." *Gender, Race and Class in Media: A Text-Reader*. Gail Dines and Jean M. Humez, eds. Thousand Oaks, CA: Sage, 1995.

Johnstone, Paul H. "Old Ideals Versus New Ideas in Farm Life." *Yearbook of Agriculture, 1940: Farmers in a Changing World*. Washington, D.C.: United States GPO, 1940.

Kay, Jane. "You Say Potato, They Say Pesticide." *San Francisco Examiner*. 11 July 1999: A1+.

Lewontin, R. C. *Biology As Ideology*. New York: HarperCollins, 1991.

Lewontin, R. C. and Jean-Pierre Berlan. "Technology, Research, and the Penetration of Capital: The Case of U.S. Agriculture." *Monthly Review* 38 (July-August 1986): 21-34.

Raeburn, Paul. *The Last Harvest: The Genetic Gamble That Threatens to Destroy American Agriculture*. New York: Simon & Schuster, 1995.

Turner, Ralph. "The Cultural Setting of American Agricultural Problems." *Yearbook of Agriculture, 1940: Farmers in a Changing World*. Washington, D.C.: United States GPO, 1940.

Wallace, Henry A. and William L. Brown. *Corn and Its Early Fathers*. Rev. ed. Ames: Iowa State UP, 1988.

Williams, Raymond. "Advertising: The Magic System." *Problems in Materialism and Culture, Selected Essays*. London: Verso, 1980.

Wernick, Andrew. "Advertising as Ideology." *Promotional Culture*. London: Sage, 1991.

Yearbook of Agriculture, 1940: Farmers in a Changing World. Washington, D.C.: United States GPO, 1940.

Constructing a Rainforest/Creating a CD-ROM: Pedagogical Design Issues

David W. Shapiro
Department of Organizational Communication, Learning and Design
Ithaca College—Ithaca, NY

Abstract

This paper discusses some of the basic pedagogical design issues that a small team of plant scientists, multimedia programmers, two graduate students, and the author wrestled with during the creation of an educational CD-ROM program on tropical re-forestation in Costa Rica. The project involved a joint partnership between the Boyce Thompson Institute for Plant research (BTI), the Tropical Forestry Initiative (a BTI re-forestation experiment in Costa Rica), and members of Ithaca College's Department of Organizational Communication, Learning and Design. The project was funded as a pilot program to create a model for bringing up-to-date plant research, conducted by BTI scientists, into middle school, secondary school, and college classrooms. The idea was to create an educational product that would motivate students to learn basic scientific principles, see how these principles operate in a real-world setting, and involve students in seeing connections between ecological restoration and socio-cultural, economic, and political factors. These project goals became the primary pedagogical design issues.

Background

Boyce Thompson Institute for Plant Research (BTI) has been conducting plant research for 75 years and for the past 27 years has been affiliated with Comell University. The organization's mission has been to expand the frontiers of plant biology and related areas of science. Recently, BTI decided that it wanted to create educational materials based upon the research that their project scientists were conducting in a number of different areas. Dr. John Laurence, Program Chair of Environmental Biology at BTI and Project Manager for the media program, contacted Ithaca College's Department of Organizational Communication, Learning and Design for help in designing the instructional program. A collaboration was formed.

Two graduate students from IC were awarded fellowships to work on the initial project, and Dr. David Shapiro was hired as IC Project Manager. In addition to Dr. Laurence, the BTI media team consisted of Dr. David Weinstein, a research ecologist and simulation modeler, Ron Beloin, a microbiologist and developer of educational computer models, and Brian Gollands, an entomologist and multimedia program developer. After a few introductory meetings we decided that the acronym, IMPACT (Interactive Models of Plants to Augment Classroom Teaching), would be an appropriate title for the series of educational programs and that the first program would be the re-forestation project in Costa Rica, begun in 1993 by the Tropical Forestry Initiative (TFI) and headed by Carl Leopold, the W. C. Crocker Scientist (Emeritus) at BTI.

Pre- Production Planning

The Media Team (the BTI-IC collaborators) began working on a number of fronts simultaneously: John Laurence identified a group of educators, mostly classroom science teachers, who would act as Project Advisors. Importantly, this group represented not only the wide spectrum of educational levels that the project was targeted towards (middle school through college), but also rural and urban locales from the East coast to the Midwest. The Advisory Group would meet with the Media Team at important stages of production, including Pre-Production Planning. Specific information we wanted from this group included: what design elements, program structure, and levels of interactivity would motivate their students; what did their students know or not know about plant biology; how would our media program be used in the classroom; how would our program interface with other areas of the curriculum; and would their students be capable of manipulating and understanding a simulation model depicting tropical re-forestation.

The IC contingent began looking at various interactive science programs, mostly on the Web, that would provide ideas about interface design and other

programmatic aspects that we could discuss as a group. This process was beneficial in bringing cohesion and some consensus between myself and the two graduate students as to what we liked and didn't like about other programs. We also began contemplating what would be an appropriate, over-arching metaphor that would guide the narrative structure of our reforestation program. Metaphors can also give clues to a program's aesthetic design—the color palette, textures, and symbolic elements that might unify the program and provide the appropriate connotative associations.

After much discussion among ourselves and the BTI contingent, we decided upon a compass, one with a predominantly pre-Colombian look. The compass was appropriate as a metaphor for the virtual journey that the student-user would be taking (a journey that mirrors the reality of field plus lab work that TFI and other scientists undertake). There was also the added benefit that a compass' four cardinal points could be the navigational tool for what we came to see were the four logical demarcations within our program:

(1) Expedition Preparation—which states the nature of the research problem, its importance both to scientists and all humanity, and the methods that scientists use (likewise the student-user) in investigating problems and potential solutions.

(2) Plant Biology Review—wherein the student is provided basic information on plant biology and ecology. For most students this section would act as a review of information previously encountered in earlier grades.

(3) The Field experience wherein the student travels to Costa Rica to work with TFI personnel in planting native, mixed tree species.

(4) Students then take their notes from the Field and run simulation models back in the Lab (at BTI).

A further benefit of using the compass as the key metaphor and navigational device for the student-user was that there is an implied clockwise movement from the top cardinal point to the others, yet each point on the compass represents a direction that a navigator could take without any necessary reference to the other directional pointers. The relevance to interactive multimedia design is this: Novice users of a program may need to follow a somewhat linear path through an instructional program in order to learn subject matter that requires sequential presentation. For example, in order to understand how different plant communities interact with each other, one should first be familiar with how individual plants derive nourishment and grow. It follows, then, that a novice student-user of an interactive multimedia program should be able to follow the linear logic of the material without getting lost in the multitude of navigational choices that the program provides for others who may not desire or require linearity of navigation. The compass provides such a linear logic while still allowing for navigational choice in any direction.

At the same time that the Media Team was working on the important aspects mentioned above (such as the Advisory Group, and the search for a metaphor that would act as both structural organizer and guide to certain aspects of interface design), we began to contemplate what would be our source of audio and visual components for the program. Ideally, we would have traveled to the experimental station in Costa Rica and gathered the specific still images we needed together with audio and video interviews of project personnel, neighboring Costa Rican farmers, school children, etc. As a media producer I have found that a particularly effective way to operate is to first research the subject matter, arrive at some tentative judgments regarding appropriate audio and visual components, then go to actual location sites to capture what is visually and aurally at hand. The script or text comments can then be adjusted, if necessary, to work with the captured aural and visual material.

Of course, this approach is not always appropriate. Depending upon the program, sometimes script comments must come first and visuals are then found to match. On other occasions, primarily documentary work, the aural and visual components are captured first with script or voice-over commentary following. Unfortunately, due to budget constraints, our planned trip to Costa Rica did not materialize, so we were limited to 35mm slides and several videotapes that TFI personnel had shot over the years.

On a more positive note, the fact that our topic was highly circumscribed (few experimental re-forestation projects exist) allowed us to focus entirely on one location and one group of researchers. In other words, the Media Team did not need to synthesize the work of disparate researchers. Furthermore, we could use the TFI Newsletters as the primary source of information about their ongoing research. The newsletters contained not only valuable scientific information; they also gave a good sense of the socio-economic and political factors involved. Additionally, the newsletters bespoke of scientific and humanitarian values (concern for the forest ecosystem, helping the local

Costa Rican economy, learning valuable lessons from locals) that all members of the Media Team respected. We felt that in some sense we were members of the TFI community.

Pedagogical Design Considerations

In this section I will identify a few key pedagogical issues and then briefly discuss our approach to these issues. I have purposely deviated from presenting this information in the form traditionally used by instructional designers. That form proceeds typically as follows: Identify the instructional goal, conduct a goal analysis, conduct a subordinate skills analysis, identify entry skills and characteristics, write learning outcomes, develop criterion-referenced test questions, develop an instructional strategy, develop and select instructional materials, conduct formative evaluations, create the final product, and perform summative evaluation (Fenrich, 1997). Though the Media Team followed the essence of this instructional design approach (minus embedded test items, for reasons discussed later), the paper's purpose is to look at a few key issues, not the entire design process.

Motivational Factors and Program Design

Certainly, a major task of any educational media producer, regardless of the medium, must be to captivate the learner with interesting and relevant information. Compared to other more traditional media, such as print, audio, or video, interactive multimedia has several clear advantages in its ability to captivate users, regardless of the subject matter: The primary advantages are its multi-modal capability (the ability to combine text, graphics, stills, audio clips, full motion visuals), the user's ability to navigate throughout a program (what could be termed a lower level of "interactivity"), and the user's ability to actually manipulate subject content, creating opportunities for dynamic interchange between the user and the program (a higher level of "interactivity"). Thus, on one elementary but significant level, the mere fact of creating an interactive multimedia program on plant biology should make this subject matter more interesting. Additionally, as confirmed by the Advisory Group, the fact that our program involved the student-user in simulation modeling, a very high level of interactivity, should create greater interest in this subject. An article on multimedia's relevance to a constructivist approach to learning reiterates a commonly held notion about motivating students to learn: "When learning is student-centered and student-directed, it is by far more likely to appeal to the participant. This appeal and subsequent intrinsic motivation produces an environment highly conducive to genuine learning. Additionally, self-directed learning is more likely to have personal relevance, and as new knowledge is assimilated with personal associations, meaning and retention are increased" (Bailey, 1996, pp. 161-162).

The Media Team wanted to make full use of the intrinsic motivational capabilities of the interactive multimedia program. Rather than simply supplying the student with a plant biology review prior to the simulation modeling, we devised a narrative structure that emphasized the investigative journey that the student would undertake. Though we initially discussed making this virtual journey to Costa Rica seem more realistic than what we ultimately created, the VR imagery would have required a trip to Costa Rica and perhaps more programming than we had time or funding to accomplish. Nonetheless, the narrative structure that we provided had the following benefits. First, the review of basic biology, which in many ways represented the core subject content that we wanted students to learn, was embedded in a journey of discovery , with the motivational advantages that the term, "discovery" would imply. Second, the journey was part of a larger mission, which was to help TFI personnel in Costa Rica come up with planting regimes for native, mixed tree species. Hopefully, the student feels an identification, however virtual or tangential, to the mission of TFI. Lastly, the student is asked to write a report which summarizes her conclusions based upon trade-offs between the replanted area's potential for animal habitat, plant diversity, and economic value. The hoped-for benefit here is that students feel motivated when challenged—in this case to analyze, synthesize, and evaluate what he has learned.

Connecting Science to a Larger Context

We wanted students to see the relationship between scientific knowledge and its application to real-world problems. The fact that this real-world problem—the earth's quickly vanishing forests—is widely acknowledged to be of critical importance to the planet's biosphere, makes this topic of re-forestation all the more relevant. Lastly, we felt that there was a great benefit to learners that the experimental field work took place in another country and culture, in this case Costa Rica. We felt it was beneficial to show that the application of science is intricately involved with economics, culture, politics, and the values and trade-offs that underscore the choices and activities that humans undertake.

Though these connections are every bit as true and applicable to projects in the United States, the Central American context for our project also allowed for some mention of important global power dynamics. The reasons forests were cleared in Costa Rica had much to do with global demand for beef and timber

together with international development approaches that did little to benefit the peoples of underdeveloped regions. While still keeping within the domain of a biological science unit, we were able to provide a larger context for the re-forestation work at hand. Whereas most students might conclude that the solution to clear-cut forests would simply be to grow tree farms, which is essentially what major timber companies do, the TFI approach points out the negative biological and sociological consequences involved.

Students learn that with 80% of the world's rainforests already cut and with 80% of the replanting of these forests being monoculture tree farms of mostly exotic species (TFI Newsletter, 1993), the need to plant mixed, native trees makes sense ecologically and economically (to local Costa Ricans).

Finally, on this point about the relationship of the scientific endeavor to the place where it occurs, the Media Team also realized that there was a potential downside to the foreign location about which the students would be learning. Without an understanding how events far away may have effects that sooner or later bear upon them, students might be prone not to care what is occurring beyond their realm of direct experience. Because educators hope that all students will have empathy beyond experiential borders, we included an early section entitled, "Why Should I Care?" which consisted of videotaped segments of middle and high school students talking about the importance of trees and forests in all our lives.

Program Use and Design

The Media Team initially conceived of the multimedia project as having total stand-alone capability. In some sense it still does, but over the course of designing the program and consulting with our Advisory Group, we came to feel that the wide range of age levels that the program needed to reach made it rather difficult to embed appropriate tests within the program. Though testing and successful advancement to more complex subject material is a worthy pedagogical endeavor, we instead felt that we would leave testing in the hands of the teacher, as he would know best the level of his students and where this program fit into the larger science unit. It is certainly conceivable, even advisable as the program's enclosed Teacher's Manual indicates, that tests would occur during and/or after the students use this program.

Students could work at individual computer stations or double-up as necessary. Additionally, the program could have excellent potential as a large group activity. With each student creating his/her own re-forested plot using the program's simulation modeling capability, a lively classroom activity would be to have each student show the class the forest that she created and justify its benefits in terms of plant diversity, animal habitat, and economic value. Such an activity would serve to motivate students and get them to see the connections and trade-offs between science and other important human spheres.

References

Bailey, D. H. (1996). Constructivism and multimedia: Theory and application; Innovation and transformation. *International Journal of Instructional Media, 23*(2), 161-165.

Fenrich, P. (1997). *Practical guidelines for creating instructional multimedia applications.* Fort Worth, TX: Harcourt Brace & Co.

Visual Design and Environmental Claims: A Visual Framing Analysis of the Greening Earth Society Web Site

Jean Trumbo
Missouri School of Journalism
University of Missouri—Columbia, MO
(1999 Affiliation, Department of Life Sciences Communication, University of Wisconsin, Madison, WI)

Abstract

A visual frame analysis model is developed and applied to a site on the World Wide Web with the assumption that site structure and visual elements encourage particular kinds of audience response and that elements are organized in a manner that asserts or advocates certain themes. Theories of framing as applied in communication and in visual design are synthesized. Framing devices developed in the model include five categories: syntactic, semantic, grammatical, thematic, and rhetorical structures.

Introduction

Visual communication is a diverse, multidisciplinary arena with the potential for synthesizing concepts and theory drawn from among the humanities, visual arts, and social sciences. Robert Entman (1993) suggests that communication can aspire to become a "master discipline" by synthesizing related theories and concepts and exposing them to rigorous exploration. He offered this challenge to scholars interested in framing theory:

> Despite its omnipresence across the social sciences and humanities, nowhere is there a general statement of framing theory that shows exactly how frames become embedded within and make themselves manifest in a text, or how framing influences thinking.

This article will synthesize the concept of framing as it is used in design and the visual arts with framing as it is applied within the context of communication. A theoretical overview will be provided and an approach to visual framing analysis of content on the World Wide Web will be offered through a single case study. The framing devices developed in this model include five categories: syntactic, semantic, grammatical, thematic, and rhetorical structures. These categories will be more thoroughly defined and illustrated with examples in later sections of the article.

The visual frame analysis model will be applied with the assumption that web site structure and design elements encourage particular kinds of audience response and that elements are organized within the technological constraints of the Internet in a manner that asserts or advocates certain ideas or themes.

Visual frame analysis will be applied to sites on the World Wide Web to examine how design decisions and visual elements assert or advocate a particular point of view. This model assumes that the application of design principles and the use of visual elements is a purposeful process in framing media content. Through an analysis of the relationship of visual elements within a web site, the frames can be revealed.

The Concept of Framing

Arnheim (1954, 1974) describes the origin of frames in the visual arts as the creation of visual distinctions between the physical space of a room and the composition of the picture. The frame is conceived as a window through which the observer peeps into an outer world. The frame defines space and ultimately directs the viewer toward the important visual elements.

Kress, et al (1996) suggest that visual composition relates the representational and interactive meanings of an image to each other through three interrelated systems: information value, salience, and framing. Kress' approach examines the structural elements within a visual presentation. Information value is defined as the placement of elements (up, down, top, bottom) and their endowed importance. Salience is defined as the ability of an object to attract attention through factors such as placement, contrast, color, etc. Framing is defined as the presence or absence of devices that serve to group or connect elements.

It is important to distinguish Kress' use of the term 'frame' as a physical device (dividing lines or actual frame lines) from the more sociological use of the notion of frames that has been introduced by communication scholars. Framing functions as a cognitive process of encoding and decoding information and it also functions as a device that can be applied to establish importance or highlight information. These two

conceptions of framing are visible as content is organized and attended to on the World Wide Web.

For the filmmaker, framing describes the view through the camera that is defined by the focal length of the lens (Douglass & Harnden, 1996). The characteristics of the technology determines how small a detail or how large a part of the scene is captured when framing a subject; what is excluded from the frame is as important as what is included. A composition may lose cohesion when a clutter of irrelevant elements are included. The filmmaker thus tightens the camera shot to avoid busy detail and to more directly move the audience's eye toward the subject. Framing, in this case, is both a compositional technique and an attribute of the technology.

One common thread among the many descriptions of framing in the visual arts is the concern for the organization of visible elements and the direction of the viewer toward the subject of the composition. Framing in this respect is involved in organizing the structural, visual elements of the composition. Light, color, line, shape, focal length of lens, and the arrangement of forms within the defined space are all selected by the designer and when made salient in a composition, promote a particular interpretation of the visual form.

In terms of looking at media content, framing is extended from Goffman's (1974) dramaturgical perspective of frames as "schemata of interpretation" that people use to "locate, perceive, identify, and label." Goffman noted that life experience is interpreted through an active organization and classification of information or events. Tuchman (1978) assigned frames the role of organizing devices that allow information to be sorted and transmitted more efficiently. In the agenda-setting literature, frames refer to how the media frames public issues as objects that can be selected for attention through careful consideration of their attributes. In other words, issue salience can be transmitted from the media agenda to the public agenda by drawing attention to particular attributes and away from others (Salwen & Stacks, 1996).

Entman (1993) maintains that frames draw attention to some aspects of reality while obscuring other elements and this may lead the audience to have a variety of different reactions. "To frame is to select some aspect of perceived reality" and to make it more salient in promoting "a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation." Entman defines salience as a process of making a piece of information more noticeable, meaningful, or memorable to audiences. In the case of visual communication, salience may mean images that become meaningful and memorable through effective presentation, composition or design. But salience may also be achieved through repetition or a dynamic visual approach that is developed to gain attention.

Gitlin (1980) defines frames as "persistent patterns of cognition, interpretation, and presentation, of selection, emphasis, and exclusion, by which symbol-handlers routinely organize discourse, whether verbal or visual." Gitlin observed that news coverage of social movements may use a variety of framing strategies. He observed that media frames are "principles of selection, emphasis, and presentation composed of little tacit theories about what exists, what happens, and what matters" (1980, p. 6). Gamson and Modigliani consider frames as being embedded within "media packages" that can be seen to "give meaning to an issue. A package has an internal structure. At its core is a central organizing idea, or frame, for making sense of relevant events, suggesting what is at issue" (1989, p. 3).

The sociological aspects of framing suggest that we actively classify and interpret experiences to make sense of them (Gamson & Modigliani, 1989; Gitlin, 1980; Goffman, 1974); the psychological aspects of framing point to the process of organizing information into pieces of information that can be cognitively processed (Minsky, 1975). Framing within the context of visual communication is both an organizing action and a process of interpretation. Just as a physical frame highlights the composition of a painting, the process of establishing a visual hierarchy on a news page or within a web site is an organizing action that highlights specific aspects of the information. The process of responding to these organizing actions is an active one for the viewer. Pan and Kosicki (1993) note that meaning results from active interpretation by the audience based on their knowledge and life experience. They note that meaning variations have individual-specific components as well as shared components within a population. The shared components are the structural and lexical features from which meaning is derived (Pan & Kosicki, 1993).

Framing Devices on the World Wide Web. The visual framing model proposed in this investigation is extended from a lexical framing model put forth by Pan and Kosicki (1993). In their examination of news content, they first distinguish the theme of a story from the topic of a story. The theme is an idea that connects the elements of a story into a coherent whole while the topic is a summary label of the domain of social experience covered by the story. For example, a web site devoted to information about El Nino is topically concerned with the relationship of this weather cycle to global climate change. However, the theme may reflect an environmental advocacy position

against fossil fuel exploration or a pro-petroleum industry position in favor of increased offshore drilling. Both themes may be reflections of the same topic. The visual framing model proposed in this investigation will examine how the use of visual elements and the design structure influence the framing of issues on the World Wide Web.

In this context, five framing devices have been identified and will be defined: syntactical structure, semantic structure, grammatical structure, thematic structure, and rhetorical structure. These five dimensions are categories which represent independent design choices that are ideally all related to the same communication goal. As such, the design elements support a central organizing idea or theme. Examining the particular elements within a web site offers a detailed view of the elements that constitute this visual whole. It also provides a script of visual components in the site and a detailed view of how these elements form structural these elements form structural relationships that frame the content of the web site.

Syntactical Structure is the pattern and arrangement of elements into compositions that are organized to show relationships of meaning. A syntactically oriented description is concerned with the interrelationships among the elements themselves as they combine to form meaning (Messaris, 1998). We can examine a web site using a hierarchy of syntactic structure that includes the overall site structure, its organization into sections, the design structure of the pages and layout of the elements within the pages, and the links or paths among elements.

Some of the syntactical relationships within a web site are created by the linkage structure or information architecture of the web site. Four basic structures have been described on the web: linear, indexed, branching (hierarchical), and web (hypermedia) (Wilson, 1995). A linear structure links pages in sequence and moves the user through the site from one page to another in a prescribed fashion. Each page is dependent upon the other and each page is of equal importance. Books are written in sequential fashion and web sites that mirror the structure of a book are thought of as linear.

An indexed structure provides an opening page with a table of contents that leads the user to accessible sections within the site. Each section can be accessed but the user must return to the main index to change sections. Encyclopedias are examples of this structure.

Hierarchical structures establish an information hierarchy within the site by placing the most important elements at the gateway to the site with sections dividing the content into more specific information. Hierarchical sites tend to have a strong vertical structure, meaning that the site may have multiple layers within a single content area. The user can move around the site easily through navigation bars and orientation cues, but the information is organized in a top-down fashion. Inverted pyramid style news reporting is an example of a hierarchical information structure and many news sites are designed this way.

Webbed or hypermedia structures give users the ability to move from one point in the site to any other point. All information in this structure is accessible to the user and movement is possible from one page to any other page in the site. Online galleries or exhibitions are often designed to allow the user to experience the subject in the same way they might if they were at a museum.

Semantic Structure is the way in which images, text, the elements of design and composition, and the underlying technologies are related to their meaning (Messaris, 1997). Semantic structure is concerned with the way people relate elements to one another within the framework of their own experience. It is the "sense" that the user has of the elements, rather than the "reference" that a user makes from the elements. Some understanding of semantic structure can be drawn from linguistics where meaning is conceptualized in a variety of ways. For example, *prosodic meaning* is drawn from where the emphasis within a visual composition or statement resides. When a word or visual element is emphasized by highlighting it, for example, prosodic meaning is effected. *Pragmatic meaning* is the function of the statement or visual element. For example, a pictographic icon used to indicate the location of a restroom and a logo created to represent a brand of running shoe function distinctly even though their elements may have visual similarity. *Social meaning* is derived from the authority or status differences that are perceived. Composition has the potential to create subtle indications of status or authority through design decisions as simple as alignment, size, and color. Many of our aesthetic decisions about things such as formality, importance, or seriousness rely on our perceptions of the social meaning of elements within a composition.

Grammatical Structure is derived from the rules of use and standards of organization that influence how the elements are arranged into patterns that convey meaning. Grammatical structure is an examination of the general principles of design as well as the restrictions of the underlying technologies used in creating the web site. Some of the media limitations that are inherent in web design include screen size, color balance, image size and subsequent load time, sound quality and capability, video quality and capa-

bility, user access, and user level of interaction. While the "grammar" of the web is still being written as the design conventions are developed, some standards have evolved.

Style guides offer one mechanism for codifying the accepted standards of web design. There are a number of style guides available on the web but one of the most extensive has been developed by the Yale Center for Advanced Instructional Media http://info.med.yale.edu/caim/manual/contents.html. It describes the general principles and accepted practice of web design and is aimed at the practical concerns of web developers using web authoring and design tools. Toward this end, the Yale Style Guide offers a "grammar" of web design that is appropriately updated as the technology evolves.

Thematic Structure assumes that a web site can be examined as a set of propositions that form a system of causal or logic-empirical relations. The theme is the organizing idea that connects elements of content into a coherent whole. On the Web, the theme may be revealed through the homepage which serves as a unifying hub among the various sub-themes within a multi-layered hierarchy. For example, an academic web site may be thematically organized around the identity of the University. Each department represents a sub-theme which is topically distinct but still thematically connected to the University identity through the use of visual elements, language, and structure. Common themes on the World Wide Web include news, entertainment. sales and promotion, and exhibition.

Rhetorical Structure defines the stylistic choices made by the designer in relation to their intended effect. Rhetorical modes of appeal describe the way an argument is posed to engage an audience. For the web designer the mode of appeal is expressed through the choice of visual elements and their intent to persuade, amuse, impress, or inform an audience. Aristotle describes three modes of appeal in classical rhetoric: ethos, logos, and pathos and each can be effectively applied to visual information design (Covino, 1995).

Ethos is an ethical mode of appeal that addresses the credibility of the author which can be established by demonstrating intellectual authority and positive moral or aesthetic values to an audience. Ethical appeals invoke trust and ask that one identify certain values with an idea, product, or source. Some strategies of an ethical appeal include offering allusions to authority, reminding the audience of the author's motives or character, and appealing to the audience's goodwill by answering criticism. Ethos is an attempt to win the audience by engaging their sense of taste, style, or by reaching an individual's core values.

Pathos is an emotional appeal that attempts to provoke a passionate response from the audience. It may be sensual, political, or social but pathos can be characterized by imagery that provokes a strong emotional response. This provocation plays on the sympathies of the audience causing them to accept ideas and respond to calls to action. Emotional appeals are attended to in a very personal way by the viewer. They rely on the tendency of certain visual elements to have strong positive or negative attributes. For example, images of children living in squalor are effectively used to request donations by charitable organizations. Conversely, imagery can also offer relatively predictable positive responses from an audience.

Logos is a rational appeal that attempts to provide concrete reasons for an audience to make a particular selection. Rational appeals use authoritative language and the presentation of evidence from which the audience is asked to draw conclusions. In visual communication, the presentation of evidence may take the form of documentary images, scientific or technical drawings or diagrams, expert testimony presented in a straightforward organizational style, or real-time video of events as they unfold. In any case, rational appeals are built through both the power of the evidence and the ability of the author to present it in a logical way.

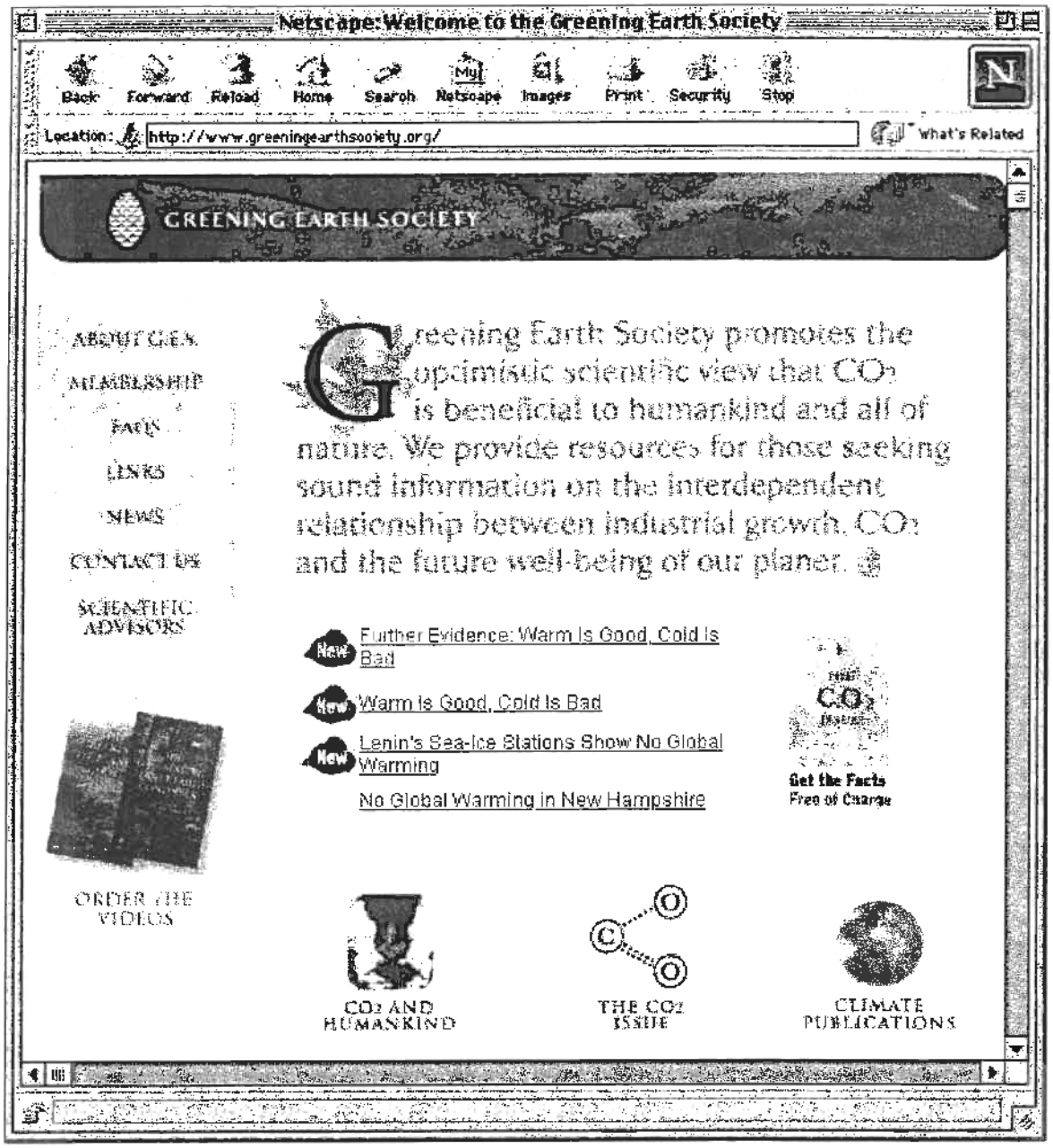
An Illustration: Framing Analysis of the Greening Earth Society Web Site

The Greening Earth Society (GES) web site will be examined as an empirical illustration of the visual framing model. The GES is a non-profit organization created by the Western Fuels Association to promote its viewpoint that fossil fuel use is essential to industrial growth and that industrial growth is essential to humankind. The GES promotes the benign effects of carbon dioxide (CO_2) on the environment. Carbon dioxide, the largest component of the greenhouse gases, is emitted through the burning of fossil fuels. This message is stated explicitly on the "About the GES" page, "Our message is that CO_2 is required for life on earth and that the earth is actually getting greener thanks to increasing levels of CO_2" (www.greeningearthsociety.org/about.htm). The GES also publishes a biweekly newsletter, *World Climate Report,* videos, and an annual *State of the Climate Report.* The web site is located at www.greeningearthsociety.org/index.htm and is updated regularly (see Figure 1).

Media coverage of global climate change (sometimes called global warming) has been examined from

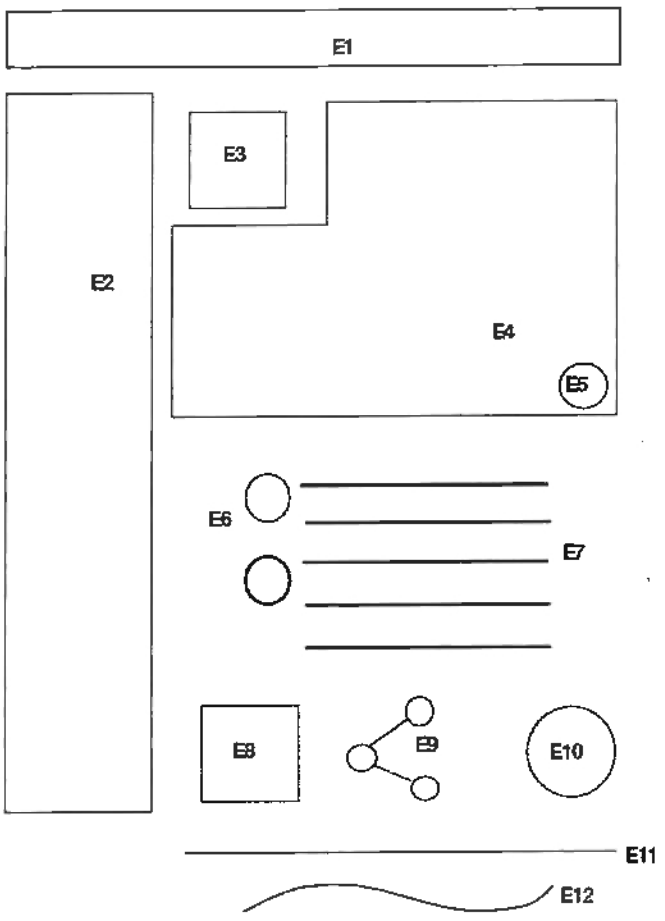
a number of perspectives, including political symbology (Wilkins and Patterson, 1991), values (Wilkins, 1993), claims-making and framing of news content (C. Trumbo, 1996). The Greening Earth Society, as an advocate for the fossil fuels industry, has a point of view on the issue of global climate change that is articulated in the text and is also visible in the design and art direction of the web site. This essay involves a systematic analysis of the visual elements existing within the GES web site.

FIGURE 1
Greening Earth Society Homepage



For the purposes of this illustration, the visual elements that comprise the GES homepage will be examined and coded (see Figure 1) using the Gestalt principle of proximity. The Gestalt school of psychology, which began in Germany in 1912, suggested that perception was influenced by the way we see and organize visual information into a meaningful whole (Arnheim, 1974; Arntson, 1988). Proximity is related to the spatial location of shapes, lines, or forms; their relative nearness makes it possible for the eye to group elements into single units. A visual element is defined as any visual grouping or unit which forms a part of the whole web page. Some of the visual elements include typographic treatment, images, icons, and text within the unit, nonetheless the visual elements that are identified are perceived as distinct visual elements that contribute to the overall page design or whole. A system of standard symbols are used as references for the visual elements (see Figure 2). The syntactic, grammatical, semantic, thematic, and rhetorical structures are examined with relation to how the visual elements are organized in a manner that asserts or advocates certain ideas or themes (see Appendix I).

FIGURE 2
Visual Elements on Greening Earth Society Homepage



Discussion

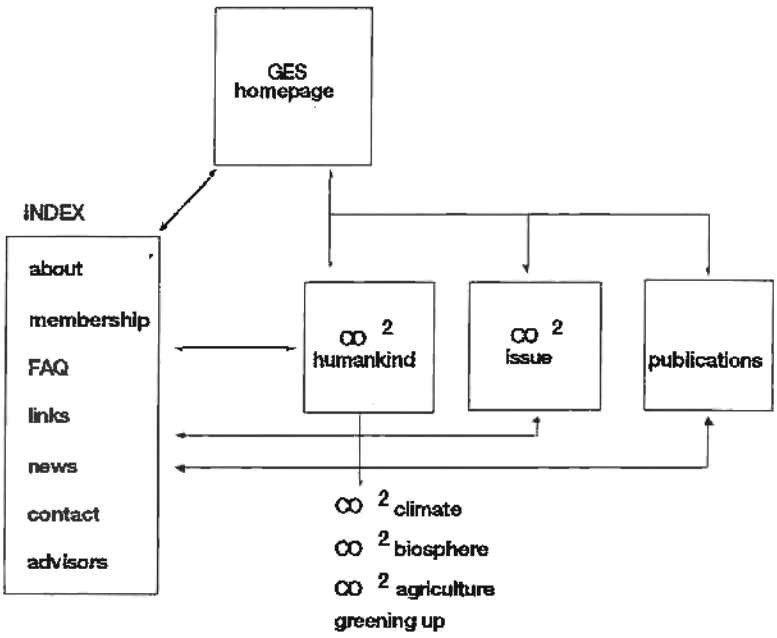
Pan and Kosicki (1993) note that the structural dimensions described in framing analysis are categories with varying powers of significance and while they can be distinguished as individual elements they are processed by the user simultaneously. Framing analysis does not assume a one-to-one correspondence between the structural features of the visual elements and meaning. Rather, meaning results from active interpretation by the audience of the whole viewing experience. This visual framing analysis attempts to understand the web site as a visual whole by examining its parts.

Thematic Structure

The Greening Earth Society web site is devoted to an environmental topic—CO_2 emissions—with an issue-oriented theme that asserts "CO_2 is good for you." This position ultimately challenges the assertion that global climate change is a bad thing caused by fossil fuel emissions. In fact, the introductory text describes an "optimistic scientific view that CO_2 is beneficial to humankind and all of nature." However, the relationship between the so-called "optimistic science" of the Greening Earth Society and its affiliation with the fossil fuels industry is buried deep within the structure of the web site. On the surface, this visually engaging web site appears to advocate a much different point of view.

The **syntactic structure** of the Greening Earth Society web site includes the overall organization of the site and its division into sections (see Figure 3). This site uses a simple hierarchic organization at the top layer that breaks from the homepage into sections that are a single page deep with links to articles held within the site. User movement is constrained to the Greening Earth Society site with external links extending only to supporting organizations.

FIGURE 3
Greening Earth Society Web Site Map



The **semantic structure** of the Greening Earth Society web site includes the emphasis within the composition. This site uses a photograph of a lush, green landscape as the background for the site logo. The viewer's introduction to the site includes this image of the natural environment followed by the site index positioned within a blue sky background. This earth-friendly emphasis is supported by a color palette of green, blue, and other rich earth tones.

There is also social meaning asserted through the structure of the opening page. Science is packaged in an accessible way. The molecular diagram of CO_2

is used as an icon leading the user to a page with simple photographic images organized as if they are part of the periodic table. A simplified graph that shows increasing levels of CO_2 related to population growth lends credibility and authority to the contention that "humanity and nature" are growing together.

Rhetorical structure defines the stylistic choices made by the designer in relation to their intended effect. Some of the stylistic choices and their appeals—ethical, emotional, or rational—are examined in this section.

The use of visual images within the Greening Earth Society web site is devoted to largely iconic or representational images with strong connections to nature. For example, the Society uses the bristlecone pine as the primary symbol for the organization. The significance of this image is described on the site:

> the Bristle cone pine. . . is the world's oldest living plant. . . . It's been nurtured for thousands of years with CO_2. Some Bristle cone pines are 3000 years old. Tests on these old trees show that they've grown best during times of higher CO_2 concentrations. We believe the Bristle cone pine proves our point— that nature and CO_2 can grow together!
> (www.greeningearthsociety.org/about.htm)

The bristlecone pine appears in the site banner as an iconic image of a pinecone with the typographic logo and it is used as a dingbat following the introductory text on each page.

The navigational icon for the section "CO_2 and Humankind" is represented by a photographic image of human hands cradling a bristlecone pine seedling. This image is used as an ethical appeal linking the values associated with human stewardship of the earth. It also reinforces the organization's position that humans have a direct and positive influence on the natural world. The navigational icon leading to the section "The CO_2 Issue," uses a molecular model of CO_2 as a rational appeal linking the technical-looking diagram with the authority of science and the arguments that support the "CO_2 is good for you" claim. While these two icons—human hands cradling a seedling and a molecular model of carbon dioxide—use distinctly different rhetorical appeals, they both support the underlying theme of the web site.

The initial capital letter "G" that is positioned on top of a green maple leaf works on a number of levels. It is part of the first graph of text and works as a drop-cap that highlights the lead paragraph. The initial cap as a decorative element is a convention first introduced by medieval scribes. These gilded, painted page embellishments adorned the important writing of the day. Printers continued using the convention to indicate the start of a chapter or section within a book. Used within the context of a web site, it seems logical to view this initial cap as both a decorative element and as a directional element that leads the user to the important text. The choice of the maple leaf offers further support for the environmental claims made within the site.

Conclusion

The main focus of this essay has been on the conceptualization of visual elements used on the World Wide Web as a system of signifying elements that advocate or assert particular ideas. One of the inherent assumptions of this visual framing model is the notion that the lexical characteristics of verbal language can be applied to an analysis of visual presentation. Langer (1951) argued against this assumption noting that verbal language is a discursive, denotative tool while visual experience is a presentational form that facilitates connotation. Seels (1994) notes that with verbal language one searches for rules but with visual language one searches for temporal, spatial and salient relationships. Messaris (1998) also argues that visual and verbal languages differ. He says:

> Verbal language is characterized by arbitrary, purely conventional relationships between individual elements (sounds and words) and their meanings, and it has a highly explicit and relatively inflexible syntax (i.e., set of rules governing the ordering of sounds, words, and phrases). Neither of these points is true of visual language. Images certainly obey semantic conventions, but those conventions are rarely, if ever, entirely arbitrary, and, as visual theorists have repeatedly pointed out, the syntactic rules of visual language (i.e., the conventions of editing and montage) are so fluid and open to change that at times it can appear as if there are in fact no such rules at all. (p. 71)

Messaris argues that visual language is so open to change and individual interpretation that trying to apply a set of governing rules is difficult. Thus, using a visual framing model developed from a lexical model designed for the analysis of text may seem inappropriate.

An alternative argument can be made. The process of interpreting visual material is indeed an individual enterprise influenced by factors such culture, education, experience, and aesthetic sensibility. However, the process of designing an interface or a visual product for a public audience is an enterprise

with specific audience goals. In many cases, visual elements are organized with an intent that is persuasive or assertive in nature. This visual framing model offers one approach for examining the elements within a composition to reveal those assertions. The interpretation taken from those assertions remains an individual enterprise. Each person involved in the coding may arrive at somewhat different conclusions when constructing a critique of the identified elements. Nonetheless, the value of this model is in providing a systematic structure for the examination of those elements.

References

Arnheim, R. (1956,1974). *Art and visual perception: A psychology of the creative eye.* Berkeley: U of California P.

Arntson, A. (1988). *Graphic design basics.* Fort Worth, TX: Harcourt Brace Jovanovich.

Covino, W. A., & Joliffe, D. A. (1995). *Rhetoric: Concepts, definitions, boundaries.* Boston: Allyn and Bacon.

Douglas, J. S., and Harnden, G. P. *The art of technique: An aesthetic approach to film and video production.* Boston: Allyn and Bacon.

Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication, 43*(4), 51-58.

Gamson, W. A. & Modigliani, A. (1989). Media discourse and public opinion on nuclear power: A constructionist approach. *American Journal of Sociology, 95*(1), 1-37.

Gitlin, T. (1980). *The whole world is watching: Mass media in the making and unmaking of the new left.* Berkeley: U of California P.

Goffman, E. (1974). *Frame analysis: An essay on the organization of experience.* New York: Harper and Row.

Kress, G., & Van Leeuwan, T. (1996). *Reading images: The grammar of visual design.* London: Routledge.

Mandel, T. (1997). *The elements of user interface design.* New York: John Wiley & Sons.

McLaughlin, M. L. (1996). The art site on the world wide web. *Journal of Communication, 46*(1), 65.

Messaris, P. (1998). Visual aspects of media literacy, *Journal of Communication, 48*(1), 70-80.

Messaris, P. (1994). *Visual literacy: Image, mind, and reality.* San Francisco: Westview Press.

Minsky, M. (1975). A framework for representing knowledge. In P. H. Winston (ed.), *The psychology of computer vision* (pp. 211-277). New York: McGraw-Hill.

Pan, Z., & Kosicki, G. (1993). Framing analysis: An approach to news discourse. *Political Communication, 10*, 55 -75.

Salwen, M. B., & Stacks, D. W. (1996). *An integrated approach to communication theory and research.* Mahwah, NJ: Lawrence Erlbaum Associates.

Trumbo, C. (1996). Constructing climate change: Claims and frames in U.S. news coverage of an environmental issue. *Public Understanding of Science, 5*, 269-283.

Tuchman, G. (1978). *Making news. A study in the construction of reality.* New York: Free Press.

Wilkins, L. (1993). Between facts and values: Print media coverage of the greenhouse effect,1987-1990. *Public Understanding of Science, 2*, 71-84.

Wilkins, L. and Patterson, P. (1991). Science as symbol: The media chills the greenhouse effect. *Risky business: Communicating issues of science and public policy* (pp. 159-176). Westport, CT: Greenwood.

Wilson, S. (1995). *World wide web design guide.* NY: Hayden Books, Macmillan Computer Publishing.

APPENDIX I

Analysis of Greening Earth Society Web Page Structural Elements

URL: www.greeningearthsociety.org

visual element	syntactic	semantic	grammatical	thematic	rhetorical
E1 Greening Earth Society Banner	horizontal banner integrates photographic landscape, G.E.S. identity and pine cone	**Prosodic** - emphasis on landscape **Pragmatic** - banner serves as organizational identity **Social** - use of elements is informal		G.E.S. is an environmental group	persuasive
E2 G.E.S. website index	index is vertical sections are hierarchically organized	**Pragmatic** - navigation aid		G.E.S. site has easy access to content	logical
E3 Initial cap		**Prosodic** - emphasis is on beginning of text **Pragmatic** - initial cap is decorative **Social** - elegant, "formal" element	large serifed capital letter overlaying green maple leaf	environmental connection is reinforced	
E4 Introductory text		**Prosodic** - size and color draw attention **Pragmatic** - text is readable and legible **Social** - "formal" integration of cap and text	indented to accommodate initial capital large type size is used for display	"optimistic science" CO^2 is good for you	persuasive

Studies of Communication About Nuclear Power Issues

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The Mystification of Radiation: The Rhetorical Construction of Radioactive Waste

Judith Hendry
Department of Communication and Journalism
University of New Mexico—Albuquerque, NM

Abstract

Over 50 years of nuclear weapons production and testing has created a stockpile of radioactive waste that is temporarily stored at defense facilities across the country. On March 26, 1999, the Waste Isolation Pilot Plant (WIPP) began receiving shipments of radioactive waste for permanent interment deep in the salt beds of southeastern New Mexico. An analysis of the public discourse surrounding the WIPP controversy reveals the ways in which the mystery of radiation, and the scientific elite capable of harnessing the mysterious force, are rhetorically constructed. This paper argues that framing the rhetoric in terms of the "mysterious unknown" invites scientists to debunk the mystery, thereby perpetuating the dominant myth of the scientific elite as "environmental nobility."

Introduction and Background

Increasingly the nation is focusing attention on the ecological legacy of more than fifty years of nuclear weapons production and testing by the defense community whose institutions have previously been insulated from public scrutiny by warrants of secrecy and national security. The external threat of nuclear devastation obscured the internal reality of radioactive contamination resulting from the production, testing, and storage of weapons of mass destruction. "Instead of 'watching the skies,' we now realize we should have been watching the earth beneath our feet" (Taylor & Davis, 1999, p. 3). With the end of the Cold War, we are now beginning to recognize the political, economic, and environmental ramifications of the mass production of our nuclear arsenal.

In the past 55 years, the federal government has built more than 80,000 nuclear bombs resulting in millions of cubic meters of waste (Hancock, 1998/1999). Safe storage of these wastes has been an historic problem and one that has been magnified by the post-Cold War decommissioning of nuclear weapons. Currently, radioactive wastes are stored on the sites of production in drums and wooden boxes (National Research Council, 1996). These on-site storage facilities were never meant to serve as permanent storage facilities but as a temporary means of disposal until a "better solution" presents itself.

The first permanent nuclear waste storage facility opened its doors for business on March 26, 1999 near Carlsbad, New Mexico. The irony of siting the world's first underground radioactive waste dump in close proximity to what is perhaps the world's most spectacular underground natural wonder, the Carlsbad Caverns, is not lost on many. The Waste Isolation Pilot Plant (WIPP) was authorized by Congress in 1979 as a research and development facility for demonstrating safe disposal of radioactive waste from government nuclear defense activities. Now, twenty years later, WIPP has begun receiving the shipments of radioactive waste for interment deep in the salt beds of southeastern New Mexico.

Public discourse surrounding the WIPP controversy has been going on since the recommendation to locate the pilot plant at its current site was made in 1975. In addition to the sheer volume of rhetorical artifacts, there are characteristics of this public discourse that make it particularly rich and offer profound insights into the complex relationship between science and the social construction of our environmental world.

One of the notable characteristics of this discourse is the rhetorical construction of the mystery of radiation. The idea of hazardous or toxic waste, as opposed to radioactive waste, is disquieting for many of us; yet most of us have toxic waste stored underneath the kitchen sink. Radiation, on the other hand, is the mysterious unknown and unknowable for all but the scientific elite capable of conjuring and controlling this mysterious power.

Much of the anti-WIPP rhetoric reflects this perception of the mystery surrounding radiation and the scientific elite and institutional powers who have engineered it. The distancing of these mysterious entities from the "environmental commoner" has profound implications for the rhetorical construction of the reality of nuclear technologies and their radioactive by-products. McKerrow (1989) argues that "the task of a critical rhetoric is to undermine and expose the discourse of power in order to thwart its effects" (p. 98). A critical examination of the construction of

mystery and the role this plays in the discourse of power should prove instrumental in helping environmental communicators understand ways in which the dominant myth of the scientific elite is constructed and perpetuated.

This study examines the rhetoric of one visible and vocal Anti-WIPP activist organization in an attempt to discover ways in which radiation and the scientific elite are rhetorically constructed. This paper argues that framing the rhetoric in terms of mystery—that which we do not or cannot know—invites scientists and experts to step in and debunk the mysteries and the "erroneous assumptions" of the non-expert, lay public. In so doing, the dominant myth of the scientific elite is perpetuated in the environmental discourse. However, before the dominant myth can be exposed, the grounds for determining meaning must be understood. An examination of the scene of controversy and the cast of characters provides the narrative context for the public discourse.

More About WIPP

Southeastern New Mexico, the site chosen for the first permanent radioactive waste storage facility, is wild barren scrub desert once used by ranchers to graze cattle. 225 million years ago, it was a great sea that deposited tremendous amounts of salt as it evaporated. These bedded salt formations are the reason this area was selected for exploration as a potential storage site for nuclear waste. As early as 1956, the National Academy of Sciences recommended underground salt formations as the most promising medium for the permanent disposal of radioactive waste because of certain geologic characteristics of salt beds. Salt has the ability to flow, and over time, will permanently seal the excavations in which the waste is placed. Salt beds tend to be stable over geologic time with very little shifting. Rock salt is essentially impermeable and provides shielding from radiation similar to that of concrete. And finally, salt deposits demonstrate the absence of water that could move waste to the surface or to aquifers. This is an important characteristic since plutonium, the main radioactive element in the waste, is soluble and can travel with water.

The radioactive waste is interred in excavated storage vaults 2150 feet below the surface. Four vertical shafts provide access from the surface to the nine miles of rooms and underground roadways that link the repository areas. These vaults consist of seven rectangular rooms that are seven meters (approximately 23 feet) high, 10 meters (approximately 33 feet) wide, and 91 meters (approximately 300 feet) long with a combined storage capacity of 6.2 million cubic feet.

About one-third of the WIPP-destined waste has been generated and is currently in temporary storage at ten major Department of Energy and Department of Defense installations as well as in several smaller sites across the country. DOE expects to generate the other two-thirds as it continues to clean up and decommission its nuclear weapons plants.

WIPP is designed to dispose of transuranic waste—euphemistically shortened to TRU (pronounced "true") waste. TRU waste is characterized as that which is radioactive, human-made, with an atomic number greater than uranium—hence, transuranic. The main element in TRU waste is plutonium and the radiation emitted is alpha radiation. Because alpha radiation is particulate in nature, it cannot penetrate the skin or clothing and is therefore easy to contain. In fact, alpha radiation could be safely contained in aluminum foil. However, if taken internally through ingestion, breathing the particulates, or through a wound entry, internal damage would occur. In view of the magnitude of the potential hazard posed by a radioactive waste repository, it is little wonder that WIPP has generated so much controversy.

The Cast of Characters in the Environmental Mystery Drama

> We might begin with the proposition that mystery arises at the point where different kinds of beings are in communication. In mystery there must be *strangeness*; but the estranged must also be thought of as in some way capable of communion. . . . Similarly, the conditions for 'mystery' are set by *any* pronounced social distinctions, as between nobility and commoners, courtiers and king. (Burke, 1969, p. 115)

Burke introduces the notion of mystery by observing that (1) mystery is derived from the recognition of different kinds of beings and that (2) these different kinds of beings have pronounced social distinctions. As a corollary, Burke goes on to say that "all such 'mystery' calls for a corresponding rhetoric" (p. 115). In this sense, the exploration of Burke's notion of mystery is a critical exploration of the discourse of power among players in the mystery drama.

Johnston (1994) offers a useful distinction of "different kinds of beings" by suggesting that environmentalism can be viewed as a contest of the "technocratic elite" made up of scientists, institutional and political powers versus the "humanistic elite" made up of environmental activists, historians, and ethicists. While this dichotomy grossly oversimplifies the complex relationships among players in almost any given environmental case study, it serves as a useful tool for

the casting director of this environmental mystery drama. Who, then, are culturally cast into the roles of "environmental nobility" and "environmental commoner?"

Bruner and Oleschlaeger (1994) maintain that the technocratic elite at present rules, in part because the dominant myth of Western post-Enlightenment thought "over-determines the perceptions of the lay public" (p. 389). The "dominant myth" or the "rational world paradigm" as Fisher (1984) terms it, has its linguistic ground in "propositions, demonstrations and proofs, the verbal expression of certain and probable knowing" (p. 4). The mechanistic ontology of traditional science assumes a pre-existing "objective truth" and a uniformity of nature that can be observed, recorded, and manipulated in an effort to explain, predict, and/or control that which is observed.

From this perspective, understanding nuclear science is not a matter of direct human experience, but a matter of complex extrapolations and calculations focused on that which is invisible to the naked eye. As such, "things nuclear" have remained largely divorced from the lay public or the democratic process, creating a state of scientific autonomy and autocracy—a state that has been perpetuated by the U.S. government under the warrant of national security. As Toumey (1996) explains:

> In the Manhattan project, the autonomy model was developed, in the Atomic Energy Act of 1996 it was enshrined, and in the arrangement known as the 'administrative contract,' it was institutionalized. Basic science received special conditions of freedom and flexibility that insulated it from meddling bureaucrats, political mischief, and external influence in general. (p. 31)

The autonomy and secrecy of the Manhattan Project scientists helped to create the sense of mystery and "served to catapult atomic scientists into the role of 'alchemists or magicians' who could control the mysterious forces locked inside the atom" (Gwin, 1990, p. 37).

According to Burke (1970), once the mystery is established, it is used as an instrument of governance and to preserve a hierarchy:

> Once a believer is brought to accept mysteries, he will be better minded to take orders without question from those persons whom he considers authoritative. . . . So, if a man, in accepting a mystery, accepts someone else's judgement in place of his own, by that same token, he becomes subject willingly. That is, subjugation is implicit in his act of belief. (p. 307)

The dominant, rational world epistemology aided by the autonomy and autocracy of the atomic scientists casts the scientific elite and their institutions into the role of the "environmental nobility," a role which scientists undoubtedly relish, for as Lessl (1999) explains:

> Numerous advantages accrue to the side of science if it can make readers believe what the Galileo legend implies: the features of the scientific ethos that set it apart are lionized, the grounds for the scientific culture's professional autonomy are given an historical rationalization, and a social-evolutionary vision of science as the triumphant road to the future is dramatically visualized. (p. 164)

In this case study, the nobility is represented by the Department of Energy (DOE) and Westinghouse Electric Company's Waste Isolation Division, the management and operating contractor for DOE's Carlsbad area office at WIPP. The commoner is represented by Citizens for Alternatives to Radioactive Dumping (CARD), an anti-WIPP, grassroots activist group. CARD was created and exists primarily to oppose the opening of WIPP and has been monitoring its progress since 1978.

Artifacts of Analysis

Because of the vast amount of rhetorical artifacts that have accumulated since WIPP was first discussed over twenty years ago, this study has had to narrow the focus to a manageable data set. This study focuses on CARD's Web site information (www.unm.edu/~rekp/card.html) made available from October 1998 to May 1999. The DOE Web site (www.wipp.carlsbad.nm.us/) provided additional data for analysis which includes, among other things, the on-line newsletter of DOE's Carlsbad office entitled *TRU Progress*. As mentioned earlier, "TRU" is the acronym for "transuranic waste." In addition to this publication, DOE's Web site contains "Facts Sheets," answers to "the most asked questions," and press releases. The data analysis was limited to the DOE Web site information made available from October 1998 to May 1999 including press releases going back to January 1998.

Tactics of Mystery Construction

An exploration of the rhetoric revealed that much of CARD's rhetoric dealt with the mystery of WIPP and used this mystery to question the technol-

ogy's workability and safety. Mystery construction tactics fell into three generalized and overlapping categories: (1) the mystery of the unknown, (2) the mystery of the uncontrollable, and (3) the mystery of the unpredictable.

The Mystery of the Unknown. A mystery must, by definition, have a certain degree of the unknown. Analysis of CARD's rhetoric reveals the rhetorical construction of two kinds of mystery of the unknown —unknown because of *concealment* and unknown because it is *"unknowable."* For the purposes of this discussion, *concealment* implies knowledge that is hidden or obscured either deliberately or serendipitously but which could be revealed if the barriers to exposure were removed. The *"unknowable"* refers to a mystery whose answers are beyond the current knowledge and understanding of the scientists and experts.

One of the frequently expressed concerns has to do with the concealed knowledge about what is actually stored in the drums that are interred at the WIPP site. CARD is concerned that mis-diagnosis of the contents of a single drum could lead to an explosion caused by such things as excessive decay heat, gasses generated from the breakdown of organic compounds, waste corrosion, and microbic activity. DOE is chastised for its failure to discover and reveal the mystery of what is concealed in the drums: "Transportation safety and predictions of whether or not the repository will leak are heavily dependent on what is actually in the waste drums. After more than 15 years of study, DOE does not appear to know either what the TRU inventories contain or even how large those inventories are" (CARD, 12/4/98).

The construction of the mystery of the unknowable framed in terms of our inability to know is also evident throughout CARD's rhetoric. As is the case with many environmental case studies, the issues involved in the WIPP controversy are highly complex. The science of WIPP crosses many disciplines including nuclear physics, geology, hydrology, chemical engineering, civil engineering, medical science, epidemiology, and the list goes on. It is therefore not surprising that a great deal of anti-WIPP rhetoric emphasizes the mystery of the unknowable.

For example, one of the frequently emphasized concerns of the unknowable are questions of hydrology. Anyone familiar with this field inquiry understands the complexity of trying to determine such things as the position and size of the aquifer, direction and flow of underground rivers, and recharge areas. The scientific models used to estimate geologic and hydrologic underground formations are complicated and imprecise. The mystery of the unknowable hydrology and geology is used by CARD in its opposition rhetoric: "It is impossible to tell whether it will take 100 or 1000 years for contamination from the [WIPP] site to reach the Pecos and from there the Rio Grande and water supplies for millions of homes, ranches, and farms" (CARD, 12/4/98).

Perhaps the most germane "unknowable" in the rhetorical construction of the mystery is radiation and its effects. It is generally agreed that exposure to radiation can have serious health effects and has been linked to a number of kinds of cancer and immune system problems. Yet exposure standards for what is deemed "safe exposure" levels have been questioned and the acceptable levels for compliance standards have steadily decreased over the years. Likewise, there is very little understanding of the cumulative effects of low dose exposure (National Research Council, 1996). The mystery of the unknown, as it pertains to our understanding of radiation and its effects, is frequently used in CARD rhetoric:

> Several types of cancer appeared elevated though it was not possible to say with certainty that this was caused by radioactive exposure because Los Alamos County has so few people. It was certain, however, that Los Alamos County experienced a sudden and marked increase in Thyroid cancer incidents in the mid-1980s." (CARD, 12/4/98)

Mystery of the Uncontrollable. A large part of CARD's rhetoric deals with the construction of the mystery of the uncontrollable. As evidenced by the myths and legends of the ancients, the human "symbol-using, symbol-making, and symbol-misusing animal" (Burke, 1989, p. 60) has long felt the need for a sense of control over that which is uncontrollable, and perhaps nothing is as fundamentally uncontrollable as nature. The natural underground makeup of the WIPP site is a mystery frequently cited. For example, CARD maintains that brine from the "ancient ocean" and water from other unknown sources is seeping into the repository and could cause aquifer or surface contamination:

> One of the original reasons for disposing wastes in the Salado is that salt is believed to be dry. It is known, however, that there is actually brine in the salt, left over from the ancient ocean. This brine is seeping into the repository. Water is also coming down the shafts from an unknown source into the repository. All of this water, when combined with the waste could create a radioactive slurry that could be more easily transported to the Culebra or to the surface. (CARD, 12/4/98)

Nature's uncontrollability is most dramatically displayed through natural disasters. Not surprisingly, floods and earthquakes also play a large role in anti-WIPP rhetoric, but even greater emphasis is placed on the uncontrollable fallibility of the human condition and human error. "Chernobyl was caused by human error, as was Three Mile Island. . . . Until DOE includes human error in its health assessments, it will be impossible to get a true picture of the actual risks to New Mexicans from the project" (CARD, 12/4/98).

Mystery of the Unpredictable. Closely linked to rhetoric of the unknown and the uncontrollable is rhetoric of the unpredictable which plays a prominent role in CARD rhetoric. The most obvious use of this rhetoric is in regard to the longevity of the dangerous elements of radioactive waste. The half-life of plutonium 239, an essential ingredient in nuclear weaponry, is 24,000 years with radiation emission lasting for 240,000 years. Sustainability "unto the seventh generation" as suggested by Chief Joseph is conceptually foreseeable. Sustainability unto 24,000 years or 240,000 is beyond our comprehension.

A frequently expressed concern is the ability to protect the site from future penetration. This is especially problematic as the area immediately surrounding the site is currently mined for potash with considerable oil and gas drilling activity as well. "[T]hough they state they will preserve knowledge of the site forever, in just a few years, DOE lost contact with records on the existence of two active oil and gas leases and one gas well within the WIPP site—even though the well is visible from the highway" (CARD, 12/4/98). An interesting variation on this theme of unpredictability has to do with language changes over the centuries:

> Would anyone 1000 years from now even be able to read any records that might have survived? How many people today can understand the English of 1000 years ago? Try this old English sentence from Beowolf: *'Bealo-cwealm hafao felu fork-cynna foro onsended.'* It means: Death-qualm has sent full many a folk forth on their way. (12/4/98)

The previous examples represent just a few of the constructions of mystery that are prevalent throughout anti-WIPP rhetoric. Because such a large proportion of this rhetoric deals with the construction of mystery in terms of what we do not and cannot know, what we cannot control, and what we cannot predict, it is not surprising that DOE's response to this construction of mystery is to debunk and demystify—to reveal the "truth" in order that these mysteries can be put to rest.

The Mystery Debunked

Framing the discourse in terms of the mysterious unknown invites and even demands a response from DOE framed in terms of what they as scientific nobility do, in fact, know. Just as "Democritis' atomism resolved the gods out of existence" (Burke, 1959, p. 28), the DOE scientists and experts are now positioned to bring to light the delusions of the sadly-misinformed, misguided commoners. The environmental nobility steps in to assure the commoners that everything is under control and carefully overseen by prestigious scientists. "WIPP has undergone thorough investigations and will continue to benefit from oversight by the National Academy of Sciences, the Nuclear Regulatory Commission, the state of New Mexico and other scientific experts" (DOE, 3/20/99). In fact, a great deal of DOE's rhetoric is concerned with constructing the environmental elite and establishing its expertise. For example, Web site Fact Sheets discuss awards and commendations that WIPP has received:

> The WIPP provides leadership and excellence in safety and operations excellence —setting current standards. The WIPP facility:
> - Earned the first DOE Voluntary Protection Program 'Star' status, a safety milestone.
> - Received the 'Mine Operator of the Year' designation by the state of New Mexico for the eighth consecutive year.
> - Earned three National Safety Council awards for excellence in safety. (DOE, 3/12/99)

Not only do they portray themselves as the incontrovertible environmental nobility, their press releases, available on the Web site, emphasize a forbearing and benevolent nobility. The following are some of the headlines:

- Energy Department Awards $300,000 to City of Carlsbad to Help Boost Region's Economic Planning
- Westinghouse Official Presents $7000 Check to United Way
- WIPP Pumps $13.8 Million Into New Mexico Businesses in Fiscal Year 1998
- Westinghouse Official Recognizes Community Programs with Contributions. (DOE, 3/20/99)

In response to CARD's construction of the mysterious unknown, uncontrollable, and unpredictable, the DOE uses several rhetorical tactics to demystify. Demystifying tactics include (1) the normalization of radiation, (2) the naturalization of radiation, and (3) the minimization radiation and its effects.

The Normalization of Radiation. DOE rhetoric has done an especially effective job of demystifying radiation through rhetoric that "normalizes" radiation by constructing it as something that is part of the experts' routine experience. "Plutonium and other radioactive wastes destined for permanent disposal at WIPP are scientifically well understood and easily managed" (DOE, 3/12/99). Other normalization strategies focus on the existence of radiation in our everyday lives as a result of modern technologies. According to DOE's Fact Sheet, the average American's exposure is about 360 millirems per year:

- Flying in an airplane across the country would add about five millirems per flight to a person's annual dose.
- Receiving a full set of dental x-rays would add about 40 millirems to an individual's annual background dose.
- Living directly outside a nuclear power facility would add about 1 millirem per year.
- A person sitting on a park bench as a truck carrying nuclear waste passes by would add less than one-tenth of a millirem.

The Naturalization of Radiation. The naturalization of radiation is another de-mystification tactic. In this enthymematic form of reasoning, a major premise is left for the audience to construct on its own. The full syllogism, with the missing premise stated, would sound something like this: radiation is a part of nature; nature is not dangerous to humans; therefore, radiation is not dangerous to humans. "Radiation is a natural part of our lives. Cosmic rays filtering through the atmosphere and radon gas seeping up from the soil are only two examples of natural radiation. More than 80% of the radiation we receive comes from natural sources" (DOE, 3/12/99).

Minimization of Radiation Effects. One final demystification tactic is the minimizing of radiation effects. In the following example, radiation is compared to other, less mysterious toxic substances:

> Plutonium has often been called the most toxic element known to man. . . . Scientists do not consider plutonium very toxic at all. It is not comparable, for instance, to botulism, poison mushrooms, or certain chemicals where very small amounts will cause immediate death. (DOE, 3/12/99)

The minimization of radiation effects is also accomplished through statements of scientific calculations in terms of low risk probabilities. "The amount of radiation one would receive walking within 30 feet of a TRUPACT-II [containers used to ship the waste] can be mathematically calculated at .00001 millirem, which is less than one ten-millionth of the yearly dose received by an average person from natural background radiation" (DOE, 3/12/99).

Discussion

The analysis of the rhetorical artifacts revealed a predominance of rhetoric that focused on the mystery of WIPP—on that which we do not or cannot know, predict, or control. This opened the door for DOE and its experts to step in and debunk the mystery and calm the commoners with its own "superior science." Thus, throughout the rhetoric of mystery, the hegemony of science and its grounding ideology remained firmly in place.

As Foss (1996) explains, "a dominant ideology controls what participants see as natural or obvious by establishing the norm; normal discourse, then, maintains the ideology, and challenges it to seem abnormal" (p. 295). The opposition rhetoric of CARD demonstrates "normal discourse" or as Hajer (1995) puts it, "a precise, implicit understanding of the structured ways of arguing in the corridors of power" (p. 169). While an overwhelming amount of CARD's rhetoric has challenged the science of DOE, very little has challenged the centrality of science in the discourse or the rules, terms or definitions of the debate.

CARD has even gone so far as to call for the creation of "another 'Manhattan Project' for radioactive wastes which would gather our top scientists together to discuss the safest solution to our radioactive waste problem" (12/4/98). In calling for another "Manhattan Project," CARD is reinforcing the autonomy and nobility of the scientific elite by implying that while scientists have failed thus far, they are the ones on whom we must rely. CARD has met DOE on DOE's terms, playing by DOE's rules, on DOE's own rhetorical turf.

By focusing on questions of technology and science, relevant social issues have been obscured or ignored. For example, because of a large percentage of minority residents and poor economic conditions, New Mexico has had to bear an unduly large burden of

this nation's nuclear weapons industry. Yet issues of environmental justice are rarely discussed.

Also under-represented in CARD's rhetoric is discussion of the very legitimate concern that nuclear weapons production and testing will be regenerated once the public is lulled into believing that a safe repository for nuclear waste exists. Likewise, conspicuously absent from opposition rhetoric is mention of the big picture—the moral, social, and political dimensions of the manufacture of weapons of mass destruction.

Science can perhaps explain the mysteries of radiation, but scientific models cannot adequately address the complex social and moral issues inextricably linked to the nuclear technologies envisioned and created by scientists. Giddens, (1994) refers to this irony as "manufactured uncertainty" defined as "the risks created by the very developments the Enlightenment inspired—our conscious intrusion into our own history and our interventions into nature" (p. 78). There are many kinds of "truth" that constitute the plurality of environmental knowledge and the issues surrounding WIPP involve a much broader social consciousness than whether or not science has engineered a viable "technofix" for the problem of radioactive waste. What technology will adequately address the social and cultural accountability of the nuclear weapons industry? What scientific model can adequately predict sustainability unto the half life of plutonium?

While science has played and will continue to play an important role in environmental discourse, "the dominant cultural ethos that promotes belief in science's exclusivity, distance, and elitism undermines humanity's ability to engage with many of its most pressing problems" (Wakeford & Walters, 1995, p. xi). Included in the discourse must be the discussion of values, ethics, and beliefs that constitute the fabric of our everyday lives. As Shotter (1993) explains, "people's everyday actions are always 'situated' or 'placed' within a social and moral, as well a historically developed political order, actual or imagined; that the maintenance in good repair of that order is due to the social accountability of those within it" (p. 163).

Our current situation with regards to the production and disposal of radioactive waste is far from being in a state of "maintenance in good repair" and by focusing almost exclusively on the "technofix," social accountability for the alarming consequences of the nuclear weapons industry has been largely ignored.

Rhetoric is not simply persuasive, it is constitutive. Our environmental realities are not products of observing an extant objective reality, but are constructed in and through the rhetoric used to talk about our environment and humans' place in it. Our environmental world and the individual acting within it are continuously developed and developing in the process of the rhetorical construction of our environmental realities.

I suggest that a more useful rhetoric for constructing our environmental realities is not a rhetoric of mystery, not a rhetoric of that which we do not or cannot know until science gives us the "truth," but a rhetoric of our ordinary lives that recognizes and encompasses the values, beliefs, and morals of our collective realities. As environmental communicators we should challenge the exclusivity, distance, and elitism of atomic science which is, in and of itself, dependent upon the cultural construction of our collective realities. As Toumey (1996) explains, "regardless of the metaphysical status of science, its value in life is contingent upon the cultural values and meanings that frame science" (p. 10). Atomic scientists and those who control their institutions have been elevated to a position of environmental nobility, yet it is surely the rhetoric of the commoners that can best address and discursively construct our environmental world-to-be.

Conclusion

The analysis of the rhetoric of mystery in this case study can be applied to the broader spectrum of the rhetoric of environmental advocacy. CARD's rhetoric of mystery is not an aberrant case but representative of much of the current environmental rhetoric that attributes mystery to science and in so doing, actually perpetuates the dominant myth in which the scientific elite hold positions of environmental nobility. "Environment" does not fit the disciplinary divisions. Rather, "environment belongs to every discipline and to none" (Myerson & Rydin, 1996). It is my hope that by calling attention to the discourse of power, environmentalists can demystify its over-determining influence in the public sphere and give a stronger voice to the environmental commoner.

References

Bruner, M., & Oelschlaeger, M. (1994). Rhetoric, environmentalism and environmental ethics. *Environmental Ethics, 16,* 377-396.

Burke, K. (1959). *Attitudes toward history.* Berkeley: U of California P.

Burke, K. (1969). *A rhetoric of motives.* Berkeley: U of California P.

Burke, K. (1970). *The rhetoric of religion: Studies in logology.* Berkeley: U of California P.

Burke, K. (1989). *On symbols and society.* Chicago: U of Chicago P.

Citizens Against Radioactive Dumping (1998). www.unm.edu/~rekp/card.html (October 1998-May 1999).

Department of Energy (1998). www.wipp.carlsbad.nm.us/ (October 1998-May 1999).

Fisher, W. (1984). Narration as human communication paradigm: The case of public moral argument. *Communication Monographs, 51,* 1-22.

Foss, S. K. (1996). *Rhetorical criticism: Exploration and practice.* Prospect Heights, IL: Waveland Press.

Giddens, A. (1994). *Beyond left and right: The future of radical politics.* Cambridge, MA: Polity.

Hancock, D. (1998-1999, Fall & Winter). What's happening with WIPP? *Green Fire Report.* Santa Fe: New Mexico Environmental Law Center.

Gwinn, L. (1990). *Speak no evil: The promotional heritage of nuclear risk communication.* New York: Praeger.

Hajer, A. M. (1995). *The politics of environmental discourse.* Oxford, England: Clarendon Press.

Johnston, R. J. (1994). *Environmental problems: Nature, economy, and state.* London: Belhaven Press.

Lessl, T. M. (1999). The Galileo legend as scientific folklore. *Quarterly Journal of Speech, 85,* 146-148.

McKerrow, R. (1989). Critical rhetoric: Theory and praxis. *Communication Monographs, 56,* 91-111.

Meyerson, G., & Rydin, Y. (1996). *The language of environment: A new rhetoric.* London: UCL Press.

National Research Council (1996). *The Waste Isolation Pilot Plant: A potential solution for the disposal of transuranic waste.* Washington, D.C.: National Academy Press.

Shotter, J. (1993). *Cultural politics of everyday life.* Toronto: U of Toronto P.

Taylor, B. C., & Davis, S. (1999, July). *Environmental communication and nuclear communication studies: The case of Rocky Flats.* Paper presented at the Fifth Biennial Conference on Communication and Environment, Flagstaff, AZ.

Toumey, C. P. (1996). *Conjuring science: Scientific symbols and cultural meanings in American life.* New Brunswick, NJ: Rutgers UP.

Wakeford, T., & Walters, M. (Eds.). (1995). *Science for the earth: Can science make the world a better place?* New York: John Wiley and Sons.

What's Rhetoric Got to Do With It?: Public Deliberation and the AEC Construction Licensing Hearings in Midland, Michigan—1970-1971

M. Rene Johnson
Department of Humanities
Michigan Technological University—Houghton, MI

Abstract

This essay offers an argument to broaden the exploration of the overlapping interests between environmental history, ethics, and rhetoric. It is critically important to understand the impact ethos and pathos can have on logos if environmentalists want their arguments in support of protecting the environment to succeed. To illustrate what rhetoric can add to our understanding of the public deliberation over environmental issues, this article focuses on the public deliberation over the construction of a nuclear power plant in Midland, Michigan, in the early 1970s.

Introduction

As a student of environmental rhetoric, I have made a habit of monitoring the professional conversation of environmental historians through reading both *Environmental History* and the H-ASEH list. I have also made excursions into the discussions on ASLE's (The Association for the Study of Literature and Environment) list, and I try to keep current on issues discussed in *Environmental Ethics*. Just as water and air pollution respect no political boundaries, anyone who is concerned about the state of the environment knows that serious study of the environment respects no academic boundaries.

Although I can claim no expertise in these other fields of environmental studies, I do feel a sense of kinship with them. Environmental historians, for example, have shown considerable sensitivity to issues of language use and content analysis. One issue of *Environmental History* contained two articles that dealt with language—one about the evolution of the meaning of the word *pollution* and the other about the complicating factor of bilingual communication on flood control in Montreal. So, with evidence that historians are already engaging in language issues related to the field of rhetoric, I am offering an argument to broaden the exploration of the overlapping interests between environmental history, ethics, and rhetoric.

The exploration of overlapping interests will benefit all fields. While environmental history has informed the work of environmental rhetoricians, it has also been informed by environmental ethics. For example, environmental historians have not only studied changes in the environment itself, but have studied changes in the concept of nature and wilderness over time. In regard to the reasons expressed or implied to justify particular decisions regarding the environment, Carolyn Merchant devised a taxonomy of ethics in terms of whether the reasons for justifying environmental decisions are egocentric, homocentric, or ecocentric—that is, whether the reasons primarily emphasize the welfare of individuals, the welfare of human societies, or the welfare of the natural world. Her work has been of great interest to environmental rhetoricians for whom *logos*, broadly understood as logical reasoning or argument, is a traditional focus of the study of rhetoric. Merchant's work clearly overlaps the fields of ethics, history, and rhetoric. Environmental historians also remind rhetoricians how essential it is to place rhetorical analyses within their historical contexts.

If environmental history and ethics have contributed to the study of environmental rhetoric, what, then, does rhetoric have to contribute to the study of environmental issues? In terms of the public deliberation of environmental issues over the past century, an examination of logos alone is sometimes insufficient to arrive at an understanding of the fully complex nature of the public debate dynamic. Because logos is only one component of Aristotelian rhetoric, tracing solely the development of the arguments or reasons presented in various battles over the environment does not provide the whole story of those battles. Logical reasoning matters, but the rhetor's character, or *ethos*, also counts as do appeals to an audience's emotions, or *pathos*. However much environmentalists wistfully desire their logical arguments or moral stance to be

sufficient to persuade the public to their cause, Aristotle still is right. Environmentalists ignore ethos and pathos at their own peril.

To illustrate what rhetoric can add to our understanding of the public deliberation over environmental issues, this article focuses on one case in point—the public deliberation over the construction of a nuclear power plant in Midland, Michigan, in the early 1970s. For one Midland citizen, Mary Sinclair, the construction of a nuclear plant created a situation that, according to her understanding of participatory democracy, required deliberation on the merits or faults of this course of action. While an examination of the reasons (logos)given for supporting or opposing the construction of the nuclear plant yields some insights into the effectiveness of homocentric and ecocentric appeals, an examination of the public's response to logos is richer when the dynamics of ethos and pathos are also considered. As this case study will show, the public's rejection of Sinclair's reasons was based on issues of character (ethos) and emotion (pathos). It is often still the case that environmentalists present strong arguments for protecting the environment, but fail to persuade the public. Recent opinion polls confirm that while the public generally supports environmental protection, environmentalists are generally viewed with suspicion. Therefore, it is critically important to understand the impact ethos and pathos can have on logos if environmentalists want their arguments in support of protecting the environment to succeed.

Context of the Debate over Nuclear Power

At the end of 1967, the Consumers Power Company announced its plan to build a nuclear power plant one mile from the downtown of Midland, Michigan. The banner headline in the local paper proclaimed its potential to be the "world's first with dual nuclear unit." The nuclear plant, which would have two reactors, was sited adjacent to the Dow Chemical Company so that Dow could use the steam generated for chemical processing through the use of heat exchangers. Dow was under state pressure to replace its outdated coal-fired plant to comply with state regulations for air quality. Dow Chemical was then burning 1.3 million tons of coal a year. Consumers' nuclear plant was projected to provide Dow with "four million pounds of steam an hour, or about 25 percent more steam," which would eliminate Dow's reliance on coal. Consumers' nuclear plant would solve Dow's problem with state air quality regulations, and Consumers could rely on support for the project from Dow.

The context in which Mary Sinclair found herself was a nearly impossible situation. While most Americans knew relatively little about nuclear power and were willing to trust the experts that it was safe, Sinclair had serious reservations. Before her arrival in Midland, Sinclair had worked at the Library of Congress. There, because of her training as a technical writer, she had access to classified Atomic Energy Commission (AEC) bulletins in which she, unlike the public, read about disagreements within the scientific community regarding the safety of the newly emerging nuclear technology. Because Sinclair was aware of problems that the public was not informed about, her attitude toward nuclear power was atypical for the times.

Because Midland was nearly synonymous with Dow Chemical, the town's major employer, Sinclair suspected that she would face strong opposition toward her views. With about 6,500 residents in a community of 35,000 working for Dow in the 1970s, Midland was typically characterized as the quintessential company town. Sinclair knew the Midland community because she had worked in Dow's research library and as a freelance technical writer for Dow. Being familiar with the attitudes of Dow's scientific community, Sinclair projected an ethos carefully calculated to earn their respect. Part of that ethos was to present as much scientifically-supported information as possible. In addition to focusing on "facts," Sinclair minimized emotional appeals. As she noted in an interview with *Ms.* magazine in 1985: "Living in a community with a lot of Ph.D.'s, most of whom were pro-nuclear power, I had to be very careful of credibility. . . . I knew I wouldn't last a week if I wasn't absolutely sure of my data" (Garland 65).

Despite her careful analysis of her audience, Mary Sinclair had only written three letters on the subject of nuclear power to the editor of the local paper when he cut her off. If she had anticipated attacks on her views from the scientific community, Sinclair hadn't expected the editor of the paper to try to silence her. After noting that he had provided Sinclair with a "generous amount of free space for one view," the editor made the following suggestion: "The fact that you have now organized a campaign group [the Saginaw Valley Nuclear Study Group] suggests some sort of a drive which ought to involve paid space if you wish your message published in the paper. If so, I suggest that you contact our advertising department" (Rumple). What had Sinclair written to elicit such a strong response? An analysis of her reasons (logos) for her concern regarding nuclear power cannot explain the reaction of the community; but an analysis that highlights the additional contextual issues of ethos and pathos can.

Ethos of a Citizen Advocate

Sinclair's letter published on June 25, 1969 is not only *her* first letter expressing concern about the

building of the nuclear plant, it was *the* first letter to challenge its construction. Sinclair has described the content of this letter as mild, and compared to her later letters, it was certainly milder in tone. Her awareness of audience clearly came through in her cautious criticism of nuclear technology. For example, because she did not want to offend the scientific community, she praised their prior accomplishments: "The methods used for establishing nuclear power represent a consensus of judgment of *able and responsible men* in their attempt to find solutions where no easy answers were available" [emphasis added]. She later asserted that she was "convinced that scientists and industry will respond to the challenge of the demand for maximum possible public protection in these matters as *brilliantly* as they have in developing other technologies" [emphasis added]. These comments would indicate that Sinclair was convinced that although there were problems with the technology, they were solvable.

Sinclair equally emphasized the benefit of this new technology, calling it "important and useful" and acknowledged that "thermal pollution. . . may be converted into ways to benefit the area." So although she criticized the technology, Sinclair carefully couched the criticism in statements of praise wherever possible. By acknowledging the potential benefit of nuclear power, she provided a balanced argument; she tried to fend off charges that her arguments were one-sided. Sinclair was not dogmatic in her position; she was willing to concede the strengths of other viewpoints as well as to admit to flaws or weaknesses in her own.

By offering support for nuclear power along with her criticism, Sinclair established a middle ground of reasonableness. Three short paragraphs in this first letter presented the heart of her argument and her plea for moderation or caution. By beginning the first of these paragraphs with the phrase "typically American, their initial drive," Sinclair underscored the value Americans traditionally placed on ingenuity, ambition, and efficiency. But Sinclair immediately placed this value in question in the next paragraph that raised a "however." She suggested that the scientists' "initial drive" may have been appropriate for the past, but that times had changed. Beginning with its "therefore," the last of these paragraphs left no doubt about Sinclair's line of reasoning. The challenge was not strictly to the development of nuclear power, only to its *pace* of development. As Sinclair explicitly stated: "Let us have nuclear energy provided—but with maximum pollution control and safety factors secure at the outset." This statement was reminiscent of Rachel Carson's statement in *Silent Spring*: "It is not my contention that chemical insecticides must never be used. I do contend that we have put poisonous and biologically potent chemicals indiscriminately into the hands of persons largely or wholly ignorant of their potentials for harm" (12). And, just as Carson was accused of being wholly against the use of insecticides, Sinclair was misinterpreted by the media and the community as making a wholesale condemnation of nuclear power. As Donald Stever, Jr., has noted, the divergence of opinion within anti-nuclear groups generally was lost on the media, the public, and the nuclear industry (3).

The single most important component of Sinclair's *ethos* was the role of "concerned citizen." The first three words of her first letter to the editor were "Saginaw Valley citizens." From this opening, Sinclair carefully constructed her ethos, calculated to embody the principle of democracy. Sinclair stated that "we must give this problem careful public scrutiny." Furthermore, because of the nature of the technology and the inherent risk to the public, she argued that the "public needs an advocate." Positioning herself as an advocate for public health and safety rather than an opponent of nuclear power, Sinclair described her actions this way: "I had simply taken what I thought was a routine action by a citizen. . . one I had seen as an obligation, since normally if you live in a community and understand that something is wrong, you try to do something about it" (Garland 64). In this way, Sinclair linked the logos of human health and safety inextricably with her ethos of citizen advocate.

In her second letter, which appeared in the December 23, 1969 issue of the *Midland Daily News*, Sinclair relied more heavily on the testimony of experts, conscious of the need to provide credible documentation and support for her concerns. In a scientific community, her word alone would not be sufficient. With several references such as "I enclosed a report of citations from various research reports" and "these warnings from scientists," a significant portion of Sinclair's letter was quoted from an Atomic Energy Commission publication called "Nuclear Safety" which "reported the contents of a letter of March 28, 1969, from the Reactor Licensing Board to Consumers Power Company in regard to the Midland plant." If the community wouldn't take Sinclair's word for it that they ought to be concerned about the nuclear plant, perhaps they would believe the Reactor Licensing Board, which had expressed concern about the unacceptability of the construction site and the plant's engineering. The stance Sinclair adopted in this letter was that of a reporter of someone else's concern. That "someone else" was the Reactor Licensing Board, whose concern should have provided the scientific community with the proper weight of authority.

Another new element in Sinclair's ethos that emerged in the second letter was a challenge to the

editor. During the six months between Sinclair's first and second letters, the editor of the paper, Norman C. Rumple, had not printed any information that challenged the safety of nuclear power. Sinclair provided clear criticism of Rumple's omission: "The editor of this newspaper has not seen fit to give this information even a paragraph of editorial comment to begin to alert this community. . . to the fact that there are differences of opinion of the safety features of nuclear plants." The criticism did not stop with Rumple's omission of unfavorable statements regarding nuclear power being published in the paper, but continued with Rumple's unfavorable portrayal of those who questioned the safety of nuclear power. In addition, Sinclair accused the editor of providing inaccurate information. She wrote,

> Your editorial of Saturday, December 20, implied that questioning the present course of nuclear power development in Midland was injecting irresponsible controversy into the community. I hope that you as a journalist are not suggesting that matters of public concern are not proper subjects for public discussion. Since your editorial was filled with questionable statements, I hope you will open this column to a free discussion of the issue by the community.

Sinclair argued for public deliberation that included opposing views, not just supporting ones. But so far, Mary Sinclair's was the solitary voice in Midland that spoke to dissuade the public from rushing to join the nuclear bandwagon. At this stage of development of the nuclear debate, Sinclair had already intertwined her ethos of concerned citizen with her major argument against the plant—human health and safety. This argument constituted a homocentric appeal and it remained Sinclair's main focus throughout the debate. This argument, however, was undermined by plant supporters' attacks against her character and by unfounded accusations of hysteria.

Sinclair continued the same strategies she used in her first and second letters—quotes from scientific testimony, challenges to the editor, and arguments for citizen participation—in her third and final letter of January 20, 1970. Sinclair was apparently compelled to write this lengthy letter, which quoted extensively from Dr. John Gofman and Dr. Arthur Tamplin's testimony to the Senate Committee on Air and Water Pollution, because, as she wrote in her letter, a "copy of their complete testimony was given to a reporter from this newspaper. . . but was never mentioned in this paper." These two AEC scientists had conducted a six-year study on the health effects of radiation at the request of Dr. Glenn Seaborg, head of the Atomic Energy Commission, and established "sound evidence on the effects of radiation on human health." Dr. Gofman had been co-discoverer with Dr. Seaborg of the isotope Uranium 233 and was associate director of the Lawrence Radiation Laboratory; Dr. Tamplin was from the Bio-Medical Division at Berkeley as well as Lawrence. In their testimony, Drs. Gofman and Tamplin argued that the acceptable level of radiation exposure should be revised "downward, by at least a factor of tenfold." Sinclair believed that the public should have been given this information. When the newspaper had evidently decided not to publish the testimony, Sinclair quoted it in her letter to the editor in order to get it before the public. After Dr. Gofman spoke to a group of citizens in Midland, several articles and letters to the editor followed, attacking his credibility. The issue of ethos once again was uppermost in the public debate, pushing the issue of logos aside.

Quoting from this testimony and providing the background to it having been ignored by the newspaper allowed Sinclair to bolster her ethos of concerned citizen. She established a moral high ground by providing the citizens with "the whole truth," while implying that the paper was being less than honest or objective in its reporting on nuclear energy. Sinclair also questioned the integrity of the Atomic Energy Commission by implying that it had a conflict of interest, being charged with authority to both promote and regulate the nuclear industry. She pointedly asked, "Why has the AEC promoted nuclear power as 'safe and clean' over the past six years when, at the same time, they were supporting a major study to find out if the present radiation standards were, in fact, safe?"

Sinclair's parting words were a treatise on the proper role of the federal government. That role was not to "encourage nuclear electric generating plants" as Senator Holifield of the Joint Committee on Atomic Energy was quoted in the newspaper as saying. Sinclair did not identify nuclear power development as a priority role for the government. Instead, she believed that "it is the first duty of government to protect the people of this republic." And to that end, Sinclair argued that "only determined citizen action can require that the issue of how much radioactive waste can be discharged to our air and waterways shall be resolved in favor of maximum protection of our own health, the health of our children and of our future generations." If the government failed to offer protection to the citizens, it was their right to insist that they be protected. Her final words directed the public to exercise their right to inform their representatives of their views: "Write to your congressman and senators on this serious matter." Sinclair clinched her role as a citizen advocate.

Sinclair's letters revealed an ethos of reasonableness, caution, and competence. A recurring issue was her insistence that if the community was being asked to bear the risks as well as the benefits of nuclear technology, then they ought to have a voice in the decision whether or not to use it. Sinclair assumed the role of citizen advocate and consistently promoted a belief in participatory democracy, that is, a democracy based on the participation of *all* its citizens, not just the experts and government bureaucrats, in the decision-making process. Sinclair was a strong believer in that American ideal.

Ethos of a Rabble Rouser

Sinclair's ethos, according to the *Midland Daily News*, however, is radically different from the ethos she was herself projecting. Instead of a concerned citizen, Sinclair was painted as a troublemaker. The first direct criticism of opponents to the nuclear plant appeared in Norman Rumple's editorial of December 20, 1969, in reference to a program entitled "Nuclear Power, Benefits and Risks," broadcast by the local public television station. "The television panel discussing the proposed Consumers Power Company nuclear power plant Thursday evening," he wrote, "appeared to be chosen on the basis of injecting controversy into the Midland area." This editorial set the tone for much of the criticism that would follow.

The controversy was injected by such panelists as,

> Joseph J. Dinunno, special assistant to the general manager for environmental affairs, Atomic Energy Commission; Col. Stephen Gadler, Minnesota Pollution Agency; Dr. Merrill Eisenbud, New York City Environmental Control; Charles W. Huver, associate professor of zoology at University of Minnesota; Carlos M. Fetteroff, Jr., of Michigan Water Resources Commission and Dr. Stanley Auerbach, ecologist, AEC Oak Ridge, Tenn., laboratories. ("Midland N-plant Project")

Dinunno, Eisenbud, Fetteroff and Auerbach were listed as expressing that there was an "extremely remote possibility of environmental pollution and danger." Gadler and Huver were characterized as "charging an environmental danger exists." Apparently, any criticism—however minimal—was interpreted by the paper as unnecessarily controversial. Ironically, Dr. Merrill Eisenbud would be quoted ten months later in the paper to refute the critics of nuclear power ("'N' Power Radioactivity").

Mary Sinclair was mentioned in the same article in the newspaper as a "Midland woman who opposes construction of the plant." In numerous other articles she is labeled a "housewife," "opponent," "critic" and an "N-plant foe." In an April 6, 1970 article, "SVC [Saginaw Valley College] teach-in," the three people mentioned in the article were characterized as "Herbert D. Doan, president of Dow Chemical Company, as keynote speaker, . . . William Kessler, project engineer for Consumers Power Company which is building the nuclear power plant here, . . . [and] Mrs. Mary Sinclair of Midland, a critic of the project." No further credentials were given. Only once did the newspaper provide any of her credentials, and then only following her more traditionally feminine qualifications. "Mrs. Sinclair, housewife and mother, has long been active and interested in civic affairs, in the City PTA Council, Family Service and Retarded Children. She is a writer and editor in the technical field. Currently Mrs. Sinclair is doing a special readings research project in nuclear fusion under the direction of Dr. William Kerr of the nuclear engineering department of the University of Michigan" ("GOP Club"). Considering the content of the article—an announcement regarding a meeting of the Midland Republican Breakfast Club—it may have been a press release that the paper published as written by the sponsoring organization.

Once the editor criticized the opponents, readers of the editorial page began sending letters expressing their opinions about the plant and its opponents. Without ever mentioning her by name, Russell M. Tree followed Sinclair's lead in adopting the ethos of concerned citizen, but added another critical credential—engineer. Although he adopted the same ethos, Tree reached very different conclusions from Sinclair. According to Tree, "A concerned citizen cannot help but understand that the U.S. is moving toward a fuel crisis." Tree was setting up his argument to equate "concerned citizen" with his point of view. This concerned citizen "cannot help but understand." Furthermore, Tree used the same reason as Sinclair for speaking out, "[w]hen an informed person has collected the facts, analyzed them, and made a considered judgment he owes it to his fellow man and fellow worker to make his feelings known." But in this context, Tree implied that Sinclair was not informed and that it was his obligation to set the record straight. The heart of Tree's argument was that the plant should be built quickly, that there was nothing to worry about. Ignorance was the reason behind people's fears. "It should be obvious to the concerned citizen that the nuclear power project has not been a hasty decision (to the contrary). It also should be obvious that hesitation fanned by undue fears could result in an insurmountable loss to an area that deserves a better fate." In other words, Tree believed

that a concerned citizen would obviously agree with his point of view, and anyone who did not agree was obviously ignorant.

Mary Sinclair and others who objected to the plant's construction were consistently accused of ignorance. According to one citizen, "intervenors against the nuclear power plant refuse to accept the favorable data from reliable sources while they accept and publish false and misleading information and continue to oppose approval" (Schreiber). Ned S. Arbury presented a similar argument in his letter in response to the issue of the uninsurability of a nuclear plant. Arbury, like Tree, seemed to believe that information would dispel fear. "This letter will attempt to present the facts in the case and to dispel the unwarranted concern in the matter of indemnifying the public," he wrote. Those who opposed the nuclear plant simply didn't have the facts. An intelligent person would not be worried. By denigrating her character, or ethos, the public was able to dismiss Sinclair's reasons for opposition to the plant.

If several members of the community disparaged the intelligence of the opponents to the plant, at least they kept their comments respectful. In other letters to the editor, however, the writers felt free to use inflammatory language. One letter charged that "It now appears that the heat generated by the current controversy concerning the proposed N. plant has spawned a pretentious brood of amateur, nuclear physicists" (Chubb). Another letter referred to opponents as "radicals and extremist groups." In an article in the newspaper, one woman was quoted as saying, "I belong to no interest group, I don't pretend to be an expert and I have no ax to grind. . . but I think nuclear power is desirable and I support this project" ("N-hearing"). Again, although Sinclair wasn't named, Mrs. Ulmer set herself apart from Mary Sinclair, who by that time had organized the Saginaw Valley Nuclear Study Group which opposed the plant. Because the paper consistently referred to Sinclair as a housewife rather than a technical writer, the community did not perceive her as having bona fide credentials.

If at first the supporters of the nuclear plant ignored or denigrated Sinclair's credentials, once the AEC Licensing hearings got underway, the charge against Sinclair shifted to obstructing progress. Every delay in the hearings was blamed on Sinclair or on the attorney, Myron Cherry, who had been hired to represent seven groups opposed to the plant, including the Environmental Defense Fund. Schreiber, who had accused the intervenors of publishing false information, leveled nearly libelous charges against Cherry in that same letter to the editor:

> Their attorney, Myron Cherry, for a huge fee (according to rumor supplied by an obstructionist of long-standing) is blatantly using every argument to delay a logical decision. Also he (Cherry) is retained by another group to obstruct approval of the Palisades Plant of the Consumers Power Co. in western Michigan. It appears that he is striving for national notoriety at the expense of sensible progress with no regard to the welfare of millions of injured people—but with plenty of benefit to one Myron Cherry.

The editor of the paper repeatedly leveled similar charges against Cherry and the intervenors in his editorials, stating, "But, so far as solving the real industrial power problem here, the Palisades settlement represents but one small step forward. Delays in that case have set a pattern which are being continued to an annoying extent in the application to build a nuclear power plant in this area" ("Small Step") and "As in other public hearings for nuclear plants, the chief tactic of delay has been used extensively here. The hearing process has been obstructed for months and promises for further delaying attempts are already voiced for the opposition by Myron M. Cherry" ("N-plant Is Inevitable"). If Schreiber and Rumple accused Cherry of using obstructionist tactics, they were by implication also accusing the coalition of groups opposing the plant, including Mary Sinclair, who had been the first person to speak out in opposition.

Sinclair was generally viewed as the instigator of the opposition to the plant, and was usually the target of hostility because of her visibility in the media. Sinclair became the scapegoat for a community that was becoming increasingly worried about its future. One Midlander in particular held Sinclair accountable for the delays in the licensing hearings. According to one news article, Lynn O. Francis, a Midland County Commissioner, "criticized two opponents of the plant, saying he can't understand why Wendell Marshall and Mrs. William D. Sinclair 'can bring this area to virtually a standstill'" ("N-plant Application"). The delays, it was noted, were costing money, and if the delays continued, they would cost Midland jobs. Rather than writing to their representatives as they were advised to do, some Midlanders became so incensed from the delays that they dumped garbage on Sinclair's lawn and made harassing phone calls (Graham 13). To the supporters of the project, Sinclair wasn't protecting their health, she was obstructing their wealth.

Ethos of the Good Corporate Citizen

Both Consumers Power Company and The Dow Chemical Company cultivated the ethos of the good

corporate citizen. Their logical arguments in favor of the nuclear plant's construction were unabashed appeals for the future economic well-being of Midland and the State of Michigan. Nuclear power represented progress. Consumers and Dow, although they would clearly benefit from the construction of the plant, had the best interests of the community at heart.

Russell C. Youngdahl, Consumers Power Company senior vice president, argued that "the delay in approving nuclear plants [was] damaging to the entire power industry" ("N-plant). In a similar vein, Bosscher, manager of Midland Division of Dow, claimed that "the need for nuclear power was based upon economy in getting a more competitive energy source for manufacturing processes and for steam" ("N-plant"). Although the appeal primarily considered Dow's needs in deciding the best course of action, if Dow had to relocate, Midland employees would lose their jobs. Relocating would only be a part of doing business for Dow, but it would be devastating to Midland residents. Dow could save Midlanders their jobs if the nuclear plant were built.

Consumers, which had hired a full-time environmental scientist, had the resources to promote the nuclear plant to Midland citizens. Consumers and Dow jointly opened an office in downtown Midland in October 1970 for the purpose of disseminating information about the nuclear plant. Local businessmen formed the Midland Nuclear Power Committee (MNPC), which also whole-heartedly supported the construction of the plant. Dr. North, chairman of the organization and minister of a local church, speaking on behalf of the MNPC, argued that "once a nuclear power plant becomes a reality in Midland, citizens can expect: (1) cleaner air as burning of fossil fuels subsides; (2) assurance of an adequate power supply to meet present and future needs, and (3) a bright socio-economic future for the Central Michigan area" ("Nuclear Power").

Unlike Sinclair's Saginaw Valley Nuclear Study Group, the MNPC's activities received considerable media coverage, from lengthy articles to photos. The discrepancy in coverage led the Saginaw Valley group to write and send a booklet entitled *Control of Press in Company Town Results in Whitewash of Critical Nuclear Plant Issues* to regional news media. The booklet also documented the one-sided editorial support for nuclear power. Eventually, the *Midland Daily News* had to hire a reporter to exclusively cover the AEC licensing hearings. One resident complained in a letter to the editor that the paper seemed to favor the opponents because of the coverage of the hearings, but a review of the headlines would indicate otherwise.

The MNPC's appeals were identical to those of Consumers and Dow. Consumers initially justified the need for the nuclear plant on its projections for increased power needs, which were claimed to be doubling every seven years. Robert Allen, a senior vice-president of Consumers, explained that the plant was needed to meet the "growing needs of the people of Michigan" ("Midland N-plant"). The need was greater than Dow's alone. However, in a community in which roughly one in five people was employed by Dow, it could be argued that as Dow went, so went the town. County Commissioner Lynn O. Francis put it bluntly when he said, "We want to keep Dow Chemical Company in Midland. If Dow prospers, the community will prosper and we all will prosper" ("Commissioners"). A planning consulting firm hired by the Midland Planning Commission had projected that "Midland's population by the year 2000 [would] reach 60,000" if the nuclear plant were built; if not, "the entire Dow plant. . . could be phased out" ("Midland's growth"). The implied consequence was that Midland would also be phased out, not just Dow. The MNPC, Consumers, and Dow all tied emotional concerns to economic concerns for the whole town and the surrounding region. The proponents of nuclear power used pathos to increase the impact of logos.

In addition to raising concerns about power shortages, Consumers argued that nuclear power was cleaner than coal. Dow and Consumers both noted that the nuclear power plant would eliminate flyash in Midland. Thomas R. McConnell, Environmental Scientist for the Consumers Power Company, responded to environmental concerns by stating in a letter that a "nuclear plant has far less impact on the environment than so-called conventional power plants." After providing a few details from a Health, Education and Welfare Department report, he reiterated that "nuclear power offers solutions to many of our environmental problems without causing more." One of the details he mentioned from the report, however, was a concern that "in the future a problem could exist if krypton-85 was released to the atmosphere." McConnell minimized this concern by arguing that because we were aware of the problem, we had already solved it. McConnell's strategy appeared to be to dismiss environmental impacts. In responding to a concern about phosphorus-32, McConnell first noted that P-32 wasn't produced by commercial power reactors. He then related a story about a group of scientists who researched P-32's effects by eating contaminated fish. McConnell concluded the story by stating that the scientists didn't get sick, only sick of eating fish. He never expressed concern for the effect of contamination on the fish. If it didn't harm people, it was apparently all right. His concern was more homocentric than ecocentric.

The public also voiced concern about the environment with the aim of rebutting the environmentalists' concerns. Edward Marsh, in his letter, conceded that "our water sometimes doesn't taste too good, and our air is pretty foggy at times—but we're still around." He implied that the environment was polluted, but the pollution was not sufficient to cause meaningful damage to human health. James Jones, a former employee at the Enrico Fermi plant which included the time period of the meltdown, also based his response to environmental concerns with personal anecdotal information, "[m]y personal radiation exposure accumulation during the time I worked there [21 years] was less than the average person would receive in having a dental or medical x-ray taken. This is a matter of record with the AEC." By minimizing the environmental impact of the nuclear power plant—indeed, by hailing it as a solution to environmental degradation—Consumers and Dow bolstered their positions as good corporate citizens.

A Restrained Passion

Because Sinclair had been so careful in constructing the ethos of "concerned citizen" for a scientific audience, her language was controlled and her voice modulated to project an unimpassioned and objective persona. However, a few phrases did find their way into Sinclair's letters to hint at her pathos. The strongest emotion that Sinclair displayed came in her first letter. Although most of her emotional arguments highlighted her concern for human health, and Sinclair's first plea called for us to care for the earth, "[t]he environment today is not just unlimited and physical—to be overcome—as it was in the past. Today, the environment is limited and social. It must be cared for—yes, even loved." This was the only time that Sinclair used the word *love*. It was also one of the rare instances in which her concern for the environment stood alone, that is, without being tied to her concern for human health and safety.

More typical of Sinclair's emotional appeals was the statement "[w]e. . . must demand. . . maximum protection for the environment they are manipulating in which we live and raise our families." The strength of her conviction was articulated in using the imperative mood in "must demand." And although Sinclair often referred to *families*, with its positive connotations, she never made any specific references to her own children or husband. Neither of these emotional appeals was blatant in their use, nor overwrought, contrived, manipulative or sentimental.
Sinclair's concern for the health and well being of the current generation extended to the next generation as well. Aware of the possible long term consequences, Sinclair often tied her concern for the future to her concern for the present as in her statement, "the solutions we strive for now are critical for our own health and safety. They are indispensable for future generations." For Sinclair, it wasn't enough to consider only the impact of our decisions on our own lives; it was essential to consider the consequences of our decisions for our children and grandchildren.

Although Sinclair took issue with the industry's promotion of nuclear power as "clean and safe," she capitalized on the industry's promotion of "atoms for peace." In a subtle way, the reference to peace acknowledged the emotionally-laden origin of the nuclear industry in war. Sinclair's strategy was to unite her criticism of safety with her praise of peace. "Perhaps these are the 'safeguards' that we should be buying now to help nuclear power become the asset to peaceful purposes that we want it to be." Echoing other statements, Sinclair affirmed that she was for nuclear power, but only as long as that power was safe and was used for peace.

These sentiments were not emotion run amok; Sinclair's use of language was sophisticated, formal, reserved. The closest Sinclair ever came to an emotional outburst was in her second letter. This was the same statement that chastised the editor for having refused to publish information unfavorable to nuclear energy: "The editor of this newspaper has not seen fit to give this information even a paragraph of editorial comment to begin to alert this community, which has a vital human stake in this matter." The other "outburst" in this letter was a response to a comment made by the director of Consumers Power public relations, in which the key emotional word *disaster* was his, not Sinclair's. "Romney Wheeler. . . is said to have stated that, if these reactors are not built, it will be a 'disaster for Midland.' It seems to me, that the real disaster for Midland would be to fail to pay attention to the warnings on safety and public health now before the plant is built, and to fail to take every possible precaution against environmental contamination now."

The emotional content of the third letter was not from Sinclair but from the scientists that she quoted. In some parts of the letter, Sinclair simply reported the scientists' data: "The scientists warned that the present permissible radiation standards could—if not checked—cause 64,000 deaths annually in America. They stated that if everyone received the Federal Radiation Council statutory allowable dose that there would be a 5 per cent increase in the death rate by age 30." Sinclair used the scientists' statistical projections to create concern. In other parts of the letter, the scientists' testimony contained emotionally-charged words: "We shall present to you [the Senate Committee on Air and Water Pollution] the estimated disastrous consequences to the health of the public if this recom-

mendation receives less than immediate, serious attention." Sinclair also included Drs. Gofman's and Tamplin's statement that "any conclusion we draw concerning the hazard of the current radiation guidelines buttressed by consideration of the additional burden of human misery associated with genetic defects, fetal deaths and neo-natal deaths." With words such as *disastrous*, *hazard*, and *misery*, and with the deaths of innocent babies, Sinclair's distancing of emotional appeals was still not enough. The scientific community would likely have found these emotions inappropriate for scientists providing testimony at a Congressional hearing.

Pathos of a Hysterical Housewife

Having made the case that the opponents, especially Sinclair, were misinformed about the safety of nuclear power, it was then simple for Consumers, Dow, and the public to argue that the opponents' ignorance gave rise to their fears. The opponents acknowledged that they had concerns, but they would not themselves have labeled those concerns as fears. Critics of the opponents, such as Anand, however, saw their concerns as unfounded or magnified, "[r]adical and extremist groups have done one very good thing so far; they have brought to our attention the problems of pollution and ecological changes. . . . But let us not get emotional and overly concerned about the problem." Radicals and extremists were emotional, not rational like Midland's ordinary citizens. Russell Tree had also labeled the opponents as having "undue fears." But the strongest language condemning the opponents as fearful came from Dr. Sidney Smock, who was quoted in the paper as having said that "some of the fear may well be paranoid" ("N-hearing"). The public did not view the concerns for public safety as a reasonable fear but as unfounded and paranoid.

If ordinary citizens might not have felt any constraint to portray the opponents of their views in biased language, one might still have expected the press to present a more neutral portrait of those who questioned the construction of the plant. But the evidence would suggest otherwise. An article by James Kerwin published in the *Detroit News* on August 9, 1970 was typical in its characterization of citizens concerned about the adverse effects of nuclear power. The article began with the statement that "Conservationists will rally here Monday to launch another assault on the newest environmental crisis—the threat they feel is posed by atomic power plants." Conservationists were apparently waging a war, whereas Consumers was merely going about its business. The characterization implied that Consumers was an innocent victim being attacked unfairly. The "newest crisis" demeaned the seriousness of their concern; the term *crisis* implied an element of hysteria or "Chicken Little" panic while *newest* connoted that the crisis was only the latest fad among environmental groups. Kerwin's phrasing—"sportsmen and housewives will lead the attack"—conjured images of men in fishing vests brandishing nets and women with pots and pans hoisted like clubs. These were people with time on their hands, not the hard-working folk of the community who might lose their jobs because of them.

If the article generally portrayed conservationists negatively, it also misrepresented Mary Sinclair. "The opposition here is being led by a group of housewives headed by Mrs. Mary Sinclair, a mother of five who once served as a technical writer and researcher for the Library of Congress" (Kerwin). Again, although Sinclair's pertinent qualifications were provided, top billing went to "housewife and mother." By contrast, no article ever noted that a man was "husband and father." Yet again, Sinclair's relevant background was never fully revealed. And although the reporter acknowledged that Sinclair had "accumulated volumes of data to back her stand," every credential was counterbalanced by such irrelevant information as "whose husband is a Midland attorney."

The Non-Nuclear Apocalyptic Future

Although they criticized the opponents of the plant for using emotional appeals (pathos), the proponents of nuclear power did not refrain from making emotional appeals themselves. Because their arguments focused on economic development, they presented apocalyptic scenarios of Midland's future without nuclear energy. While they perceived the opponents' fears regarding nuclear power's threat to health as based on ignorance, they perceived their own fears as justified.

If one letter had characterized Sinclair in a negative light by calling her an "amateur nuclear physicist," the author of that letter didn't have any positive words regarding the backers of the nuclear plant either. He pointed out the emotionalism in their arguments as well as in the critics' arguments.

> When one evaluates the real and basic issues involved: those in favor wave the banner of economic improvement with dire prospects for the future tacked on to add color and emphasis; those opposed have only the risk factor involved to champion their cause. . . . The entire situation appears as an intense contest with those inspired by the ever-present profit motive, on one side, and those incited to action by apprehension, on the other." (Chubb)

Although some of his language tended toward the sensational, Chubb was the most neutral observer of the controversy—he condemned both sides equally.

Consumers Power first built a case for constructing the plant to meet increased needs for power. They then argued that the consequence of not meeting this need for energy would lead inexorably to loss of jobs. "[Wheeler, director of Consumers Power public relations] said Dow officials have informed him that unless additional power supplies are obtained, cutbacks in Dow Midland production and possible shifts in personnel and operations to other parts of the country might result" ("Midland N-plant Project"). In effect, Dow employees were being emotionally blackmailed into supporting Consumers Power's decision to construct the nuclear plant. As time passed, the predictions became more dire. A January 27, 1971 article with the headline "Midland's growth up to 'N' power, planner informed" projected a "gloom and doom" future for Midland without the plant. "If the proposed nuclear power plant is constructed, Midland's population by the year 2000 is projected to reach 60,000, the Midland Planning Commission was told Tuesday night. Otherwise, if not, *the entire Dow plant here could be phased out*" [emphasis added]. For a town in which one out of five residents were employed by Dow, that prediction represented a serious economic threat.

Midlanders were apparently concerned about the loss of jobs and effectively used emotional appeals during the debate in Midland over the construction of a nuclear power plant. One letter to the editor clearly echoed the official line from Dow and Consumers: "The [nuclear] plant. . . may be instrumental in whether Dow expands here or moves some operations elsewhere" (Vasold). Another letter translated the potential job loss into more graphic language with a higher emotional impact: "If the atomic plant is not built before long, there will be many more empty buildings and a lot less men working in the Midland Division [of Dow]" (Sigsby). Later in the year, W. H. Nielsen argued that the closing of Dow's propylene oxide plant was a result of high energy costs. He played upon the public's sympathy for these "real people who have already been hurt by the high cost of power in Midland" and suggested that others would likewise be affected without the nuclear plant.

Edward Marsh made a simple appeal in his letter to the editor. "I am for this N-plant. If this is going to help both myself, Dow and others, let's get back of it." He argued not only that the plant would be beneficial, but that not constructing it would be detrimental. As an employee of Dow for 29 years, Marsh was apparently concerned about newspaper reports that suggested Dow would shift its operations elsewhere if its energy needs could not be met. Marsh posed the highly-charged question, "[w]hat's better for us—no work? or food on our table?" Those who didn't fear nuclear power were afraid that their hometown was going to become a ghost town.

What Ethos and Pathos Add to Logos

The evidence suggests that both those who were for and those who were against the construction of a nuclear power plant in Midland made both homocentric and ecocentric appeals to the public, but the preponderance of the debate was conducted with homocentric appeals, which pared to their simplest form was a "jobs vs. health" debate. Few ecocentric appeals were made in the debate, and when they were made, they were rarely pure. Underlying the concern for the environment was a primary concern for humans, not for other species; in other words, concerns about a degraded environment focused on its impact on people rather than on the environment itself.

But there are reasons for the rarity of ecocentric arguments in the public deliberation of this issue. The nature of the Atomic Safety and Licensing Board (ASLB) hearings weighted the discussion toward safety of humans rather than impact on the environment. The federal ruling to add environmental impact came during the Midland hearings, so there was little precedent for deliberation on environmental impact within the ASLB arena. Anti-nuclear activists have attributed later successful interventions against nuclear plants to the pioneering work of Cherry, Sinclair, and others:

> They forced numerous new safety requirements upon the industry, collected valuable information on the nuclear question, and got it out to the press. By doing this work, they bought precious time for the general public to consider the implications of atomic construction. Lengthy interventions against the Calvert Cliffs (MD), Vermont Yankee, Indian Point (NY), and Midland (MI) reactors led to a series of legal challenges and precedents that laid the groundwork for all future debate on nuclear energy. (Gyorgy 382)

That future debate would increasingly focus on the environmental impact of nuclear energy that expressed ecocentric as well as homocentric reasons for halting the construction of nuclear plants.

One small sign of hope that ecocentric appeals would find a future place in the public deliberation of the Midland nuclear plant's construction was the observation from the president of the Dow Chemical Company, Herbert Doan, that "solutions to environ-

mental problems will be difficult to find because 'we have let single-purpose thinking dominate our lives'" ("SVC"). At a "teach-in" at Saginaw Valley College, Doan proposed that "both the balance of nature and the balance of social, political, economic and technological factors in our society need broad-purpose thinking." Even though Doan assessed the environmental impact differently from the intervenors against the nuclear plant, environmental concerns nonetheless had gained a legitimate claim for him in the public deliberation of the issue.

An analysis of logos at this stage of the public debate might lead one to believe that Dow Chemical and Consumers Power presented more convincing arguments for construction of the plant to the public than the environmentalists did. The environmentalists apparently assumed that Dow and Consumers were winning the debate, for their response to the situation was to provide the public with more and better reasons not to build the nuclear plant. The course of the debate in Midland raised a series of objections to nuclear power that paralleled the national debate. The search for better reasons, however, did not initially succeed in changing public opinion because the problem was not in the quality of the environmentalists' arguments; the problem lay in the public's perception of their ethos and pathos. The environmentalists' continued focus on logos could not fix their problem with ethos or pathos.

However well the intervenors were able to capitalize on the opportunity the licensing board hearings provided them to argue their case against nuclear power, it was a mistake for the intervenors not to respond to the community's concern about jobs. While Consumers and Dow used every opportunity to rebut safety issues with economic ones, the intervenors were completely silent on the issue of jobs. That silence could have been interpreted by the community as a weakness in the intervenors' position, that is, that they had no rebuttal. The silence could also have been seen as callousness for the plight of Dow employees. Either way, their silence on the issue of jobs likely damaged the position of the intervenors. Expressing compassion for residents who were worried about jobs may have helped minimize the community's hostility toward the intervenors. It may not have been justified, but the public viewed the environmentalists as caring more about what happened to the environment than to the residents of Midland. Minimizing pathos in discussion of scientific data was appropriate; lack of pathos on the issue of jobs alienated the public from the environmentalists.

Coda—The Rest of the Story

Sinclair did not succeed in preventing Consumers Power from obtaining a license to build the nuclear plant, but over the years, problems in the plant's construction came to light—the foundation had developed cracks because of improperly compacted subsoil. Construction problems and delays meant that Dow wasn't provided the steam it needed for its production. Dow threatened to back out of its contract with Consumers; Consumers threatened to sue Dow if it did. After nearing bankruptcy, Consumers finally abandoned the nuclear plant in 1984. Dow never pulled up stakes; in fact, Dow has continued to be the major employer of Midland residents.

Sinclair had had the audacity to challenge the community's cherished faith in technology and progress. The accident at Three Mile Island, Midland's sister plant, likely eroded some of that faith. Times had also changed. When Sinclair wrote her first letter to the editor in 1969, the country was still in the midst of the turbulent conflict in Vietnam. The sixties had been a decade of protests against the war as well as protests for civil rights. It was the decade in which a women's liberation movement emerged. This was the broader context into which Sinclair raised her concern for the environment. It may be possible that these social movements predisposed the community to associate Sinclair's protest with them and, therefore, to view her message negatively. Certainly, an examination of Sinclair's reasons alone cannot account for the town's vehement rejection of her arguments for health and safety concerns. For that, issues of ethos and pathos must be examined.

Environmental historians have been documenting the physical changes in the environment over time; environmental ethicists have been tracing the development of environmental thought over time. By bringing these two tracks together, an overarching project of environmental studies has been to demonstrate how our ideas regarding the environment have a direct bearing on the land itself, or in short, how our thoughts do shape the world. Further, those of us who pursue scholarly interests in the environment often do so with the hope that our contributions will result in maintaining a livable environment. We *do* want our thoughts to influence the public. But as this case study of the ASLB hearings in Midland so clearly reminds us, logos is inextricably bound to ethos and pathos. If we want to win the minds of the public, we must also win their hearts.

Works Cited

"AEC Ready to Consider Environmental Issues." *Midland Daily News*. 5 August 1971: A1.

Anand, Mona. Letter to the Editor. *Midland Daily News* 28 September 1970: B2.

Arbury, Ned S. Letter to the Editor. *Midland Daily News* 20 March 1971: A6.

Carson, Rachel. *Silent Spring*. New York: Houghton Mifflin, 1994.

Chubb, O.J. (Jack). Letter to the Editor. *Midland Daily News* 31 March 1971: A8.

"Commissioners to Launch Drive Tuesday for Midland N-plant." *Midland Daily News*. 22 September 1971: A3.

"Conservation Consultant Notes N-power Issues." *Midland Daily News*. 24 September 1970: A3.

Garland, Anne Witte. "Mary Sinclair." *Ms.* January 1984: 64+.

"GOP Club to Hear Nuclear Discussion." *Midland Daily News* 12 November 1970: A3.

"Go Slowly, Examine All Risks, WRC Told." *Midland Daily News*. 11 August 1970: A1.

Graham, Frank. "Reformed Nuke." *Audubon*. January 1991: 13.

Gyorgy, Anna. *No Nukes: Everyone's Guide to Nuclear Power*. Boston: South End Press, 1979.

Jones, James. Letter. *Midland Daily News*. 27 January 1971: B2.

Kerwin, James L. "Atomic Plant Is Opposed." *Detroit News* 9 August 1970.

Marsh, Edward L. Letter to the Editor. *Midland Daily News* 27 January 1971: B2.

McConnell, Thomas R. Letter. *Bay City Times*. 26 February 1971.

"Midland May Be World's First With Dual Nuclear Unit." *Midland Daily News* 14 December 1967: A1.

"Midland N-plant Construction Expected to Start This Summer." *Midland Daily News* 31 January 1970: A3.

"Midland N-plant Project Debated." *Midland Daily News* 19 December 1969: A1.

"Midland's Growth Up to 'N' Power, Planners Informed." *Midland Daily News* 27 January 1971: A3.

"N-plant Application Mishandled—Francis." *Midland Daily News* 17 August 1971: A1.

"N-plant Construction Schedule in Jeopardy." *Midland Daily News*. 9 September 1970: A1.

"'N' Power Radioactivity Minimal, Scientist Says." *Midland Daily News* 13 October 1970: A1.

Nielsen, W. H. Letter. *Midland Daily News*. 24 August 1971: A6.

"Nuclear Power Committee Completes Nine Workshops." *Midland Daily News*. 28 November 1970: A3.

Protz, Claudia. "Cherry Challenges Safety Guidelines for Nuclear Plants." *Midland Daily News*. 23 June 1971: A1.

—. "Utility's Weather Data Challenged at 'N' Plant Hearing." *Midland Daily News* 15 July 1971: A1.

Rumple, Norman C. Letter to Mary Sinclair. 4 February 1970.

—. "N-plant Is Inevitable in Midland's Future." Editorial. *Midland Daily News* 6 July 1971: A6.

—. "Nuclear Power of Importance Here." Editorial. *Midland Daily News* 20 December 1969: A10.

—. "Small Step Forward in Power Controversy." Editorial. *Midland Daily News* 18 March 1971: A8.

"SVC Teach-in Panel Airs Midland N-power Plant." *Midland Daily News* 6 April 1970: A3.

Schneider, Phillip L. "AEC Orders More Detailed Evacuation Plans for City, Plant." *Midland Daily News* 25 June 1971: A1.

Schreiber, R. Paul. Letter to the Editor. *Midland Daily News* 6 March 1971: A6.

Sigsby, Brad. Letter to the Editor. *Midland Daily News* 8 April 1971: A8.

Sinclair, Mary. Letter to the Editor. *Midland Daily News* 25 June 1969: B2.

—. Letter to the Editor. *Midland Daily News* 23 December 1969: A8.

—. Letter to the Editor. *Midland Daily News* 20 January 1970: B2.

Tree, Russell M. Letter to the Editor. *Midland Daily News* 2 October 1970: A8.

Vasold, Robert E. Letter to the Editor. *Midland Daily News* 22 March 1971: A6.

Theorizing Nuclear Communication: Mystery, Potency, and Secrecy

William J. Kinsella
Department of Communication
Lewis and Clark College—Portland, OR

Abstract

As contributors to an emerging research field, environmental communication scholars are familiar with the problems of defining an appropriate object of study and developing useful theoretical tools. Here I address these same problems in the related, but distinct, domain of "nuclear communication," by examining three themes that are especially useful in understanding nuclear discourse. Operating together in a particular constellation of meanings, these themes sustain a powerful discursive formation that has far-reaching consequences for environmental communication, for communication more generally, and for social and political relations.

This essay proceeds from the premise that within the communication discipline, it is useful to distinguish a particular field of inquiry which some scholars have described as "nuclear communication." Nuclear communication encompasses a broad set of symbolic activities surrounding military and civilian nuclear technologies; the organizations and institutions that produce, utilize, operate, and regulate these technologies; and the social, political, and cultural consequences of these technologies. The extraordinary power of nuclear symbolism, and the profound practical consequences of human intervention in nuclear processes (itself accomplished largely through symbolic activities including theory-building, organizing, and political discourse), warrant close attention to the processes and effects of nuclear communication. Here I wish to explore the relationships between nuclear communication and environmental communication, as fields of study and as objects of research. In doing so I identify three analytical principles that are especially relevant to nuclear communication, and show how these provide important insights into the constellation of meanings that characterize this discursive field.

In a review essay in the *Western Journal of Communication*, Bryan Taylor (1998) identifies a body of communication scholarship analogous to the "nuclear criticism" project in literary studies (Derrida, 1984; Norris, 1992, 1994). Taylor's examples include the 1986 Speech Communication Association seminar organized by Goodnight and Williams, as well as thematic issues of the *Journal of the American Forensic Association* (1988) and the *Journal of Communication* (1989). Taylor's own article appears in yet another thematic journal issue a decade later, which together with recent panel sessions at conferences of the National Communication Association (1998) and the Western Communication Association (1999), demonstrates a continuing and possibly growing interest within our discipline.

Nuclear communication has a clear connection to another flourishing field of interest, that of environmental communication, but should not be viewed as simply a subset of that field. The two fields certainly exhibit important commonalities in the problems they study and the theoretical resources they can most usefully employ. Common problem areas include the tensions between democracy and expertise, stakeholder participation in organizational and governmental decision-making, risk communication and the implications of risk paradigms, scientific and technological literacy, and the social and cultural construction of the natural world. Common resources include insights gleaned from organizational, intercultural, political, and health communication; public discourse and public address; rhetorical and communication theory; rhetoric of science and technology; cultural studies; mass communication; and journalism. But at the same time, nuclear communication is characterized by certain recurrent and powerful tropes—sometimes explicit, sometimes implicit—that seem especially salient in the discourses of things nuclear. Three such tropes, which I examine here, I call *mystery*, *potency*, and *secrecy*. These require special attention as part of any effort to develop a theory of nuclear communication, and as part of any effort to clarify the relationships between nuclear and environmental communication. Mystery, potency, and secrecy have characterized nuclear communication throughout its history, and operating together in a particular configuration, they generate a distinct problematic for the field.

Nuclear and environmental communication can inform each other fruitfully in at least three ways. First, the fields share certain important research problems such as those I have described above. Case studies in the two domains may therefore be mutually

relevant, and theoretical tools may be applicable across the genres.

Second, nuclear and environmental communication share an interdisciplinary quality which poses particular metatheoretical issues. As environmental communication scholars have already recognized, one such issue is the problem of creating a unified theoretical base upon which to ground an interdisciplinary research field. This problem has by no means been solved within environmental communication, nor will it ever fully be, nor is it completely solvable (nor is its complete solution necessarily desirable) in any of the more traditional subfields of the notoriously eclectic communication discipline (see Craig, 1999). Nevertheless, the search for a coherent body of theory is an important ongoing project for environmental communication scholars, and is now emerging as a similar concern for those who study nuclear communication. In both domains, theories that balance the competing qualities of simplicity (or adequate complexity), accuracy, and generality (Weick, 1979); provide generative power (Gergen, 1982) and emancipatory potential (Rogers, 1998); and centralize the issues and principles of communication will be essential tools in the movement from exploratory research to sustained productive inquiry. As fellow travelers in this search for theoretical foundations, scholars of environmental and nuclear communication can provide each other with both substantive and moral support.

A third connection exists between nuclear and environmental communication, and is perhaps the most theoretically interesting. As social and cultural phenomena, discourses of the environment and discourses of the nuclear influence each other explicitly and implicitly. For example, Kuletz (1998) and Limerick (1998) have shown how discourses that portray the American desert as an unproductive wasteland have fostered the colonization of that region by nuclear enterprises. In this case, a discursive influence flows from the realm of environmental speech to that of nuclear speech. Influences may flow in the opposite direction, as well, as when the Baconian program of the mastery of nature draws legitimation from the claimed successes of nuclear science and technology. Later in this essay, I argue that the influences that flow from nuclear discourse to environmental discourse are more important than has been generally recognized, making the former centrally relevant to the latter.

More broadly, this essay examines the connections between nuclear communication research and some general theories of language and discourse. My goal is to highlight some of the theoretical problems and resources that have been salient to nuclear communication scholars and to suggest some others that may be useful in the near future. I have organized my discussion around the special problems associated with mystery, potency, and secrecy, which I regard as three central themes of nuclear communication. Certainly, these tropes are not exclusive to nuclear discourse; they operate in a wide variety of discursive settings. Indeed, Burke (1969) has made one of these tropes, mystery, a central organizing principle in a general theory of rhetoric. Within environmental discourse, nature is often regarded as mysterious (as in discourses of the sublime), chemical toxins may be characterized as potent, and genetically modified organisms may be viewed as proprietary secrets. Nevertheless, in no domain other than the nuclear do all three tropes appear so regularly and with such rhetorical force.[1] Furthermore, it is not the presence of these tropes, alone, that makes nuclear communication a distinct discursive phenomenon; rather, it is how the three tropes are used and how they interact. Below, I examine these usages and interactions and show how their combined effect, while originating in nuclear discourse, extends well beyond the domain of the nuclear. Through these tropes, nuclear discourse has enacted and sustained particular visions of the material and social worlds more generally.

Mystery

The nuclear realm is both mysterious and mystified. Nuclear physics is mystified in that it is widely considered an arcane and difficult subject, out of the intellectual reach of "ordinary" people. Paradoxically, in a world where nuclear power plants and weapons are pervasive technological presences, the legend persists that only a gifted few can understand these products of science and technology. The very term "nuclear science" (along with its cognate, "rocket science") is a symbol of intellectual difficulty with wide cultural currency—in fact, a doubly powerful symbol in a culture where the term "science" alone evokes considerable awe (Toumey, 1996). By their associations with the presumed "hardest" of the "hard sciences" (feminist critics will find this metaphor noteworthy), nuclear engineering, nuclear strategy, and commercial nuclear energy are similarly mystified. Such a distancing of things nuclear from the realm of public discourse has important communicative implications, sustaining the culture of expertise that monopolizes nuclear communication.

Simultaneously, "the atom" is mysterious in its associations with the primordial, the fundamental, and the sacred. Atoms are invisible abstractions, idealized and perfect in their mathematical representations; they are Platonic ideals or Husserlian essences. But at the same time, atoms are capable of

direct and dramatic material effects as symbolized by the ultimate nuclear image, the mushroom cloud (Boyer, 1985; Caputi, 1993; Rosenthal, 1991; Weart, 1989; Winkler, 1993). In this merging of spirit and matter, abstractness and consequentiality, atoms are godlike entities. In striving to control and deploy atomic forces, humans, in turn, appropriate the status of gods. Caputi (1993; see also Chernus, 1986; Rhodes, 1986) has noted the prevalence of religious imagery—and personal identification—in the discourse of scientists (Robert Oppenheimer), military officers (Thomas Farrell), politicians (Harry Truman), and journalists (William L. Laurence) who participated in the drama of the first nuclear blast. As Chernus (1986) comments:

> [atomic] weapons are special in that they rely. . . on the basic principle that underlies our entire conception of material reality in the twentieth century—the structure of the atom. The mystery embodied in the Bomb is the mystery of reality itself, and it is the nuclear scientists who have "unlocked" or "harnessed" it. (p. 15)

Here Chernus calls attention to the deification of the "Bomb" with an ironic use of capitalization. David Lilienthal (1963), first chairperson of the Atomic Energy Commission and an early nuclear rhetor, apparently had no such ironic attention when he capitalized "the Atom" throughout a series of essays on its political and social meaning. Meanwhile, prominent nuclear scientists were contributing to the elevation of their own discipline with essays such as Neils Bohr's (1958) *Atomic Physics and Human Knowledge,* laying claim to the most fundamental questions of ontology and epistemology.

Thus the physical forces of the atom have acquired a theological status, and the "nuclear priesthood" that (ad)ministers these forces has become mysterious as well. Mystery and perfection extend, further, to the weapons that embody and deliver these nuclear forces, and even to the strategic "doctrines" that govern these weapons' place in a global system of relations based on the constant presence of the nuclear. In the doctrine known as "deterrence" the very maintenance of this presence replaces war (Baudrillard, 1983), while in the alternative doctrine of "nuclear war fighting" the simulacra of deterrence edge closer to literal holocaust.

Williams (1989, p. 199) utilizes Derrida's concepts of the "trancendental signified" and *differance,* together with Burke's principles of mystery, hierarchy, and perfection, to identify nuclear war "as the perfect form of, the eschatology of, the rigidification and determination of difference as opposition and conflict." Williams suggests that nuclear war has acquired the status of a transcendental signified, a value or meaning that appears to stand outside of language:

> When a transcendental signified exceeds and governs *differance*, demarcations of difference become rigid, and the gesture toward deferral is forgotten. Difference has transformed into opposition, and opposition necessarily privileges one of the paired terms, necessarily institutes hierarchy. It becomes a matter of this instead of that; this rather than that. Opposition is therefore necessarily a "conflictual and subordinating structure" [Derrida, 1981, p. 41]. (Williams, 1989, p. 202)

One hierarchical structure that emerges under the nuclear sign is a system of international relations marked by a competition for nuclear superiority, or at least by a striving for membership in the "nuclear club" (a membership symbolized by the possession of a nuclear "club" of another sort). Other hierarchical orders develop within individual nations; where discourse and action regarding nuclear issues are monopolized by those with insider status. These two forms of hierarchy are mutually reinforcing: international nuclear threats legitimate domestic nuclear institutions, which in turn promote the expansion and intensification of those same threats (Nadel, 1995). This circular process comes to appear inevitable and even natural, reified in concepts such as "technological determinism" or "autonomous technology" (Winner, 1977). The process strives toward perfection in a closure of meaning under the sign of "absolute truth," with potentially disastrous consequences:

> Values which exceed the linguistic processes that produced them become metaphysical; they step outside of language and seemingly exist independently of it, either ontologically, as conditions of being, or theologically, as conditions of meaning. . . . To be outside of language is to be in the realm of pure signification, of oracular knowledge received totally, in its fullest plenitude, from an unknown other. This illusion of pure signification is indeed the very "history of truth," [Derrida, 1976, p. 20] and, as Truth, this illusion of the transcendental signified generates a sense of "absolute knowledge." Fortified with, and motivated by, transcendental knowledge, humanity may "run the risk, precisely because of that," [Derrida, 1984, p. 31] of enacting the conflictual impulses contained

> within any ordained hierarchy, of speeding onward toward a nuclear end. (Williams, p. 202).

A third form of hierarchy—the most far-reaching and the one that brings environmental and nuclear communication together—emerges as an increasingly alienated and manipulative relationship between humanity and nature, understood as binary opposites. The "scientists who have 'unlocked' or 'harnessed'" (Chernus, 1986, p. 15) nuclear forces have taken Bacon's project of subjugating the natural world to its ultimate end. That world has become a "standing reserve" (Heidegger, 1997) for human use, with no limits to its colonization and exploitation.

Rogers (1998) has examined the origins and consequences of this binary opposition between nature and humanity, showing how that opposition grounds both representational and constitutive theories of communication. Drawing from feminist theory and from Neitzsche's reflections on truth and power, he points out the identification of "nature" or "matter" with the feminine and the way in which a masculinized "will to truth" orders and controls that feminine principle. In such a discursive formation, the possibilities for human dialog with nature are forfeited in exchange for a regime of separation and domination. Thus the "domination" (Leiss, 1972), "death" (Merchant, 1979), or "end" (McKibben, 1989) of nature are driven in an especially potent way by the discourse of nuclearism.

Potency

Nuclear discourse and nuclear materials are both highly potent. In a famous comment soon after the first atomic explosions, Einstein (1946) wrote that "[t]he unleashed power of the atom has changed everything save our modes of thinking, and we thus drift toward unparalleled catastrophe." I take this comment to mean that nuclear knowledge has produced a quantitative change in the human capacity for directing and utilizing physical energy, sufficient to count as a qualitative change in the human condition, while our most fundamental ways of understanding the natural and social worlds have remained unchanged. In Einstein's view, it is this disjunction between our material and ideational capacities that has put us in peril. The potency of our material interventions has expanded, while the potency of our collective intellect has not.

Such a view is at odds with the argument that I am developing here, in which the unleashed (symbolic) power of the atom *has* changed our modes of thinking. Einstein's statement, grounded in a representational model of language, suggests that discourse "simply" must be improved to better reflect our new material conditions, without recognizing that a quantum shift has occurred at the level of symbolism as well. Despite its gravity the comment understates the embeddedness and pervasiveness of the nuclear presence, and the constitutive role of the nuclear in society and culture. Nuclear discourses, as well as nuclear materialities, have become highly potent. Thus, new "modes of thinking" must extend beyond the manifestly political domains of government and international relations (as in the calls by Einstein and his colleagues for a world government), to a recognition of the full symbolic power that underlies the nuclear order. Baudrillard's (1983) comments address the depth of the nuclear presence, displaying an optimism regarding our basic survival but a pessimism regarding the conditions of that survival:

> It isn't that the direct menace of atomic destruction paralyzes our lives. . . . Deterrence excludes war—the antiquated violence of exploding systems. Deterrence is the neutral, implosive violence of metastable or involving systems. The risk of nuclear atomization only serves as a pretext. . . to the installation of a universal system of security, linkup, and control whose deterrent effect does not aim for atomic clash at all. . . but really the much larger probability of any real event, of anything which could disturb the general system and upset the balance. The balance of terror is the terror of balance. (pp. 59-60)

Here the threat of material annihilation is transformed into a discursive annihilation, a discipline that encompasses public speech, social and institutional process, and ecological relations. Nuclear policy, both military and civilian, is relegated to the realm of experts; nuclear institutions such as the Manhattan Project or the Department of Energy become autonomous empires (Goldberg, 1998; Risen, 1999); modes of social relationship are contained and constrained (Nadel, 1995); more harmonious ways of living on and with the Earth are discounted (Borgmann, 1984). In this monolithic discursive regime, under the potent system of nuclear signs, alternative voices appear impotent. Foucault's views on disciplinary power, on who gets to speak and what gets to be said, and on the power/knowledge relationship seem especially promising as tools for addressing these discursive closures (Foucault, 1972, 1978, 1979, 1980), although two concerns about such an approach must be addressed.

First, Rogers (1998) has pointed out how Platonic and Kantian oppositions between the ideational

and the material are deeply implicated in the rupture between nature and humanity, and in the resulting impulse to domination. Consistent with Rogers' concerns, we must be careful not to interpret Foucault as reducing everything to "pure discourse," for to do so would be to privilege the ideational/masculine over the material/feminine. While Foucault is often read as exclusively concerned with the discursive and the social, projects such as those of Pickering (1995) and Rouse (1993) utilize Foucault's ideas in ways that preserve a place for the material. These efforts to extend a Foucaultian perspective to the physical sciences (see also Kinsella, 1999) may provide a starting point for an analysis of power/knowledge in nuclear communication.

Second, some feminist theorists might view Foucault's concerns with power as perpetuating a patriarchal value, and thereby compromising opportunities to move beyond entrenched patterns of social struggle. For these theorists, seeking to understand the prevailing discursive formations of nuclearism would be a distracting project that could only succumb to the rules and procedures of a masculinized discourse. Indeed, the very concept of "potency" may appear patriarchal in this feminist view. Caputi (1993) provides a response to such critiques:

> *[P]ower*'s primary modern definitions according to *Webster's* smack of inequality and violence: "a position of ascendancy; ability to compel obedience; control, dominion." Examples of power in the dictionary refer to "dictators" and "control over nature.". . . Despite these negative connotations, I am reluctant to abandon completely the notion of power, since some of the biggest lies hammered into our consciousness are that only elite men are potent and that only high-powered "snools" ("normal inhabitants of the sado-society, characterized by sadism and masochism combined") or the leaders of the so-called superpowers are able to affect the world. It is imperative that those of us who oppose the snoolish world order acknowledge that we are able to effect revolutionary change, although our ways, to be sure, are not the ways of patriarchal power. (p. 9)

If power and potency remain useful analytical principles, then Foucault's insights regarding the operation of disciplinary power provide a connection to the third theme of nuclear communication, secrecy.

Secrecy

According to Caputi (1993, p. 128), "as any analyst of nuclear culture knows, an unprecedented and profoundly enforced official secrecy is the most prominent feature of the history of nuclear development." The pernicious political and psychological effects of nuclear secrecy are at the center of Lifton and Falk's (1982) classic analysis, and these authors use Shils' (1956) study of the McCarthy era as an example:

> Throughout the inquisitory hearings the stress was on "telling all" and "naming names"—on revealing all personal secrets that might somehow be useful to "the enemy." For the ultimate secret rendered all lesser secrets more dangerous. (Lifton & Falk, 1982, p. 27)

This description sounds strikingly similar to Foucault's account of the use of the "technology of the confessional" to inculcate practices of self-discipline (Foucault, 1978). In that account, the effect of such technologies is to produce a collection of "docile bodies" which provide "bio-power" to meet the needs of the social order. In the era of nuclearism, a similar disciplinary practice fosters a form of docile citizenship in which the public interest is subordinated to the nuclear order:

> The myth of the "bomb secret" is integral to the entire structure of illusion and deception around security. It enables a small group of bomb managers to assume a priestlike stance as exclusive possessors of secrets too arcane and too sacred to be made available to the rest of us. And, the assumption goes, by their vigilance in protecting those secrets from everyone, their own countrymen as well as foreign adversaries, they guarantee everyone's safety. The process perpetuates itself because the technology and bureaucracy of nuclear weapons constantly generate new secrets as older ones become known, new esoteric mysteries known only to the nuclear priesthood. What the mythology actually guarantees is a perpetuation of dangerous self-deception and the prevention of the kind of informed exchange that might result in more constructive policies. (Lifton & Falk, 1982, p. 31)

Although these observations by Lifton and Falk date from the height of the cold war, their continuing relevance is demonstrated by the recent controversy over secrecy at the Los Alamos nuclear weapons labo-

ratory (Gerth & Weiner, 1999; Risen, 1999, 2000; Risen & Gerth, 1999). Furthermore, the centerpiece of atomic power/knowledge, Lifton and Falk's "bomb secret," has now generated "a host of secondary secrets regarding nuclear waste production, health effects of nuclear processes and installations, movements and locations of nuclear materials, and plans for cleaning up after nuclear operations" (Kinsella, 2001). Thus, adequate theories of nuclear communication must account for and address the problems inherent to a wide-ranging regime of secrecy. Nuclear communication is not likely to approach the "ideal speech situation" of Habermas (1984), although that model may be useful for clarifying the damaging effects of secrecy. The phenomena that Habermas describes as "concealed strategic action," which take the forms of "unconscious deception (systematically distorted communication)" and "conscious deception (manipuation)" (p. 333) are not simply correctable impediments to a better form of nuclear communication. Rather, they are among the most basic principles of nuclear communication as it is practiced today. Similarly, dialogic models of communication may offer ideals for public and organizational discourse (Fisher, 1994; Pearce & Littlejohn, 1997), but must at the same time incorporate a realistic appreciation of how secrecy limits and colors dialogue.

Conclusion

The tropes of mystery, potency, and secrecy provide a useful starting point for understanding the distinctive characteristics of nuclear communication. But while these themes make nuclear communication a special domain of study, they also connect it to the related field of environmental communication and to broader issues in communication theory and practice. Just as nuclear materials have powerful effects on the physical and biological environments, nuclear symbolism has profound effects on the discursive, social, and cultural environments. These latter effects have important material consequences, as well.

Nuclear communication structures a social and discursive order in which the "conquest" of the atom provides a model and a validation for the domination of nature more generally. The transcendental symbols of the nuclear order mystify the project of domination, insure the potency of its realization, and hide it from view in a regime of secrecy. In these ways, nuclear communication becomes a template for environmental communication, as well as institutional and political communication. Thus the relevance of nuclear communication to environmental communication is more than a matter of parallel research problems and shared theoretical sources. Environmental communication, the environment itself, and our social and cultural conditions are deeply structured by the constant presence of the nuclear.

Note

1. One emerging domain in which these tropes may be equally powerful is that of genomic discourse, where biological mystery, potent techniques for intervening in life processes, and commercial incentives for secrecy interact in powerful ways. In this regard, it is noteworthy that the U.S. Department of Energy, the paradigmatic nuclear institution, is also a significant sponsor of genome research.

References

Baudrillard, J. (1983). *Simulations*. New York: Semiotext(e).

Bohr, N. (1958). *Atomic physics and human knowledge*. New York: Wiley.

Borgmann, A. (1984). *Technology and the character of contemporary life*. Chicago: U of Chicago P.

Boyer, P. (1985). *By the bomb's early light: American thought and culture at the dawn of the atomic age*. New York: Pantheon.

Burke, K. (1969). *A rhetoric of motives*. Berkeley: U of California P.

Caputi, J. (1993). *Gossips, gorgons, and crones: The fates of the Earth*. Santa Fe, NM: Bear & Company.

Chernus, I. (1986). *Dr. Strangegod: On the symbolic meaning of nuclear weapons*. Columbia: U of South Carolina P.

Craig, R. T. (1999). Communication theory as a field. *Communication Theory, 9*(2), 119-161.

Derrida, J. (1981). *Positions*. Chicago: U of Chicago P.

Derrida, J. (1984). No apocalypse, not now (full speed ahead, seven missiles, seven missives). *Diacritics, 14*(2), 20-31.

Einstein, A. (1946/1991). Telegram sent to prominent Americans and published in *New York Times*, 25 May 1946. Quoted in T. Augarde (Ed.), *The Oxford dictionary of modern quotations* (p. 73). Oxford, England: Oxford UP.

Fischer, F. (1990). *Technocracy and the politics of expertise*. Newbury Park, CA: Sage.

Fisher, W. R. (1994). A case: Public moral argument. In R. Anderson, K. N. Cissna, & R. C. Arnett (Eds.), *The reach of dialogue: Confirmation, voice, and community* (pp. 173-177). Cresskill, NJ: Hampton.

Foucault, M. (1972). *The archeology of knowledge*. New York: Pantheon.

Foucault, M. (1978). *The history of sexuality, Volume 1: An introduction*. New York: Pantheon.

Foucault, M. (1979). *Discipline and punish: The birth of the prison*. New York: Vintage.

Foucault, M. (1980). *Power/knowledge: Selected interviews and other writings, 1972-1977* (Ed. C. Gordon). New York: Pantheon.

Gergen, K. J. (1982). *Toward transformation in social knowledge*. New York: Springer-Verlag.

Gerth, J., & Weiner, T. (1999, May 23). Tracking suspicions about China's atom spying. *New York Times*, p. 1.

Goldberg, S. (1998). General Groves and the atomic west: The making and the meaning of Hanford. In B. Hevly & J. M. Findlay (Eds.), *The atomic west.* (pp. 39-89). Seattle: U of Washington P.

Habermas, J. (1984). *The theory of communicative action, Vol. 1: Reason and the rationalization of society*. Boston: Beacon.

Heidegger, M. (1977). *The question concerning technology and other essays* (trans. W. Lovitt). New York: Harper & Row.

Kinsella, W. J. (1999). Discourse, power, and knowledge in the management of "big science": The production of consensus in a nuclear fusion research laboratory. *Management Communication Quarterly, 13*(2), 171-208.

Kinsella, W. J. (2001). Containing discourse: Material and discursive boundary-work at the Hanford nuclear reservation. *Science as Culture* (forthcoming).

Kuletz, V. L. (1998). *The tainted desert: Environmental and social ruin in the American west*. New York: Routledge.

Leiss, W. (1972). *The domination of nature*. New York: Braziller.

Lifton, R. J., & Falk, R. (1982). *Indefensible weapons: The political and psychological case against nuclearism*. New York: Basic.

Lilienthal, D. E. (1963). *Change, hope, and the bomb*. Princeton, NJ: Princeton UP.

Limerick, P. N. (1998). The significance of Hanford in American history. In P. W. Hirt (Ed.), *Terra Pacifica: People and place in the northwest states and western Canada* (pp. 53-70). Pullman: Washington State UP.

McKibben, J. (1989). *The end of nature*. New York: Random House.

Merchant, C. (1979). *The death of nature: Women, ecology, and the scientific revolution*. New York: Harper & Row.

Nadel, A. (1995). *Containment culture: American narratives, postmodernism, and the atomic age*. Durham, NC: Duke UP.

Norris, C. (1992). Deconstruction and the nuclear referent. In C. Norris, *Uncritical theory: Postmodernism, intellectuals, and the Gulf War* (pp. 38-47). Amherst: U of Massachusetts P.

Norris, C. (1994). 'Nuclear criticism' ten years on. *Prose Studies, 17*, 130-139.

Pearce, W. B., & Littlejohn, S. (1997). *Moral conflict: When social worlds collide*. Thousand Oaks, CA: Sage.

Pickering, A. (1995). *The mangle of practice: Time, agency, and science*. Chicago: U of Chicago P.

Rhodes, R. (1986). *The making of the atomic bomb.* New York: Simon & Schuster.

Risen, J. (1999, June 15). Report scolds bureaucracy for U.S. nuclear lab lapses. *New York Times.*

Risen, J. (2000, June 17). Missing Los Alamos data found behind copying machine in lab. *New York Times*, p. 1.

Risen, J., & Gerth, J. (1999, March 6). Breach at Los Alamos: A special report. *New York Times.*

Rosenthal, P. (1991). The nuclear mushroom cloud as cultural image. *American Literary History, 3*(1), 63-92.

Rogers, R. A. (1998). Overcoming the objectification of nature in constitutive theories: Toward a transhuman, materialist theory of communication. *Western Journal of Communication, 62*(3), 244-272.

Rouse, J. (1993). Foucault and the natural sciences. In J. Caputo & M. Yount (Eds.). *Foucault and the critique of institutions* (pp. 137-162). University Park: Pennsylvania State UP.

Shils, E. (1956). *The torment of secrecy: The background and consequences of American security policies.* Glencoe, IL: Free Press.

Taylor, B. C. (1998). Nuclear weapons and communication studies: A review essay. *Western Journal of Communication, 62*(3), 300-315.

Toumey, C. P. (1996). *Conjuring science: Scientific symbols and cultural meanings in American life.* New Brunswick, NJ: Rutgers UP.

Weart, S. (1989). *Nuclear fear: A history of images.* Cambridge, MA: Harvard UP.

Weick, K. E. (1979). *The social psychology of organizing* (2nd ed.). New York: Random House.

Williams, D. C. (1989). Under the sign of (an)nihilation: Burke in the age of nuclear destruction and critical deconstruction. In H. W. Simons & T. Melia (Eds.), *The legacy of Kenneth Burke* (pp. 196-223). Madison: U of Wisconsin P.

Winkler, A. M. (1993). *Life under a cloud: American anxiety about the atom.* Oxford, England: Oxford UP.

Winner. L. (1977). *Autonomous technology: Techics-out-of-control as a theme in political thought.* Cambridge, MA: MIT P.

Environmental Communication and Nuclear Communication Studies: The Case of Rocky Flats

Bryan C. Taylor and Shannon Davis
Department of Communication
University of Colorado—Boulder, CO

Abstract

The global community has yet to fully assimilate the Cold War's political, economic, and cultural legacies. The ways in which these events are interpreted and enforced as "lessons" may profoundly affect the institutions, policies, and technologies through which the Cold War's seemingly inevitable successor will be produced. A neglected line of inquiry, and the focus of this essay, is the nexus among nuclear weapons, environmental communication, and (post-) Cold War culture. We focus specifically on public discourse about Rocky Flats including the material organization of that site and the ideologies through which its structure and culture have historically been produced and transformed.

Although a decade has passed since it was officially declared "over," the global community has yet to fully assimilate the Cold War's political, economic, and cultural legacies. Instead, the traumatic "conversion" of state-run economies to free-market capitalism, and the resurgence of ethnic violence have created urgent, de-stabilizing problems for the post-Cold War international system. These problems have precluded the luxuries of careful reflection and the establishment of consensus about the meaning of this epoch. Potentially, however, as the arms race between the United States and the former Soviet Union recedes, our understanding of its consequences potentially increases. One problem—and opportunity for learning—now confronting nuclear citizens involves the management of environmental consequences created by decades of domestic production and testing of nuclear weapons. These Cold War "mistakes"—which include extensive contamination of soil and groundwater by radioactive and toxic chemical wastes, threats to worker safety, and the displacement of indigenous peoples (Makhijani, Ruttenber, Kennedy, & Clapp, 1995)—have typically been rationalized as the unavoidable consequences of procedures improvised by facility operators and federal regulators within "the context of the times." These cited contingencies include the urgent need to produce nuclear weapons to guarantee U.S. "national security," and the unprecedented nature of this undertaking, such that reliable baseline data concerning health and safety risks did not exist when operations commenced. This rationale emphasizes a flawed yet noble enterprise, but it is not universally compelling. Numerous citizens, artists, activists, journalists, politicians, and regulators reviewing the emerging record of this period have been moved to morally condemn—if not legally indict—the Department of Energy and its contractors, even unto use of the term "organized crime" (Kauzlarich & Kramer, 1993). The ways in which these events are interpreted and enforced as "lessons" may profoundly affect the institutions, policies, and technologies through which the Cold War's seemingly inevitable successor will be produced.

Communication scholars have variously heeded the call for study of environmental (e.g., Bruner & Oelschlaeger, 1994; Peterson, 1997) and nuclear issues (e.g., Taylor, 1998). More tentatively, they have begun to explore the relationship between communication and post-Cold War culture (e.g., Taylor & Hartnett, forthcoming). A somewhat neglected line of inquiry, however, is the nexus among nuclear weapons, environmental communication, and (post-) Cold War culture. We may attribute disciplinary neglect of this particular intersection to a number of factors, including the historical dominance of public address as a paradigm for Cold War criticism, and the environmentalist framing of the nuclear threat as prospective eco-cide. Even as late as the early 1980s, for example, images of "nuclear winter" and "a kingdom of insects and grass" radicalized audiences, but oriented them primarily to an imminent—but not yet present—apocalypse. There are, however, important exceptions to this pattern. Studies of the discursive politics surrounding the siting of nuclear waste facilities and the management of "stakeholder relations" in facility communities (Depoe & Young, 1996; Katz & Miller, 1996; Ratliff, 1998) have demonstrated the benefit of integrating these topics.

Consistently, these studies have indicated the enduring struggle for authority and legitimacy conducted between nuclear officials employing technical-rational discourses of risk, and nuclear citizens employing a variety of cultural-vernacular discourses. At issue in this contest, typically, are the byzantine pro-

cedures and formats used by authorities, and their potential to foreclose and distort the opportunity for meaningful citizen participation in nuclear decision-making. At the heart of many of these conflicts, as Katz and Miller (1996) note, is a "contemptuous" view by some officials of communication as a hyper-formal process of "transmission" in which citizen "input" is passively tolerated (and devalued as "subjective"). Citizen voice in this process is duly noted (and then often ignored) in official records, or subsequently taken as the target of corrective "education" and "information" programs. This "engineering" approach to communication, of course, forecloses the possibility of mutually authentic and transformational dialogue in which parties are free to use and reflect on a wide variety of rhetorical means for creating situated and mutually satisfying understandings of nuclear risk. Official "management" of the nuclear-symbolic "environment"—i.e., the field of potential meanings of nuclear technologies, institutions, and policies— favors the "closed rhetoric of authority, control, [and] precision associated with the power of science and technology" over the "open-ended rhetoric of participation, engagement, [and] ambiguity associated with the ideals of democracy" (Katz & Miller, 1996, p. 134). The Department of Energy and related agencies are able to deploy specific, strategic practices to maintain this control. Two examples include constraining the scope of discussion (e.g., in ways that do not challenge key presumptions about goals and means), and determining the schedule by which topics will be treated (i.e., lay citizens and volunteers are typically disadvantaged when required to process similar amounts and types of technical information at similar rates expected of paid officials and expert specialists). In her analysis of conflicting discourses surrounding the siting of the Yucca Mountain (Nevada) high-level, radioactive waste repository, relatedly, Kuletz (1998) identifies various "mechanisms of exclusion" which facilitate environmental racism and nuclear colonialism. These practices, which include epidemiological dismissal of anecdotal reports of increased illness among (understudied) populations and manipulation of tribal conflicts to inhibit the solidarity of indigenous peoples, combine to create devastated ecosystems, economic dependency, and human casualties. These effects represent a different historical order of nuclear "collateral damage."

It is important to note, however, that this hegemony is not monolithic. Public scandal and Congressional investigation have followed revelations of the massive violations of environmental, health, and safety regulations that occurred during Cold War production of nuclear weapons (e.g., the "testing" of radioactive materials on medical subjects without their informed consent). A partially and precariously "reformed" Department of Energy has taken important steps to empower stakeholder participation in decision-making about the cleanup of former nuclear weapons production sites. The agency has chartered and funded site-specific boards whose members advise contractors and regulators in decisions about cleanup operations. It has also developed more sophisticated (and arguably sincere) public information and outreach campaigns (often staffed, however, by workers hired after 1990, or who were never directly involved in weapons production). Metzler (1998), for example, discovered significant participation by Environmetal Protection Agency (EPA)and citizen activists at the Fernald (Ohio) former uranium-production facility in the formation of post-closure organizational goals and activities. This participation, she concludes, transformed the relationship between private and public spheres traditionally embodied in the practices of site contractors. In this way, nuclear stakeholders are increasingly challenging the criteria by which topics and concerns are considered "relevant" and "legitimate" (and their opposites) in these deliberations. This challenge has inevitable limits, however. As we will discuss below, the Department of Energy has not extended this opportunity for democratic participation to include areas of ongoing nuclear weapons production. Metzler's study is complemented by other nuclear-cultural studies depicting the complexity of regional, gender, ethnic, class, religious, and other affiliations that constitute the unique texture of local nuclear communities. These ideological elements may unpredictably converge, even if temporarily and unsuccessfully, in opposition to nuclear hegemony (Glass, 1993; Kuletz, 1998; Masco, 1999). Frequently, these movements organize around irreconcilable paradigms for inhabiting and using nuclear environments: local use-value vs. abstract exchange-value, sensual embodiment vs. detached disembodiment, cooperation vs. conquest, and instrumental "fields" vs. domestic "homes" (Taylor, 1997). These studies provide important evidence that counters official claims of monolithic and consistent endorsement by Americans of the Cold War policies of containment and deterrence. They restore the integrity of local, plural, simultaneous, and diverse environments as situated fields of nuclear meaning and practice.

The current discursive formation surrounding nuclear weapons and the environment differs both in degree and kind from its Cold War predecessor. The arms race focused public attention on the danger of nuclear weapons "in use." The possibility of war seemed unfathomable yet also imminent, producing a "widespread terror" (Schiappa, 1989, p. 261). The U.S. government's response to this crisis was to invest

trillions of dollars in producing ever-greater numbers of nuclear weapons, and to—arguably—promote what Lifton and Falk (1991) have deemed an anxious and fatalisic state of "nuclear numbing," in which those weapons were ambivalently embraced as a source of protection and destruction. Nuclear weapons were heavily rationalized and naturalized during the Cold War in ideological discourses that presented them as logical and inevitable solutions to the "real" conditions of superpower conflict. Essentially, the end of the Cold War, as well as the attendant publicity surrounding decrepit production facilities and the growing crisis of nuclear waste disposal, has opened up spaces for the discussion of nuclear weapons and their production as fundamental environmental problems. Although we are frequently reminded that the threat of regional nuclear war remains (e.g., by media coverage of the 1998 India-Pakistani nuclear skirmish), American audiences, now released from the paralyzing (il)logic of deterrence, can grapple with the threat of a slow, quiet, and enduring contamination created by "our" nuclear arsenal. Ironically, it is only in a moment of relief from the perpetual Cold War fear of "their" nuclear weapons reaching "our" soil that allows us the opportunity to bring this environmental damage to the forefront of public debate. Instead of "watching the skies," we now realize, we should have been watching the earth beneath our feet.

The assumption that nuclear communication can/should ever be considered separately from environmental communication is itself an issue for investigation. How we have historically and selectively framed nuclear weapons (e.g., as technologies of superpower foreign relations) says a lot about how we view ourselves in relation to the environment. With the end of the Cold War, the dangers of nuclear weapons need to be explored as environmental problems related to their evolving, institutionalized modes of design, production, transportation, and storage. Although moral, economic, and political questions concerning the "use" of nuclear weapons qua weapons remain significant, it is necessary to reconceptualize those weapons as always already "in use," that is, capable of producing material effects, whether or not they are used in actual warfare. Even in their "potential" states of production and storage, nuclear weapons are artifacts of interlocking material and discursive processes that produce a variety of intended and unintended, recognized and unacknowledged, immediate and deferred, natural and social, and minor and major "effects."

Our failure to understand this complex nuclear ontology is an artifact of the discourse of deterrence, which hopelessly confounded the distinction between the "material/actual" and "symbolic/ potential" states of nuclear weapons. As instruments of foreign policy, those weapons were designed to oscillate between the functions of promised threat and completed destruction. The paradox, of course, was that this oscillation was not controllable. The consequences of actual use were so terrifying as to undermine the credibility of threatened use. Similarly, the actual logistics required to perform a credible threat for enemies (e.g., "launch-on-warning" policies; official talk of nuclear "war-fighting") periodically became excessive and terrified American allies and citizens. This outcome undermined the public "morale" and resolve required to support the appearance of a credible threat. The end result, in any event, was to primarily fix public attention on the drama of potential superpower conflict and divert attention from the mundane realities of ongoing local production. Thus, one advantage of approaching nuclear issues in the context of environmental communication illuminates how our perceived relationship with nature influences nuclear decision-making. As divisive Cold War rhetoric declines, and as nuclear facilities become objects of a massive, complex and expensive (estimates range upward of $300 billion) cleanup, these issues should become more prevalent in nuclear-critical discourse.

The sites of this exploration will inevitably involve the complex mix of stakeholders surrounding nuclear weapons production facilities, corporate contractors and project managers, sub-contractors, employees, state and federal regulators, community members, local governments, native peoples, and the variety of mute, ancient, and chaotic "natural" interests designated as "the environment." These stakeholders have multiple, alternately competitive and complementary interests. The ways in which those interests are articulated and represented in the process of facility remediation (e.g., through discursive tropes such as "at the table" that define the legitimacy of participants; Pezzulo, 1999) is a principal topic of nuclear-environmental communication study. One excellent example of this type of study involves a "Living History" project at the Fernald facility developed by a team of University of Cincinnati researchers (Barnes-Kloth, Depoe & Hamilton, 1999; see also the essay by Barnes-Kloth, et al. in this volume). Initially intending to document the "environmental memories" of Fernald workers and community residents, this research team encountered a political minefield involving multiple, competing visions of "appropriate" historical topics and narrative frameworks. When more powerful stakeholders appropriated the project, the team members shifted both their tactics of participation and their scholarly goals, turning instead to ethnographically document the poetics and politics through which the project was unfolding.

The simultaneous persistence and re-configuration of these interests in post-Cold War nuclear facilities reflects a significant change in which the Department of Energy and its contractors are simultaneously engaging and deferring the consequences of Cold War nuclear production. As Taylor (1999) notes, "the institutional stewards of nuclear weapons, now deprived of their traditional 'markets' and 'funding' sources, are now. . . remaking themselves (donning 'Green Suits') as Environmental Remediation specialists" (p. 3). It is either just or ironic that the DOE should be charged with "cleaning up" a mess that it has historically created through, arguably, its own arrogance and short-sightedness. These facilities are currently staffed by a mixture of Cold War workers and professionals who co-mingle with the new agents of remediation. In this way, the topic of nuclear-environmental communication potentially intersects with organizational communication by including the ideologies and subcultures that animate this process. For example, Fairhurst and her associates (Fairhurst, Jordan & Neuwirth, 1997; Cooren, Fairhurst & Cahill, 1998) have produced a series of studies detailing the disorientation and ambivalence of Fernald workers tasked with de-commissioning a facility that is central to their identity, and the challenges of managers tasked with motivating that workforce. Another potential site of study involves the Department of Energy headquarters itself in which, allegedly, the subcultures of Environmental Management (devoted to facility remediation) and "Defense Projects" (ongoing weapons production) have little if any contact. It remains to be seen if or how "lessons learned" by the former will be incorporated into the activities of the latter. One fear is that this structure—in which the figures responsible for flawed policies and practices are often no longer present, having quit, retired, or been reassigned—will compartmentalize responsibility and abet a cultural mythology that such practices are "all in the past." This structure also significantly con-textualizes interaction between site officials and stakeholders. Community members who learn about historical abuses often find that the immediate custodians of the site are not directly responsible (i.e., there is a crime scene, but no criminals), and as such, must seek other outlets for their anxiety and outrage. Another unexplored topic is the attitude of current agency and facility employees towards their predecessors (who in some cases include their former selves). It seems reasonable to speculate that these current employees, depending on their ideological relation to nuclear weapons, view those predecessors with a mixture of emotions ranging from resentment, suspicion, and resignation to more positive empathy, nostalgia, admiration, and ironic gratitude (i.e., for creating "problems" whose "solutions" form their ongoing livelihood).

While notable, this institutional transformation is not unique. As Paystrup (1996) and Harre, Brockmeier, and Muhlhausler (1999) have noted, the push is on for corporate and governmental agencies to (at least appear to) satisfy what they believe to be increasing stakeholder "demand" for environmentalist performance. Although some of these campaigns are fraudulent, or at the very least misleading, agencies are finding it pays to endorse environmental concerns. The Department of Energy is a noteworthy case because its environmental "conscience" was partly created by the (temporarily) declining need for weapons production services at the end of the Cold War. This partly opportunistic, partly mandated transformation from weapons makers to the Earth's clean team illustrates an old theme in environmental communication study. By merging resources from the "separate" areas of nuclear and environmental communication research, we are bound to learn more about this trend. At the same time, however, we should not be deceived that one mission has completely supplanted another. Federal reluctance to cut nuclear stockpiles beyond existing arms control treaties, foot-dragging regarding the negotiation of further treaties, development of new virtual weapons design and testing programs (e.g., under the guise of "stockpile stewardship"), the bipartisan push for National Missile Defense, and the overarching continuity of Cold War rhetorical tropes in the representation of "rogues" and "states of concern" (e.g., Iraq, North Korea) all indicate that the nuclear weapons apparatus is currently in transformation, but not necessarily in decline.

Another connection between the study of environmental discourse and nuclear communication involves operating metaphors and available language resources. Our perceived relationship with the environment has always played a role in nuclear decision-making (e.g., Cantrill and Oravec, 1996). That role, however, increases in a post-Cold War context when the fear of communist aggression cannot be blamed for "blinding" us to other concerns. Incorporating the lessons learned from environmental communication studies gives us insight into what tropes or metaphors may be at work in nuclear debates. For example, the assumption of an adequate separation between the natural and social worlds may influence decisions concerning nuclear waste facilities such as WIPP (the Waste Isolation Pilot Project, located in New Mexico). In this debate, some citizens and decision-makers have expressed the belief that storage in a remote, "natural" facility is "safer" than storage in nuclear facilities located near populated areas (Killingsworth and Palmer, 1992). The investigation of metaphors and

tropes involving the environment and those involving nuclear weapons should be mutually informing. The metaphor of nature as a gift from God (Harre, Brockmeier, & Muhlhausler, 1999) is an example of a language resource also evoked in seminal nuclear discourse (Glass, 1993). In this discourse, the weapons were depicted by wartime journalists, scientists and military officials as both a masculine penetration of Nature's powerful secrets, and also a gift from supernatural sources (Taylor, 1993a). Similarly, the operations of "nukespeak" (Schiappa, 1989, p. 253) as a particular way of talking about nuclear issues that constrains public deliberation (e.g., through bureaucratic jargon and euphemism) can be examined for interlocking modes of productivity with "ecospeak," which Killingsworth and Palmer (1992) have depicted as a potential constraint on public environmental debate. In this process, we can trace the relationship between the assumptions guiding these terms, and the possible linguistic sources from which they borrow their persuasive force (e.g., the authoritative warrants of science and technology). These overlapping interests should be traced and explored as a way of gaining insight into the current decisions being made about the fate of nuclear weapons in a post-Cold War society.

Rocky Flats: A Case-Study for Environmental-Nuclear Communication Study

Our argument above has been shaped by our recent engagement with Rocky Flats as a "complex site." Our use of this term is consistent with Taylor's theoretical argument (1993a, 1993b) that nuclear weapons organizations are both "real" phenomena where labor, technology and material resources are rationally combined to produce and clean up weapons, and also contested symbolic sites of cultural memory and imagination. Various interests appropriate the sign of nuclear weapons organizations to reproduce their preferred, ideological narratives. In this way, public discourse about Rocky Flats involves both the material organization (which is partly a set of administrative and contractual relationships that have created various practices with particular effects) of that site, but also the ideologies through which its structure and culture have historically been produced and transformed.

Located roughly twenty miles northwest of downtown Denver, the 6,500-acre Rocky Flats Environmental Technology site originated as a production facility intended to serve the perceived urgent need for nuclear warheads during the 1950s (Ackland, 1999). Construction of the facility, which involved fabrication and assembly of plutonium, uranium and beryllium components (principally, hollow-sphere plutonium "pits"), began in 1951, and production commenced in 1952. Centered in a high-security, 300-acre industrial area, workers completed complex machining processes that included manipulation of highly toxic and flammable metals in specially-designed "gloveboxes," and were continually subject to risks of spontaneous combustion, contamination, radiation, and injury. Employment peaked at 8900 in 1992. These efforts produced over 70,000 nuclear warheads and were highly-contested by anti-nuclear protestors during the 1970s and '80s, who conducted dedicated and often-dramatic resistance to plant operations and the ideologies that supported them. Waste management as practiced by production-obsessed (thanks to contract incentives and lax enforcement) lead contractors Dow Chemical and Rockwell International during the Cold War was inadequate and embarrassingly improvisational. Corroding barrels of contaminated machine-oil, for example, sat outside uncovered in one plant area for years during the 1960s, as high winds lofted contaminated soil towards surrounding communities. Meanwhile, releases of toxic and radioactive waste from chemical processing activities entered surrounding groundwater streams. Large industrial fires—downplayed by tight-lipped management and a complicitous local media—in 1957 and 1969 released additional contamination into the environment. Outright disaster in these "normal accidents" was narrowly averted, partly through unplanned accidents that occurred while battling the blazes. Development in surrounding communities during this period brought residential housing increasingly closer to the site. Over 60,000 people currently live within a five-mile radius; over 2.5 million reside in the surrounding 50-mile radius of metropolitan Denver.

In the late 1980s, a series of operational difficulties and legal controversies climaxed in a 1989 raid of the site by the FBI and EPA, who were investigating charges of illegal dumping and burning by site personnel. Rockwell subsequently pled guilty to ten environmental violations, and paid the largest environmental fine by a corporate contractor to date, $18.5 million. The site was subsequently placed on standby status, and its fate held in limbo amid unsuccessful restart attempts and changes in Department of Energy (DOE) leadership, until the plant's production mission was officially canceled in 1992, and redefined as remediation. This shut-down of the plant, essentially mid-stream in production, has aggravated subsequent cleanup attempts, as workers must now characterize and treat various configurations of dangerous (and often unknown) materials left in process lines and short-term storage containers. The present lead integrated contractor, Kaiser-Hill, oversees decontamination and decommissioning operations at the site in

what is admittedly the largest and most dangerous such industrial engineering project ever undertaken. Over 3.5 million square feet in over 100 buildings, including miles of intricately-layered piping, must be destroyed and removed. The cost of the project is also expensive, likely exceeding a billion dollars. Current workers operate in highly contaminated environments using elaborate protective equipment, and cope with eroding morale caused by the knowledge that they are working themselves out of a job. Future funding of their pensions and medical benefits, to say nothing of continued employment for those workers not yet at retirement age, is uncertain. Contractor personnel work closely, and often contentiously, with various stakeholders (including local governments, regulators such as the Colorado Department of Public Health and Environment and the EPA, and the DOE "client") to negotiate complex, intersecting sets of existing regulations, and to determine new policies for evolving and controversial problems. Examples include the planned burning of potentially contaminated brush material in the plant's surrounding buffer "zone" and the disposition of various kinds of radioactive materials and wastes (with each type subject to different regulations for packaging, transportation and storage/disposal). Different waste types are directed to different storage sites, for example, and are subject to unique configurations of state and federal regulations. Site contractors and regulators are currently involved in complex negotiations between interests involving Congressional funding of an "accelerated" cleanup (by either 2006 or 2010), and in devising the standards by which key terms in the site's vernacular mission statement will be defined and pursued: "Make it Safe, Clean it Up, Close it Down." Additionally, they are engaged in developing the various technological (e.g., filters, caps and drains) and institutional (e.g., ownership and accountability) "controls" that will exist following the "end" of the cleanup. Indeed, determining the demarcation of these two states, "cleanup" and "stewardship," is itself a central controversy. Future land use (e.g., as open-space vs. industrial siting), protection of resident endangered species in the site's massive buffer zone, and continued funding for cleanup contingencies all form central issues in this apparent "endgame."

Having introduced this site, we wish to proceed by comparing and contrasting two recent projects which have demonstrated to us the ways in which the study of environmental and nuclear communication might be combined to produce increased understanding of their intertextuality and productivity.

Rocky Flats Citizens Advisory Board

One of us (Bryan) has been involved for the past two years with an important stakeholder in the cleanup process, the Rocky Flats Citizens Advisory Board (RFCAB), which is one of the site-specific advisory boards (SSABs) chartered by DOE to channel public participation in relevant decision-making. This CAB was chartered initially and uniquely in 1993 as a non-profit organization by the EPA and CDPHE, and was subsequently folded into the DOE's SSAB structure. This history of relative independence distinguishes the RFCAB from some of its other SSAB counterparts. It has grudgingly accommodated the DOE FACA (Federal Advisory Committee Act) regulations, for example, by explicitly threatening to disband should DOE ever attempt to exert levels of control over its deliberations perceived by members as inappropriate.

The CAB consists of a fluctuating membership of 15-25, representing a variety of local constituencies such as academe, industry, local governments, health professionals, peace activists, and Rocky Flats employees. Members meet at least twice monthly in collective and specialized committee formats. These meetings typically involve intensive deliberation of technical and policy issues (e.g., surrounding the disposition of building rubble created during demolition) and appropriate criteria for problem-solution (e.g., the selection of sites for disposition of "orphan wastes" displaying radioactive and toxic properties for which no site currently exists). The group has also made significant impact on cleanup operations by forming mechanisms of independent scientific review (funded, to its credit, by DOE) for current official standards related to soil cleanup levels, and migration of heavy metals through soil and groundwater. The structure and culture of this group is relatively egalitarian. Decisions are made in consensus fashion, and a moderator skillfully maintains the group's stated commitments to values of tolerance, diversity, and mutual respect. Citizen input (e.g., regarding amateur designs for waste storage facilities, and fervent opposition to waste storage plans) is consistently solicited and processed by the group. The products of these deliberations typically involve formal recommendations sent to local and Headquarters representatives of DOE, and to the site contractor. Typically, representatives of the DOE, EPA, CDPHE, and Kaiser-Hill attend CAB meetings to provide relevant information for group deliberations. During its 1999-2000 work period, the CAB departed from its traditional pattern of using subcommittees to study particular issues and develop recommendations to be brought before the larger membership. Instead, it embarked on a larger project of collaborative "vision development" necessitated by the growing pace and complexity of decision issues,

and by the turnover in membership which had destabilized previously-achieved consensus on foundational positions. Central topics in this discussion included waste management, environmental restoration, decontamination and decommissioning, special nuclear materials, reuse designation, and stewardship/natural resources management. This period involved often slow and elaborate rediscovery of the relationship between existing beliefs among older board members, and the learning curve experienced by newer members, amid the context of accelerating decision opportunities regarding budgets and policies for the climactic years of the cleanup. Since completing a vision statement that summarized the product of these deliberations, the CAB has returned to a more traditional structure of committees that pursue specialized investigations of topics and problems, and that proposed recommendations for the deliberation of the larger group.

As a CAB member, Bryan has had an opportunity to identify a variety of issues and topics which might be effectively pursued through a combination of nuclear and environmental-critical analytic frameworks. We briefly review two here.

Management of Intractable Stakeholder Conflicts in Decision-making. Members of the CAB have agreed to disagree, for example, on the issue of waste storage at the WIPP facility. Disagreement here centers around competing positions taken by peace activists and representatives of local governments. The former favor employment of on-site, monitorable, retrievable, above-ground storage units pending future development of better waste-treatment technologies, and oppose apparent risks to public safety posed by waste transportation using trucks on public highways. Allegedly, they also favor the symbolism of on-site storage as a reminder to future residents of the materiality of Cold War weapons production, such that "out-of-sight" will not contribute to an out-of-mind state favoring future weapons development and use. The latter group favors expeditious removal of on-site waste and materials to protect the safety and health, and property values, of local residents (these interests are of course not inconsistent with the value of economic and industrial development, although local governments disagree about the desired future uses of the site). In another example, RFCAB has historically participated in a tense relationship with a DOE-sponsored board of local government representatives originally formed to consider future site uses and strategies for mediating economic impacts of site closure. This group has now reformed to consider mechanisms of post-closure institutional control, and as a result is overlapping with the CAB's mission to advise DOE on matters of stewardship. The two groups have a contentious past and differing structures (hierarchical and appointed/employed vs. consensus-based and volunteer-membership) and cultures. The preferred rates and procedures of decision-making in the two groups differ widely also, and they are currently attempting to overcome their mutual acrimony to form a collaborative working group to address stewardship issues. Communication research issues here include the discursive practices by which particular interests are represented in the process of stakeholder decision-making, and the criteria by which their effectiveness and appropriateness may be evaluated. Two additional potential topics here include 1) the difficulty experienced by the CAB in recruiting site employee representatives, allegedly because workers fear reprisals from their managers (e.g., accelerated termination in continuous downsizing) for speaking out concerning unsafe work conditions; and 2) the tension among CAB members generated by the multiplication of participation opportunities associated with accelerated site closure, and the related increase in required speed of deliberation. Potentially, this increased rate and scope of decision-making exacerbates a number of cultural tensions in the group, including:

1) perceived autonomy (e.g., being controlled by DOE's preferred topics and timetables vs. generating independent recommendations on an internally generated timetable reflecting evolving group needs);
2) efficacy (e.g., producing timely and relevant recommendations within the official window of public-comment periods vs. close examination of information to produce knowledge for group-determined purposes);
3) preferred mode of decision-making (e.g., "slow-cooked" consensus vs. more efficient majority vote); and
4) diversity in levels and types of knowledge affecting group deliberation (e.g., in contributions from expert-technical members vs. lay members asking "dumb" but earnest questions).

Strategic Avoidance of Weapons Production Issues. The relationship between weapons production and environmental management issues is, materially, real. The opening of nuclear waste storage facilities, as anti-nuclear activists note, potentially facilitates ongoing weapons production by creating a solution for future waste-generation. The scandalous mismanagement of Cold War weapons production that forms the raison d'etre of environmental remediation is, alternately, a warrant for the abolition of the weapons themselves. Additionally, one potential path in the

disposition of "special nuclear materials" involves recycling them as nuclear reactor fuel capable of generating new weapons grade material (Beckmann, Campbell, Crumlish, Dobkowski, & Lee, 1992). In practice, however, the relationship between these two spheres in SSAB discourse is carefully managed by the DOE. No citizen board has ever been chartered by the DOE to advise it in matters of weapons production and national security; this opportunity for participatory democracy remains unrealized (indeed, SSAB folklore holds that the DOE's replacement in 1998 of one board's entire membership is related to their unsanctioned "drift" into deliberating issues involving future weapons production at their facility). Similarly, site officials and stakeholders appear to have conspired to construe Rocky Flats as primarily an environmental problem—an "unnecessary evil"—that resulted from an admirable goal, and that nonetheless produced the weapons that "won" the Cold War. In this process, Rocky Flats workers (although not necessarily contractor-management) potentially attain the status of, as a Kaiser-Hill representative recently asserted in a meeting of stakeholders developing a Rocky Flats museum, "Cold War heroes." In this frame, discourse about the site defers questions about the values and ethics of the site's historical mission, and focuses on the effectiveness of site cleanup. A startling clarification of this condition occurred at a recent annual "State of the Flats Meeting" Bryan attended, where a long-time local anti-nuclear activist challenged the site's then-DOE manager about her attitude towards the historical practices of previous contractors. "Would you agree that they were evil?" he demanded, looking for all the world—in tie-dye shirt and rose-colored glasses—like a Hippie sent over from Central Casting for the next network television movie about the Sixties. The manager, a calm and formidable African-American woman, paused and looked around the banquet hall filled with her contractors and representatives from local governments. In her facial expression, civility wrestled briefly with disdain, and lost. "You know," she said emphatically, slowly picking up speed, "I don't spend a lot of time second-guessing the motives of my predecessors." The room erupted in applause.

As this final fragment indicates, communication researchers have an opportunity to examine how the future of Cold War institutions is being communicatively charted in complex intersections between nuclear and environmental tropes.

Rocky Mountain Peace and Justice Center

Shannon has recently engaged the relationship between nuclear and environmental communication by studying the discourse of a local peace group. This organization historically has opposed operations at Rocky Flats and is now struggling to maintain its viability and credibility as an agent of justice in the space of post-Cold War space of Rocky Flats discourse.

Although the peace movement in the U. S. has a long and complex history, the end of the Cold War seems to place new and challenging demands on peace activists. An important aspect of this period is the decline of Cold War rhetoric that promotes division and conflict, coupled with the continued presence of nuclear weapons and nuclear production facilities and continuing design plans for new nuclear weapons. Although officially the Cold War discourses and the Soviet-U.S. arms race were successful, for the most part, in eclipsing the voices of peace, those discourses were also instrumental in partially legitimizing the peace activists' concerns in the eyes of some members of the public. Without the arms race to point to as a sure sign of our impending doom, the activists must now find ways to bring the nuclear issue back into the limelight of public concern. Their position makes them ever more vulnerable to the charges of zealotry and extremism so often applied to them. The issue, then, becomes, what does it mean to be a peace activist in post-Cold War society? How do issues of peace and environmental activism intersect? And, what potential areas of study for those interested in the intersection of environmental and nuclear communication are opened with this focus?

The Rocky Mountain Peace and Justice Center (RMPJC), located in Boulder, Colorado serves as an exceptional organization with which to begin addressing this issue. This non-profit organization, comprised primarily of Mennonites from diverse backgrounds, is in its 16th year and has earned a national reputation for being consistent in their efforts for social change, passionate in their beliefs, and successful in their ability to generate public support. Members work in collectives dedicated to such projects as nonviolence education and training, prisoners' rights, globalization, and a food cooperative that provides organic food and environmentally-friendly household supplies. The RMPJC also has a disarmament/Rocky Flats collective that is committed to nuclear disarmament and the responsible cleanup of Rocky Flats. This group, comprised of volunteers with a core group of approximately twenty members, serves as the self-appointed watch-dog of the Rocky Flats clean-up operation. According to one member, with the loss of interest from groups like the Sierra Club, they are the only activist-oriented organization still prioritizing the daily operations of Rocky Flats.

Although the group has a number of objectives, including the identification of health problems relating to radiation exposure and the ending of nuclear re-

search and testing, it is currently focusing its efforts on WIPP (the obstacles posed by this current focus on their overall objective of nuclear disarmament will be discussed below). Their discontent with this project has been a "top priority" for the organization during the period of observation, beginning with the summer of 1998, due to the recent opening of WIPP, and the first shipment of Rocky Flats materials to the facility on June 15, 1998. Although the RMPJC has spent enormous effort on educating the Denver metro-area public about what they see as the problems with WIPP, raising funds for anti-WIPP projects, participating in local citizen-participation meetings concerning WIPP, and organizing peaceful protests against WIPP shipments at various locations along WIPP shipments routes, they have had little success in affecting actual decisions about WIPP. Their newsletter states "momentum is building to oppose WIPP" (June, 1999), but a glance in local newspapers or a conversation with local residents suggests the RMPJC is being optimistic.

The RMPJC appears to be dealing with the post-Cold War climate in several ways. First, its public discourse mostly avoids the issues of weapons production, nuclear war as an immoral practice, and nuclear weapons as instruments of war. Although disarmament is a primary goal of the Rocky Flats collective, the members concentrate their rhetorical efforts on proving that the WIPP facility is flawed and inferior to on-site storage at Rocky Flats and exploring the dangers of waste transportation along interstate highways. Their first strategy appeals to the environmentally concerned by suggesting that the WIPP facility will eventually lead to greater environmental problems. This appeal wisely aims at the growing number of people who consider the environment a serious issue in the U. S. right now (see Killingsworth and Palmer, 1992). However, this choice has created several difficulties for the group within a post-Cold War context that will make up the bulk of the following section.

The second strategy employed by the RMPJC is an interesting extension of the "facts and fears" strategy first employed by atomic scientists shortly after the bombings in Hiroshima and Nagasaki (Glass, 1993). Within six months of these bombings, scientists formed a national organization that fought for international arms control (Glass, 1993). In order to gain public support, these scientists activated what Glass calls the "scientific" discourse of nuclear debate which is still prevalent today, as the RMPJC strategy illustrates. The object is to provide the public with a number of significant and alarming facts, about, for example, the number of WIPP-related transportation accidents predicted to occur by the DOE and the damage that could be caused by a hypothetical leak resulting from an accident, and then expose and capitalize on the resulting fears.

The RMPJC seems to adjust to the current societal climate in several smaller ways as well. Although the group wisely connects their views with those of politicians who have opposed WIPP to enhance their credibility, they also capitalize on current suspicions regarding government officials, specifically, the DOE. They argue that the DOE "and the powers that be" are driven by the need to meet their unrealistic goal of cleaning up Rocky Flats by 2010 and are ignoring their own Environmental Impact Statement's assessment of the problems associated with WIPP (e.g., Stop WIPP, 1998). They also point out that the DOE has not appropriately tested the trucks that transport waste to the site (Moore, 1998) and use the discovery of flaws in several trucks inspected at the New Mexico border as rallying cries during group meetings and public protests. Such an appeal might have been alienating to the public in the patriotic Reagan years, when the fears of the Soviet nuclear threat made faith in and support of our institutions crucial. The appeal seems consist with the public mindset right now (Dunlap, Kraft, & Rosa, 1993). Also, the RMPJC shows an awareness of the current popularity of the "green how-to" books (see Cantrill and Oravec, 1996). Such guides as "50 Simple Things You Can Do to Save the Earth" give people easy, day-to-day changes they can make in their shopping and living habits that benefit the environment. The RMPJC includes a similar guide in the monthly newsletter. "100 Ways to Support RMPJC and Work for Social Change" lists small tasks people can take on in order to aid the group's cause. Such things as becoming a member (by sending a check) and buying books at a local bookstore that makes a contribution of one percent of one's purchase to the RMPJC get people involved on a micro-level.

Shannon's work with the RMPJC suggests a number of paradoxes that characterize this group's struggle to define themselves in post-Cold War culture. Three themes help characterize their struggle and suggest the ways in which our understanding of deliberations and contestations concerning nuclear policy and waste and nuclear policy can be enhanced by integrating attention to the relationship between nuclear and environmental scholarship. They are 1) the strategic avoidance of WIPP's implications for nuclear weapons production; 2) crafting effective rhetorical strategies in an expert culture; and 3) the cultivation of strife among activists, DOE, and politicians.

Strategic Avoidance of WIPP's Implications for Nuclear Weapons Production. As Bryan noted earlier, the possibility that WIPP encourages the contin-

ued production of nuclear weapons by providing a "solution" to the problem of nuclear waste is not unrealistic, and is a primary concern of peace activists in general. The RMPJC's members regularly demonstrate their belief that the nuclear weapons complex will increase their production activities, and that they (as well as the public) will forget about the continuing issue of nuclear proliferation as the remnants of the Cold War become buried underground.

Despite the fact that nuclear disarmament continues to be a goal for the Rocky Flats collective, the RMPJC members generally avoid making public appeals concerning the implications of WIPP for nuclear production. This decision indicates their belief that the case against WIPP needs to take priority and is strong enough based on the problems created by the transportation of waste to the facility and the potential environmental hazards of permanent underground storage. They feel appealing to fears about nuclear proliferation may invite extremist labels from pro-WIPP groups and the general public. However, this rhetorical decision has created tension among the group members, many of whom have had a long history of participating in the anti-war movements. For them, silence on this issue represents the "dulling" of the peace activist's position in post-Cold War society. They argue that the group is tailoring its appeals to the mainstream in ways that effectively undermine the purpose of the RMPJC. Their impassioned appeals to other group members to make this issue salient reveal the significant tensions created between their identities as anti-war activists, who often revel in their opposition to the status quo and their refusal to compromise their principles, and those of public advocates, who feel their goals of serving the public are best met by raising their awareness and courting their support in the specific context of their opposition to WIPP.

Advocates of avoiding public discussion of this issue appear no less convinced of the implications of WIPP for continued production, and no less passionate in their commitment to the disarmament cause. They, however, appear more sensitive to the difficulty of maintaining perceived organizational legitimacy among the general public. Despite residing in an area known for its support for activism and environmental concerns, these members share a fear of being viewed as "too radical" or, a more popular phrase among the members, as "wacko environmentalists." These members seem particularly sensitive to the bind created by the end of the U.S.-Soviet nuclear arms race. Although the decline of nuclear tensions has opened up possibilities for the discussion of the damage caused by the "unused" weapons, it has also dulled public sensibilities concerning the possibility of future arms races and the always-present danger of nuclear war. Thus, in a time when the perceived absence of significant threats to our national security allows for great strides against nuclear arms-building, members feel prevented from breaking the silence on the issue if they want to build public support for their anti-WIPP efforts and avoid being seen as radical anti-militarists.

The RMPJC's decision to remain largely silent on the implications of WIPP for future nuclear production poses an interesting area of study involving both environmental and nuclear communication. In this particular context, the strategy selected by the group as a means of negotiating the post-Cold War climate on nuclear arms has resulted in a foreclosing of discussion of the relationship between the cleanup of nuclear plants, viewed primarily as an environmental issue and the workings of the nuclear complex. Although more research needs to be done to explore this area, we might suggest that the new focus on the environmental damage created by nuclear production reinforces rather than erases the long-standing division between nuclear proliferation and the environment. Thus, we may be repeating our previous mistake of looking at the skies and ignoring what was going on under our feet in its inverted form.

Crafting Effective Rhetorical Strategies in an Expert Culture. While remaining largely silent on the issue of nuclear arms production, the RMPJC has focused their efforts on rhetorical appeals they feel will better marshal the public's support against WIPP. Two of these strategies seem particularly instructive for our exploration of the environmental-nuclear intersection.

First, these activists have made the dangers of transportation of nuclear waste to WIPP a primary emphasis of their public discourse. They exert tremendous efforts in raising the public's awareness of the routes traveled by trucks carrying the waste from various plants (Rocky Flats, in particular) to the site in New Mexico and the amount of traffic on these roads. In this sense, the RMPJC engages the proponents of WIPP on their own grounds by couching their appeals in the technical-rational discourse of mathematical assessments of risk. Their reliance on these appeals is meant to bolster their organizational legitimacy in our current social climate that fosters a reliance on the views of experts for making public policy decisions. It is also intended to and avoid associations with the "irrational" or "sentimental" discourse of caricatured activist groups.

Appeals that emphasize risks of relying on the transporting of nuclear waste to WIPP, although potentially effective because they resonate with the common sense assumptions about the unpredictability of highway traffic, serve to divert attention away from the specific environmental risks associated with the stor-

age of nuclear waste. As discourse becomes focused on the correctness or incorrectness of different experts' assessment of the number of traffic accidents that are likely during transportation, questions concerning the viability of the WIPP facility for long-range storage of nuclear wastes are made secondary. This result seems particularly unfortunate considering the immense public concern expressed over the possibility of leaving an irreparably damaged Earth for future generations (Dunlap, Kraft, Rosa, 1993). A productive area of study suggested by this initial finding is the ways in which the technical-rational discourse so valued in post-Cold War society creates a (false) dilemma for activists who feel they must de-emphasize their traditional focus on environmental risk in order to gain public support at the precise time at which public concern over the environmental effects of the nuclear industry is rising.

Of course, the RMPJC has not abandoned their efforts to demonstrate the environmental effects of WIPP, as their second rhetorical strategy demonstrates. These activists also focus public appeals on the many unanswered questions regarding irretrievable underground storage. They point out that WIPP is built into salt mines that are expected to seal in the waste, yet the Rustler Aquifer (that empties into the Pecos River, then into the Rio Grande, and finally into the Gulf of Mexico) may provide an escape route for the waste. They also point out that the plutonium waste being sent to WIPP will remain dangerous for over two hundred thousand years and could have undetermined effects for future generations once it is put into the ground (WIPP fact sheet, 1998). This focus allows them to appeal to public concern over future generations' environmental legacies and call into question the motives of the DOE, which appeals to the pervasive mistrust of these agencies found in studies of public opinion on the nuclear waste and nuclear power industries (Dunlap, Kraft & Rosa, 1993) by suggesting that the DOE's hurried plan to get the waste "out of sight (site), out of mind" has led them to support a flawed facility (Stop WIPP, 1998). For example, the RMPJC's flyers, newsletters, and public appeals repeatedly claim that "DOE's own 1980 and 1997 Environmental Impact Statements, admit it is safer to leave the waste at current locations for the next 100 years than to ship to WIPP" (RMPJC Newsletter, August 1998; Stop WIPP).

Problematically, however, this emphasis contrasts the technical-rational pronouncements of risk assessments made by government agencies and pro-WIPP supporters with the RMPJC's more ambiguous discourse of the unknown. Hendry's work (in this volume) with anti-WIPP activists suggests that this is in fact a common facet of activists' discourse on the storage facility. As she notes, this discourse leads to the mystification of nature and may exacerbate people's feelings of alienation from the natural world. Rather than leading to a better understanding of our relationship and interconnection with nature, then, this finding tentatively suggests that the discourse of nuclear waste serves to reify our perceived division from our environment. We suggest this is further support for the need of research on the ways in which the gap between the social/nuclear world and the environment is being widened, or at least maintained, instead of closed in post-Cold War society.

The Continuation of Strife Among Activists, DOE, and Politicians. Like most war and nuclear activists, the RMPJC maintains a certain level of mistrust when it comes to the government agencies responsible for nuclear activities. Although they are now in the midst of grand-scale collaboration efforts with these groups and realize the genuine need for amicable relations, many of these members have decades of experience with activist causes that pitted them against these groups. They remember well the earlier days of nuclear activities during which they foresaw and warned of many of the problems with which we are now dealing only to have their views ridiculed and/or ignored. Due to their own views on the carelessness of government in earlier and present times and the tendency of government officials to make decisions that will garner votes regardless of the consequences, some RMPJC members openly question the ability of these actors to manage environmental cleanups effectively.

RMPJC discourse reflects this hostility by highlighting the inconsistency with which some politicians (such as Colorado Congressman Mark Udall and Secretary of Energy Bill Richardson) have acted concerning WIPP and accusing them of betraying the public good in the name of garnering votes. These appeals send the message to the public that these agencies cannot be trusted. They are probably extremely effective in gaining support for the anti-WIPP cause as public opinion—since the Three Mile Island incident and the harrowing revelations regarding the mismanagement of nuclear sites, including Rocky Flats, by the DOE and other government agencies—reveals a lack of faith in either the credibility or the trustworthiness of these institutions. As Slovic, Layman, and Flynn (1993) note, this distrust is a primary factor in people's decisions to oppose waste management facilities. Although effective short-term strategies, appeals that fuel public mistrust of the institutions entrusted with the cleanup of nuclear facilities also ensure that any attempt to work out a viable waste management plan will meet with continued public suspicion and resistance.

More research in this area could explore the ways in which activists attain short-term goals with appeals that focus on post-Cold War society's mistrust of government agencies and how this affects future nuclear policy decision-making. As equally important stewards of nuclear waste, activists and DOE members will have to learn to work with one another in such organizations as the RFCAB. And, before we as communication scholars can make suggestions for how to work productively through their contentious past, present, and future interactions, we must be able to articulate the ways in which their current discourse serves to model or constrain meaningful dialogue.

The post-Cold War context poses a series of opportunities and challenges for peace activists in the U. S. Research questions that could guide investigation in this area could include: How do peace activists rhetorically manage the needs and desires of a post-Cold War public? Do activists focus on environmental issues relating to nuclear weapons as a way of accommodating the cultural interests of the time? Are the strategies or tactics adopted by peace activists undergoing significant changes due to the new context? What kinds of divisions and internal conflicts are being generated by the rhetorical choices being explored in post-Cold War culture?

This study suggests that groups such as the RMPJC may avoid a focus on the disarmament of nuclear weapons as a way of avoiding extremist labels in a time when the public focus is not on nuclear weapons "in use." The tremendous internal conflicts arising from this decision and the division between the environmental cleanup of sites and the continued production of nuclear weapons created by this discursive strategy are in need of further research if we are to begin grasping the dilemmas of post-Cold War activism. Similarly, the discourse of the RMPJC coupled with Hendry's work with anti-WIPP protestors (in this volume) suggests that the post-Cold War activists' emphasis on the unknown elements of nature may be reinforcing public perceptions of the division between the social and natural worlds. Finally, this study begins to address the complex relationship between the DOE and post-Cold War activists. A relationship that was once clearly adversarial based on opposing allegiances involving the production of nuclear weapons must now be characterized by a willingness to work together on environmental cleanup efforts. Both groups are increasingly interested in and dependent upon public support as well. This study suggests the changing roles of these groups and the impacts of the strategies they select to navigate the challenges of the post-Cold War era are an area in need of future research if we are to help ensure that collaboration efforts are beneficial for us all.

Conclusion

In his recent, elegant critique, Rogers (1998) challenges environmental communication scholars to reflect on the costs of adopting discursive paradigms that—wwhile critically engaging oppressive discourses as contingent and revisable—also marginalize the material integrity and potential of environmental phenomena to serve as dialogic agents. Significantly for our purposes, his critique is energized by disgust at the historical events depicted in a documentary about Rocky Flats. The obvious "insanity" of manufacturing nuclear warheads, and poisoning the environment in the process, Rogers argues, is apparent to all willing to "[rehearse] ways of listening to nondominant voices and nonhuman agents and [including them] in the production of meaning, policy, and material conditions" (p. 268). We believe that this paper represents one way in which this ambitious project may be initiated. Articulating the projects of environmental and nuclear communication study challenges hegemonic discourses that produce devastation, misery and sickness for various species and eco-systems. Each critical project contains vocabularies and grammars for mapping the effectivity of conflicts between interlocking discourses of science, government, and social justice that represent the Rocky Flats environment. Combined, their resources may prove sufficient to ethically illuminate taken-for-granted structures and practices that saturate these forms of alternately earnest and strategic-instrumental "listening." Significant work remains, however, in translating and resolving the punctuations of nuclear-environmental phenomena offered by each perspective. Institutional and cultural sites such as Rocky Flats, however, offer a number of opportunities for developing this relationship in case studies of situated communication. We hope that this initial attempt to conceptualize this relationship will inspire readers to see, hear, and critically engage the intersection of nuclear weapons and environmental phenomena in their own local places of living and working.

References

Ackland, L. (1999). *Making a real killing: Rocky Flats and the nuclear west*. Albuquerque: U of New Mexico P.

Barnes-Kloth, R., Depoe, S., & Hamilton, J. (1999). *History in the making: Inside the Fernald Living History Project*. Paper presented at the annual meeting of the National Communication Association, Chicago.

Beckman, P. R., Campbell, L., Crumlish, P. W., Dobkowski, M. N., & Lee, S. P. (1992). *The nuclear predicament: Nuclear weapons in the cold war and beyond.* Englewood Cliffs, N.J.: Prentice Hall.

Bruner, M., & Oelshlaeger, M. (1994). Rhetoric, environmentalism, and environmental ethics. *Environmental Ethics, 16,* 377-396.

Cantrill, J., & Oravec, C. (Eds.). (1996). *The symbolic earth: Discourse and our creation of the environment.* Lexington: UP of Kentucky.

Cooren, F., Fairhurst, G., & Cahill, D. (1998). *Workforce transition issues at environmental remediation sites: When the hunter tells the lion's story, or leadership as the art of translating.* Paper presented at the annual meeting of the National Communication Association, New York.

Depoe, S. P., & Young, C. M. (1996). *Lisa Crawford versus the Department of Energy: Cultural and technical rationality in citizen-based risk communication.* Paper presented at the annual meeting of the Speech Communication Association, San Diego.

Dunlap, R. E., Kraft, M. E., & Rosa, E. A. (1993). *Public reactions to nucealr waste: Citizens' views of repository siting.* Durham: Due UP.

Fairhurst, G. T., Jordan, J. M., & Neuwirth, K. (1997). Why are we here? Managing the meaning of an organizational mission statement. *Journal of Applied Communication Research, 25,* 243-263.

Glass, M. (1993). *Citizens against the MX: Public languages in the nuclear age.* Urbana: U of Illinois P.

Harre, R., Brockmeier, J., & Muhlhausler, P. (1999). *Greenspeak: A study of environmental discourse.* Thousand Oaks, CA: Sage.

Hendry, J. (1999). *The mystification of radiation: The rhetorical construction of radioactive waste.* Paper presented at the 5th Biennial Conference on Communication and Environment, Flagstaff, AZ.

Katz, S. B., & Miller, C. R. (1996). The low-level radioactive waste-siting controversy in North Carolina: Toward a rhetorical model of risk communication. In C. Herndle & S. Brown (Eds.), *Green culture: Environmental rhetoric in contemporary America* (pp. 111-139). Madison: U of Wisconsin P.

Kauzlarich, D., & Kramer, R. C. (1993). State-corporate crime in the US nuclear weapons production complex. *The Journal of Human Justice, 5*(1), 4-28.

Killingsworth, M. J., & Palmer, J. S. (1992). *Ecospeak: Rhetoric and environmental politics in America.* Carbondale: Southern Illinois UP.

Kuletz, V. (1998). *The tainted desert: Environmental and social ruin in the American west.* New York: Routledge.

Lifton, R. J., & Falk, R. (1991). *Indefensible weapons: The political and psychological case against nuclearism* (2nd ed.). New York: Basic Books.

Makhijani, A., Ruttenber, A. J., Kennedy, E., & Clapp, R. (1995). The United States. In H. Hi, A. Makhijani, & K. Yih (Eds.), *Nuclear wastelands: A global guide to nuclear weapons production and its health and environmental effects* (pp. 169-284). Cambridge, MA: MIT P.

Masco, J. (1999). States of insecurity: Plutonium and post-cold war anxiety in New Mexico, 1992-1996. In J. Weldes, M. Laffey, H. Gusterson, & R. Duvall (Eds.), *Cultures of insecurity: States, communities, and the production of danger* (pp. 203-232). Minneapolis: U of Minnesota P.

Metzler, M. S. (1998). Organizations, democracy, and the public sphere: The implications of democratic (r)evolution at a nuclear weapons facility. *The Electronic Journal of Communication, 8*(1). [available on-line] http://www.cios.org/getfile\Metzler_V8N198

Moore, L. (1998, June 13). Camera was wrong about WIPP. *Boulder Daily Camera,* guest op.

Peterson, T. R. (1997). The rhetoric of sustainable development. Columbia: U of South Carolina P.

Pezzulo, P. (1999). *Bringing ethnography to the table: Performative possibilities of/for environmental communication.* Paper presented at the annual meeting of the National Communication Association, Chicago.

Ratliff, J. N. (1998). The politics of nuclear waste: An analysis of a public hearing on the proposed Yucca Mountain Nuclear Waste Repository. *Electronic Journal of Communication, 8*(1). [available on-line] http://www.cios.org/getfile\Ratliff_V8N198

Rocky Mountain Peace and Justice Center. (1998). Stop WIPP. (Available from the Rocky Mountain Peace and Justice Center, PO Box 1156, Boulder, CO 80306).

Rocky Mountain Peace and Justice Center. (1998, June). WIPP fact sheet: No solution for radioactive waste danger for Colorado. (Available from the Rocky Mountain Peace and Justice Center, PO Box 1156, Boulder, CO 80306).

Rocky Mountain Peace and Justice Center. (1999, June). Newsletter. (Available from the Rocky Mountain Peace and Justice Center, PO Box 1156, Boulder, CO 80306).

Rocky Mountain Peace and Justice Center. (1999, August). Newsletter. (Available from the Rocky Mountain Peace and Justice Center, PO Box 1156, Boulder, CO 80306).

Rogers, R. (1998). Overcoming the objectification of nature in constitutive theories: Toward a transhuman, materialist theory of communication. *Western Journal of Communication 62*, 244-272.

Schiappa, E. (1989). The rhetoric of nukespeak. *Communication Monographs, 56*(3), 253-272.

Slovic, P., Layman, M., & Flynn, J. H. (1993). Perceived risk, trust, and nuclear waste: Lessons from Yucca Mountain. In R. E. Dunlap, M. E. Kraft, & E. A. Rosa (Eds.), *Public reactions to nuclear waste: Citizens' views of repository siting* (pp. 64-86). Durham: Duke UP.

Taylor, B. C. (1993a). Register of the repressed: Women's voice and body in the nuclear weapons organization, *Quarterly Journal of Speech, 79*, 267-285.

Taylor, B. C. (1993b). Fat Man and Little Boy: Cinematic representation of interests in the nuclear weapons organization. *Critical Studies in Mass Communication 10*, 367-394.

Taylor, B. C. (1997). Home zero: Images of home and field in nuclear-cultural studies. *Western Journal of Communication 61*, 209-234.

Taylor, B. C. (1998). Nuclear weapons and communication studies: A review essay. *Western Journal of Communication 62*, 300-315.

Taylor, B. C. (1999). *Greening nuclear communication.* Paper presented at the Annual Conference of the Western States Communication Association Pre-Conference, "Greening the discipline: Ecologies of communication."

Taylor, B. C. & Hartnett, S. (forthcoming). 'National security and all that it implies . . . ': Communication and (post-) cold war culture. *Quarterly Journal of Speech.*

Visions of Place

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Memories of Fernald: Defining A "Sense of Place" Through Personal Narrative

Rhonda L. Barnes-Kloth,
Stephen P. Depoe,
Jennifer Duffield Hamilton, and
Amy J. Lombardo
Center for Environmental Communication Studies
University of Cincinnati—Cincinnati, OH

Abstract

According to Cantrill (1996) a "sense of place" may be defined as an individual's perception of what is most salient concerning a specific location. A sense of place is important in the formation of perspectives, attitudes, and behaviors regarding environmental issues and concerns in one's community. This essay applies the "sense of place" concept to examine how individuals who have worked at or lived near a nuclear weapons production facility in Fernald, Ohio articulate their feelings and experiences concerning how the facility has affected their lives and livelihoods. Those articulations are analyzed both as unique expressions of individuals' "sense of place" and as illustrative of larger cultural themes related to America's nuclear weapons production activities since the end of World War II. The essay draws upon data from a set of six interviews that is part of the Fernald Living History Project, a collaborative effort undertaken by the communities surrounding the Fernald site in conjunction with the University of Cincinnati, the Department of Energy, and the Ohio Environmental Protection Agency.

Fernald, Ohio is hard to find on a road map. An unincorporated community of a few dozen residents and businesses clustered around a former railroad depot, Fernald is part of Crosby Township in northwest Hamilton County, located about eighteen miles from downtown Cincinnati. About a mile north of the Fernald railroad crossing is a 1050-acre parcel of land that has played a prominent role in the history of the area, and in recent American history. On that land, obtained by right of eminent domain in 1951, the federal government built and operated an industrial facility, called the Feed Materials Production Center or the Fernald site. For nearly four decades, from 1953 until production was halted permanently in 1989, the Fernald site provided a variety of feed materials that fueled this country's nuclear weapons production apparatus. Materials from Fernald were shipped to places like Hanford, Washington; Oak Ridge, Tennessee; and Savannah River, South Carolina—places linked together in a vast nuclear weapons complex that stretched from coast to coast as part of America's Cold War arms buildup (U.S. DOE, 1997).

Fernald became part of what Peter Hales (1993) has termed the "atomic spaces" of American culture, places on the American landscape forever changed by the production of the atomic bomb. While site operations were conducted largely in secret, what happened at Fernald affected the lives of thousands of workers and their families, as well as the residents who lived along the boundaries of the site and in nearby communities like Ross, Harrison, and Hamilton, Ohio. As was the case throughout the nuclear weapons complex, production activities at Fernald produced a significant amount of radioactive and chemical wastes, contaminating the surrounding soil, air, and groundwater and creating risks to plant, animal, and human life that persist into the present. A number of factors—the industrial workplace nestled in rural surroundings, the government secrecy and appeals to patriotism, the site's production and safety record, and its toll on environmental quality and human health—contributed to divergent views of Fernald among workers and area residents, shaping local environmental attitudes and behaviors in the community over the years.

A growing number of communication scholars are focusing attention on the atomic spaces that comprise America's nuclear weapons complex (for a recent review, see Taylor, 1998). Our paper builds on this research base by exploring various memories of Fernald expressed by individuals who live and work in communities surrounding the Fernald site. This paper examines six interviews produced as part of a community-based project established to collect personal narratives of the people affected by the Fernald site. Specifically, we explore the extent to which divergent personal memories about Fernald reveal what Cantrill (1998) and others have referred to as a "sense

of place," a person's understanding of self and her/his relationship to a physical location, such as home or workplace. Our analysis reveals the extent to which multiple dimensions of a person's sense of place account for the ways in which they form attitudes and depict issues concerning the environmental and cultural legacies of Fernald and other atomic spaces around the country (Carbaugh, 1991; 1992; 1996a; 1996b).

The Nuclear Weapons Complex and Environmental Communication Research

Among the most pressing public policy issues in the United States today is the environmental remediation of the Department of Energy (DOE) nuclear weapons complex that manufactured nuclear weapons for U.S. defense programs beginning in World War II. In 1942, just after the Japanese bombing of Pearl Harbor, President Franklin D. Roosevelt established the U.S. Army Corps of Engineers Manhattan Engineer District to develop an atomic bomb (U.S. DOE, 1997). Atomic weapons research, testing, and production was a top-secret venture beginning with the Manhattan Project during World War II and lasting until after the Cold War ended in the late 1980s. The U.S. government commissioned Manhattan Project scientists to explore nuclear alternatives for defense. The project was considered a national security matter, requiring utmost secrecy, if the U.S. was to build an atomic bomb before Hitler's German scientists. The success of the bomb during World War II revealed the potential for power and world domination for a country possessing nuclear weapons capabilities. The Cold War between the United States and the Soviet Union spurred further nuclear weapons developments, resulting in what became known as the nuclear arms race (U.S. DOE, 1995).

The U.S. nuclear weapons complex, operated first by the Atomic Energy Commission (AEC) and later by the DOE, comprised more than sixteen major sites across the country, including Fernald, as well as thousands of smaller support facilities. Many of the development and production operations at these sites were driven by the nature of the nuclear arms race and time pressures to stay ahead of the Soviets, resulting in hasty production schedules and neglect of safe waste-management practices. By the late 1980s, the DOE scaled back production and was faced with enormous hazardous waste management and contamination problems (U.S. DOE, 1995). Many of these sites have ceased production and are currently undergoing environmental remediation as mandated by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), carried out by the DOE, and regulated by the Environmental Protection Agency (EPA). Because of the secrecy surrounding weapons production during the Cold War, citizens were not made aware of the potential risks to human health and the environment caused by the by-products of nuclear weapons production. The DOE is now working to rebuild public trust.

Since the advent of the Manhattan Project over fifty years ago, some Americans have questioned whether our government's engaging in nuclear weapons production was an ethically responsible act. More recently, as a number of the sites have permanently halted production activities, new controversies have emerged over government liability for environmental and human health costs associated with weapons production, site remediation costs, and potential future uses of site properties. Currently contested issues include whether to recognize former production sites and site workers for their role in the Cold War and how such recognition might be achieved. This conflict is part of a larger academic and political debate over the meanings of this period in American history.

Over the past two decades, a number of communication researchers have studied communication practices relating to the Cold War era, nuclear weapons sites and production, the environmental remediation processes of these sites, and the subsequent impacts this era and these sites have had on individuals (for a complete review of the literature, see Taylor, 1998). Researchers have examined how individuals and organizations participating in or affected by the nuclear weapons debate have employed a variety of communication practices and strategies in different situations or contexts. For example, Taylor's work has examined aspects of the nuclear weapons debate found in a variety of settings, including a museum exhibit about the Cold War era, a nuclear weapons organization, and a nuclear weapons laboratory (Taylor, 1990; 1992; 1993; 1996; 1997a; 1997b; 1997c).

This robust line of research has yielded a number of critical insights that are relevant to this essay. First, the DOE nuclear weapons complex, with its network of research and production sites in various stages of operation or remediation, has developed a distinct and still-evolving organizational culture. This culture is characterized by a number of paradoxes, including the simultaneous presence of hierarchical authority along with decentralized specialization and fragmentation of function; conflicting missions of continued weapons research and production and environmental remediation and stewardship; and remnants of secrecy operating with new mandates for openness (Metzler, 1997; Taylor, 1990, 1992). Second, over the course of more than fifty years of production and, more recently,

remediation activities, each site across the nuclear weapons complex has developed a cultural landscape, a distinct set of social practices and meanings that have influenced the lives of site workers and residents living in neighboring communities. These cultural landscapes, referred to by Hales (1993) as "atomic spaces," include the material components of industrial production and environmental degradation produced by site activities. Each atomic space contains aspects that are both locally unique and reflective of the larger, complex-wide organizational culture (Kuletz, 1998). Third, America's atomic spaces have been continually shaped and contested largely through the communication enacted by the people and institutions who inhabit and make decisions concerning those spaces (Taylor, 1993, 1996). The role of public communication in shaping these landscapes has grown in recent years with the gradual declassification of the informational record about nuclear weapons production activities and the regulation-driven increase in public participation in environmental decision-making at various sites (Duffield & Depoe, 1997; Hallmark, 1999; Ratliff, 1997). Fourth, a major focus of disagreement within the nuclear weapons complex over the historical meanings ascribed to the America's role in the Cold War is directly relevant to both the present level of public legitimation of the DOE as a government institution and to the future shape of America's atomic spaces (Hubbard & Hasian, 1998; Prosise, 1998; Taylor, 1990).

One approach to building an understanding of the role of communication in shaping America's atomic spaces is to attend to the voices of the individuals—area residents, workers, and their family members—who inhabit those spaces (Taylor, 1997a, 1997b, 1997c). We believe that applying the concept of sense of place to the discussion of communication and nuclear weapons production may be useful to developing that understanding.

A Sense of Place: A Multi-Dimensional Perspective

While much environmental communication scholarship has focused on broad-based environmental advocacy campaigns and movements, a number of scholars have called for more attention to be paid to localized environmental contexts and disputes (Cantrill, 1996). As part of this alternative emphasis, a growing body of environmental communication research has identified a relationship between human understandings about particular physical locations of work, leisure, and habitation and their beliefs, attitudes, and behaviors concerning environmental issues or controversies pertaining to those locations. Cantrill has defined a sense of place as "the perception of what is most salient in a specific location" (1998, p. 303). Each individual's sense of place is unique; influences the formation of personal identity or selfhood; and guides how one makes sense of, and places value on, one's surroundings (Cuba & Hummon, 1993; Cantrill & Masluk, 1996).

Cantrill (1996; 1998) has identified a number of factors that contribute to the development of a sense of place, including geographic (an individual's physical proximity to a location) and experiential (length of time spent in a particular location or area, extent and characteristics of personal experience or activity in a location). Cantrill further explains that an individual's sense of place "will change over time with different features becoming more salient than others" (1998, p. 303). Finally, upon examining a case study of environmental communication in the Lake Superior basin, Cantrill concludes that an individual's sense of place "may be reflected in value preferences or how that specific place figures in discourse" (1998, p. 303).

Carbaugh (1991; 1992; 1996a; 1996b) has also explored the roles that communication and culture play in the formation and expression of an individual's sense of place. Grounded in case studies ranging from environmental conflict in Massachusetts to cultural practices in Finland, Carbaugh's work helps to explain the ways that communication both reflects and helps to constitute an individual's sense of place and the culture within which that sense of place is located. Additionally, his research makes a link between differing senses of place and the emergence of environmental conflict or controversy (Carbaugh, 1992, 1996a).

This paper adopts a multi-dimensional perspective toward the concept of sense of place. Our analysis is grounded in the proposition that what people come to feel, believe, and articulate about a physical place or locality is the product of an interplay between the geographic, experiential, and cultural dimensions identified by Cantrill and others. It is the interplay among the diverse sources and dimensions of meaning that makes each person's sense of place both individually unique and part of larger communities and cultural systems. This paper examines how memories of the Fernald site reflect multi-faceted and evolving senses of place that developed in response to Fernald site activities over nearly four decades. In doing so, we provide a new interpretive standpoint for examining discourse related to America's atomic spaces and contribute to the base of research that looks at localized environmental controversies.

Creating the Fernald Living History Project

The DOE's Fernald site processed uranium from 1953 until 1989 for the U.S. nuclear weapons complex. In 1989, Fernald's uranium production was halted after radioactive environmental pollutants, including

uranium, were found in nearby land and water and the site was placed on the U.S. EPA's National Priorities List for Superfund. Since 1991, the site has been undergoing environmental remediation according to Federal guidelines mandated by CERCLA. The total waste and contaminated material that needs to be remediated at the Fernald site is over three million cubic yards (Fernald Citizens Task Force, 1995).

The former AEC and present DOE, along with several contractors, have been charged with the management of the Fernald site throughout its history. National Lead of Ohio, a subsidiary of National Lead, Inc., was the contractor during production years when the site was named "Feed Materials Production Center." During the mid-1980s, the contract changed hands to Westinghouse Environmental, and the site's name changed to the "Fernald Environmental Management Project." Most recently, the Fernald Environmental Restoration Management Corporation (FERMCO), a subsidiary of Fluor Daniel, assumed responsibility for the cleanup of the Fernald site. The FERMCO name was changed to Fluor Daniel Fernald, Inc. (FDF) in September, 1996 (U.S. DOE-FEMP, 1994).

Until recently, some citizens living near the Fernald site have been highly skeptical of the DOE and government commitments to remediate the site. Information about the environmental contaminants released at Fernald were kept from them for the 38 years that the site was in operation. In 1984, after the DOE announced that contamination had been found in nearby drinking water wells, public awareness and concern about environmental contamination increased and the citizens began urging government agencies to remediate the site (U.S. DOE-FEMP, 1995).

In an effort to address the ways in which site production and cleanup activities affected the social, cultural, and political history of Fernald-area communities, the Fernald Living History Project (FLHP) was initiated in 1997 by the University of Cincinnati's Center for Environmental Communication Studies (CECS). The project focuses on the collection of Fernald stories told by the people involved in, or affected by site activities from the site's construction in 1951 to the present. Project activities promote a broader public understanding of the Fernald site's social legacy and its significance for future public policy.

The FLHP is working to create an archive of videotaped interview footage, along with copies of photos, letters, and memoirs that will preserve the rich history of the communities who neighbor the site. This project features an oral history approach that is based on the collection of informant-directed interviews. Oral histories allow people to speak for themselves on issues affecting their lives and allow for personal, subjective viewpoints as well as differences in opinion about events that have occurred (Dunaway & Baum, 1984; Yow, 1994). The FLHP is attempting to capture a wide range of community viewpoints including current and former area residents, current and former workers, government officials, citizens advisory board members, and others who wish to participate. The FLHP is a collaborative effort, involving Fernald-area communities, two area universities, the site regulatory community, and site officials and employees.

During the summer of 1998, CECS worked with FDF (the site contractor) to produce six videotaped interviews with community members and former and current site workers. These interviews were then edited for the purposes of creating a brief video intended to clarify the FLHP concept and encourage people to become involved. The promotional video was shown at various community meetings throughout the Fernald area during the fall and winter months of 1998. The six full-length interviews provided the data analyzed in this paper.

A group consisting of two community members, two FDF employees, and two of this paper's co-authors, worked together to select a pool of interview informants to represent the full spectrum of Fernald stories. In an effort to balance perspectives about Fernald, informants were selected from the following categories: former area resident; current area resident; former site worker; and current site worker. Due to overlap among some of the categories, six individuals were chosen from the pool of possible informants. These individuals were contacted either by telephone or in person and asked to participate in pilot interviews for the promotional video. All of those contacted agreed to participate.

From the four informant categories listed above, the following individuals agreed to participate in the pilot interviews: a *former resident* who was displaced from his farm for the construction of the Fernald site; a *long-time resident* of the Fernald area whose family farm was partially seized by eminent domain; a *current resident* who is an advocate for community health and safety; a *former site worker* who was one of the first site employees and a neighbor to Fernald; a *retired worker* who has completed forty years of service at Fernald; and a *current site worker* who is a relative newcomer to the area, working on site remediation activities.

Three of the co-authors for this paper served as the interviewers and FDF Multi-Media and Visual Services provided videography services. Interviews were shot either in the informant's home or office to maintain their natural setting and to allow for a comfortable and convenient location. In addition, pre-

interviews were conducted with the informants via telephone to familiarize them with the interview style and to allow the interviewer and the informant to develop rapport. Prompts for long interviews were developed from pre-interview discussions.

We employed an "informant-directed" interview method. Peterson and Horton (1995) discuss this type of qualitative interview as providing the researcher with an insider's perspective on cultural meanings, similar to that obtained through ethnographic or participant-observation research. Informant-directed interviews are conducted through a relatively unstructured format where the researcher relies on a few prompting and floating questions, but the conversation is primarily guided by the informant (McCracken, 1988).

During the interviews analyzed in this paper, interview questions were open-ended and general in scope, allowing informants adequate time to elaborate on topics they felt were pertinent to their impressions of Fernald. Informants were free to speak until they were comfortable with their responses to prompts. Interviews ranged in length from 26 to 70 minutes, depending upon the informant's communication style. Following the interviews, informants were provided with copies of their videotaped interviews.

Analysis of Interviews

For the purposes of this paper, interview transcripts and unedited videotapes of the six pilot interviews provided the data for analysis. This raw footage and the transcripts were used instead of the promotional video because they are the most accurate reflection of the beliefs and opinions of the informants. Those interviewed are referred to as informants throughout our analysis.

This paper uses elements of the theme-based analysis adopted by Peterson (1991; 1997) and Peterson and Horton (1995). We applied this methodology to the sense of place concept in the discourse related to Fernald. This methodology was chosen for this paper because identifying themes prevalent in the discourse of face-to-face interviews is one of the most effective ways to understand how people assess their world (Peterson, et al., 1994). One-on-one interviews captured the candid manner in which informants described their experiences which made them particularly well-suited for revealing the intricate details of each person's sense of place that may not be uncovered through observation alone. This method provides insight into how Fernald-area citizens and workers develop their senses of place in response to their Fernald experiences because it uncovers how they assign meaning and value to that context. As a result, researchers can gain a better understanding of geographical, experiential, and cultural dimensions that affect an informant's sense of place.

Our analysis included the following steps: 1) a review of the videotaped interviews and corresponding transcripts; 2) the identification of themes related to Fernald and examples of discourse representing each; and 3) a description of multiple themes at work in the sense of place for each informant.

Identifying Themes[1]. From our review of the six interview transcripts five themes emerged as consistent ways of expressing informant experiences and impressions of the Fernald site. Here we offer a brief explanation of each theme. The remainder of the analysis is then devoted to a description of these themes as they are used by the informants to express their sense of place.

Loss of control. A feeling of loss of control was evident in several of the informants' narratives. This theme revealed itself in two ways. First, the theme was described as a loss of control over the ownership of family farms by two informants whose land was taken by eminent domain. Second, this theme was expressed by a retired Fernald site worker who described his feelings about the loss of control over site policies and decisions with the onset of public participation and public knowledge about site activities.

Government Secrecy. As was mentioned above, the production mission of the nuclear weapons complex dictated a high level of secrecy for the purposes of national security. The Cold War arms race was underway and the U.S. government sought to outpace the Soviets in nuclear weapons production. Because of this, employees at Fernald and other sites throughout the complex were unable to discuss their work with family members, friends, and even fellow employees. A former site worker remembers, "I shared very little with my family or friends. . . everything was between that company and myself, and only if it was public knowledge did I ever share." This theme of government secrecy appears not only in the memories of site workers, but extends into the recollections of neighbors to the Fernald site. The secrecy began early when farmland was targeted as the location for the site. The theme of secrecy was illustrated in every interview

Fernald's Role in War Efforts. Throughout the memories of two informants, a former resident and a retired worker, we noted two well-defined, yet opposing, ways that community members and site workers understand Fernald's role in the nuclear age. This theme manifested itself in a wide variety of feelings ranging from hostility and betrayal to respect and pride

toward the American government. Through this theme, informants addressed the role of Fernald in a larger national context.

Us vs. Them Polarity. In environmental controversies, people have a tendency to describe issues by using polarized rhetoric, demarcating an 'us versus them' polarity (Killingsworth & Palmer, 1992). In this case, two informants, a current resident and a retired site worker, used this type of rhetoric to explicate some opposing views of the DOE and the community. The current resident, also a member of the activist organization called Fernald Residents for Environmental Safety and Health (FRESH), used polarized rhetoric to directly oppose DOE, demonstrating that, "In environmental controversies, the most logical place to locate discourses that oppose the dominant social paradigm would be in the rhetoric of activist organizations" (Cantrill, 1996, p. 168). Ironically, the current resident also utilized polarized rhetoric to distinguish her activist organization from the rest of the community. In addition, the retired site worker used an 'us versus them' polarity to identify himself with the Fernald site rather than the community.

Pride. Informants expressed various forms of pride that related to their place of employment or their involvement in Fernald issues. In particular, three types of pride were demonstrated in the informants' discourse. First, pride for the farming profession and its role in the community was expressed by the former resident, the longtime resident, and the former site worker (who also grew up in the community). Second, pride for the activist organization FRESH, was described by the current resident, highlighting the role the organization played in educating community members about environmental health issues at Fernald. Finally, pride for Fernald as an employer was expressed by the retired site worker.

The discourse of our informants reflected several themes previously identified in the literature on the organizational culture of the nuclear weapons complex (Metzler, 1997; Taylor, 1990, 1992). In addition to identifying the overall cultural themes described above, our paper looks at each informant's sense of place. Each informant combined various themes with her/his own personal background and experiences. By focusing on the discourse of individual informants, we learn more about the interplay among cultural, experiential, and geographic factors that contribute to the development of each person's sense of place.

Interpreting Informants' Senses of Place.

Former Resident. In 1951, the AEC seized the farm that belonged to this man's family. As a result, they were forced to relocate to another farm, approximately 120 miles from their original place of residence, where he still lives today. Analysis of his interview revealed three of the themes discussed above: 1) the loss of control, 2) government secrecy; and 3) Fernald's role in war efforts.

Given that this informant lived in the Fernald community from childhood until age 21, his sense of place was deeply rooted in the socio-cultural changes he witnessed over the years, including the introduction of the Fernald site. Of all the informants, this man was most descriptive in his memories of the community prior to the construction of the Fernald site, perhaps because his family was forced to relocate prior to the site's construction. This supports Cantrill's (1996) finding that long-time area residents may be more conscious of social connections than newcomers. In addition, he readily expressed his disappointment with the way that the presence of the Fernald site changed the community, demonstrating the loss of control theme. He remembered, "The community was a solid, very well solid knit community. It was a good place to live, a good place to grow up in. I appreciated being there. . . but things have changed. . . I am glad we left the community with the things that happen down there now. It's not the same community it was." Not only did this informant note that things have changed, he explicitly attributed these changes to the presence of the Fernald site: "the . . . Atomic Energy Commission. . . came in and took the farm by eminent domain for the Fernald project, and things have been quite different ever since."

At several points during his interview, the informant expressed a blatant bitterness toward the Fernald site, especially as he spoke about the government secrecy and Fernald's role in war efforts. For example, as he recalled the court dispute over the value of the farmland that was taken by eminent domain, he remembered, ". . . and some of the dirty rotten tricks they didn't pull on us, the government. Oh they'd deny it. . . so it wouldn't go on record, so you couldn't prove anything. We went into court to try to get a little bit more money. We knew they were taking witnesses aside to tell them what they could, and couldn't testify to. We couldn't prove it. . . The judge just cut us off and signed the papers, and out you go."

He reflected on the day his family was forced to vacate their property, recalling a particular conversation he had with a former teacher: ". . . He was upset about it. He had two boys in service in World War II. He said, 'I didn't think my boys fought for this.'" These statements conveyed the feelings of betrayal

experienced by displaced residents who also thought of themselves as loyal Americans. Because they believed that they, or their families, fulfilled their national duties, such as serving in wars, the experience of unwillingly losing land to the government became all the more painful.

Bitter memories toward the government still exist in the mind of this former resident today, emphasizing how some elements of one's sense of place may persist over time. He noted, "Sometimes I drive down there. I just drive in. I still got that enough animosity to me that if you want to run me out, fine. I still got that, shall I say, deep down hurt. I've forgiven, but you don't forget." While reflecting on his personal feelings of betrayal, this informant acknowledged that other Americans were also significantly affected by government actions throughout the years: ". . . but looking back now, when they can take a young man, give him a number, and send him to Korea or Vietnam, we weren't hit with what he was hit with. We all had crosses to bear."

In spite of the clearly expressed hostility toward the government and the Fernald site, this informant's sense of place also incorporated a contradictory tone of optimism and acceptance, demonstrating the multi-faceted nature of his sense of place: "I try to keep things positive. There is something good comes out of everything. There is no sense in me trying to tell [my grandchildren] what happened, how it happened, and how I felt about it. . . It's better off to tell them the fun I had." He further expressed his acceptance of the ramifications of the Fernald site with the statement: "It was devastating, but hey, we didn't die." Through these statements, it became apparent that his sense of place not only contains conflicting elements, but also changed over time. When he remembered the Fernald site and discussed preserving memories of Fernald for future generations, he was overwhelmingly positive. It is easy to see, however, that when the Fernald site was first introduced into his community, it held no such positive meaning for him, and his sense of place relating to the Fernald site was predominantly negative. The multi-faceted nature of his memories illustrates a point raised by Hubbard and Hasian (1998): "In the process of advocating particular story lines or cultural memories, people choose what to suppress and what to disregard in their reconstructions of the past" (p. 365).

Overall, this former resident's sense of place reflects themes of loss of control, government secrecy, and Fernald's role in war efforts. His tenure in the region contributed to the multi-faceted nature of his sense of place and to his strong social connections with fellow community members. The loss of this informant's farm to the site, indicative of his close proximity to the Fernald controversy, has also affected his sense of place. Specifically, certain strands of memory, including his deep-rooted bitterness toward Fernald, still remain salient today. Other community members who were not significantly affected by the presence of the site may express less bitter sentiments. This informant's sense of place has also evolved in some ways, as evidenced by the optimistic tone he embraces when describing Fernald to his grandchildren. Some similarities can be seen between this informant's sense of place and that of the next informant, because they were longtime friends and neighbors.

Longtime Resident. This informant's family farm was also taken by eminent domain in 1951. However, his family was able to secure property adjacent to their original farm. He and his siblings continue to farm this land which borders the Fernald site property. Three themes emerged from his interview: 1) loss of control, 2) government secrecy; and 3) pride.

This informant has lived in the Fernald area his entire lifetime, carrying on the tradition of three previous generations of family farming. His sense of place was largely connected to the geography of the land and its utility for producing crops. In addition, his sense of place was strongly tied to family connections and identification with his family unit. Throughout his interview, this informant shared much about the losses endured by neighboring farms who were displaced from their land with little warning. Suddenly displaced from his own farm, he remembered how government plans for the site "included [the] whole farm." Instantly, his family's routine was interrupted: "And it was March, and starting into Spring planting. . . You're looking forward to that. . . They said they were going to take it immediately. And so we were scrambling to find someplace to go buy another farm." The loss of control was further described: "The people that did not find other farms right away, you know, that was a big impact on them." Evidently, his sense of place relating to Fernald was shaped by how the introduction of the site affected his livelihood and the livelihoods of other farmers.

Undoubtedly, this informant did experience a loss of control because of his close physical proximity to the Fernald site and his tenure in the region. However, he also acknowledged that his family was fortunate to have relocated quickly and relatively easily: "We ended up buying the farm adjacent to my Grandfather's farm before the spring planting time, and we got to move right into it. . . it made it really handy for us that we did not have to move very far away. . . we were lucky that way." Describing this quick relocation as "lucky" further illustrates how this informant conceptualized the Fernald introduction as a situation that

was out of his control. It was only by mere chance that his family's relocation onto a new farm ran smoothly. This so-called "luck" may have preserved more stability in this man's lifestyle than could be preserved for other farmers whose relocation was not as convenient. Subsequently, he did not explicitly express bitter sentiments toward Fernald, as did the first informant. Rather, he elaborated on how the introduction of Fernald changed the day-to-day routines on the farm, further demonstrating how his sense of place is significantly connected to his livelihood as a farmer.

He noted how the increased traffic through the community affected his farm business: "all the [cars] going past, it ended up being a pretty good egg market for us at the time." In this case, his comments reflected some of the positive impacts of the Fernald site on the community. Yet, his multi-faceted conceptualization of the situation also reflected negative aspects of Fernald. He recalled rumors about the site contaminating his dairy farm: ". . . that would be one impact we didn't enjoy because we were so close to the plant that there were so many people concerned about the milk that was being produced here." Regardless of the effects of the Fernald site, it appears that this informant was able to adjust his daily activities in order to maintain a sense of place (in the context of the site) that preserved his role as a farmer within the community.

The sense of place of this longtime resident also reflected elements of the government secrecy theme. He recalled the day that his family learned about the site's location in their community: "It was rather stunning to us that we really didn't know anything about this, that it was going to happen or anything. After the news broke, then I guess we kind of put together seeing some black cars with government license on driving down Willey Road past our place." He continued, "I know of people that have driven past the Fernald plant on the outer boundaries and never even knew what it was." This informant reflected on the culture of secrecy at the Fernald site with a tone of acceptance, "our family still refers to it as the Atomic Plant. . . it was one of those places that was kind of a secretive type of thing. . . it was just something that we just kind of grew with." Although this informant's lifestyle was affected negatively by the Fernald site, he was willing to adapt to the reality of the situation. The secrecy surrounding the Fernald site consequently became just another fact of life.

The essence of this informant's sense of place revolved around his livelihood as a farmer. Therefore, it is not surprising that the theme of pride for his profession emerged in his discourse. He reflected back on how the profession has changed over the years, "Farming has come a long way. Now, when I was a kid, I can remember driving horses and doing a lot of field work that was hand labor type of things. . . The mechanical things [nowadays]. . . make it much easier for people to be able to farm more land." This description of old-fashioned physical labor caused this informant to wonder how his grandfather would react to today's farming technology. He proudly stated, ". . . I think [grandpa] would just be amazed at the crops we raise nowadays, and what they look like, and the yields that we get." In spite of all the changes in this man's community due to the Fernald site and other external factors, there is one constant element in his sense of place: farming is his life and identity. Moreover, his livelihood helped him make sense of his surroundings, including the environmental controversies at Fernald.

Current Resident. In stark contrast to the two previous informants, this current resident and her family moved to the Fernald area in 1970 because they were attracted to the area's natural beauty and location along the Great Miami River. She is one of the founding members of the grassroots organization, Fernald Residents for Environmental Safety and Health (FRESH), that formed to monitor the cleanup activities of the DOE and their contractors. Her interview contained three themes: 1) government secrecy, 2) us versus them polarity; and 3) pride.

Early in this informant's interview, the theme of government secrecy emerged. She began by explaining how she was introduced to the Fernald site: "We moved here about 1970. . . it was called National Lead of Ohio, and I automatically was thinking lead paint. . . . because when we first [were] thinking about moving down here, I went downtown to find out as much information as I could. I asked about the plant, and they said it makes paint." Later, when well-water contamination was discovered off-site, the public remained largely unaware of Fernald, its activities, and the potential health effects of the contamination. This informant shared her concerns about this discovery: "The first time we knew what the site was actually producing, it scared me. . . to realize the possibility that they were contaminating the ground water. In this area, we have a lot of private wells." Immediately, her sense of place was colored by government secrecy at Fernald. Reflecting on the physical appearance and the name of the site, she believed that the site intentionally misled the public about what they actually produced: "When we started talking to people, they thought it to be a feed plant that made feed for animals. There were cows walking around the surrounding land, and the sign out there said 'Feed Production'. . . and also it had a checkerboard water tower," reminiscent of the famous

Purina company logo. From the beginning, she was suspicious about the site's activities. Her initial encounter with government secrecy at Fernald shaped her sense of place so that it produced a cautionary stance.

This woman's cautionary sense of place encouraged her to become active in FRESH. She joined the organization because she was concerned about the safety and health of her family and community. As she discussed the controversy surrounding the Fernald site, she exemplified the theme of 'us versus them' polarity described above, placing the DOE on one side and community members on the other. Specifically, this informant recalled some of the difficulties FRESH faced with DOE during its early months. Her words demonstrated a rhetoric reminiscent of a battle between opposing sides: "They thought they could win by beating us down, by having all these meetings in the beginning. Whenever FRESH would ask for a meeting, we would have them. And they thought we would get tired after the first five years, but we didn't." At times, her discourse expressed undertones of sarcasm, such as when she criticized DOE's response to the well-water contamination: "The community wanted a public water system, but their system was bottled water. . . Now have you ever taken a bath in bottled water? It's not very easy. How did they think that bottled water was going to correct the situation?" Although she admitted her frustration with DOE, her multi-faceted sense of place allowed her to acknowledge improvement in their relationship, "Public participation has helped us to get to know one another, especially for the DOE and the contractors to realize that we can make decisions, and we are not always on the opposite side. And by working together and sitting down at the table, we have gotten respect for each other." This demonstrated her desire to find common ground with DOE over the Fernald controversy.

Ironically, this informant not only uses the 'us versus them' polarity to describe her relationship with DOE, but she also uses it to describe her relationship with the overall community. In this case, the distinction was made between the activist community (specifically those in FRESH) and the community at large. In one comment, she reinforced the 'us versus them' polarity between FRESH and the community: "The community residents, I think they still have that impression that we as FRESH group are activist. . . I don't like the word 'activist.' I'm just a concerned citizen. I'm concerned about my family's health and safety. . . if my community health and safety isn't well, then my family's health and safety isn't well. I only want my family to have a better quality of life."

It is important to note that although she used polarized rhetoric, she actually expressed her desire to break down the boundaries separating FRESH, DOE, and the rest of the community. In her comments, she admitted that FRESH and DOE are "not always on the opposite side," and are increasingly cooperating on Fernald issues. By using this inclusive rhetoric, she created a bridge between FRESH and DOE. However, she also used polarized rhetoric to describe the relationship between these organizations in a strategic effort to maintain FRESH's position as a watchdog organization. She acknowledged that the relationship between FRESH and DOE has improved, while carefully maintaining the distinctions between these two groups. Similarly, when she used polarized rhetoric to discuss the relationship between FRESH and the larger community, her discourse emphasized their similarities. Specifically, she disregarded the term "activist" and replaced it with "concerned citizen" and family member, in order to blur the boundaries between FRESH members and others in the community. In spite of this, her polarized rhetoric illustrated that she still distinguishes between FRESH and other community members. Her emphasis on both the differences and the similarities between these groups, reflected her multi-faceted sense of place.

Another element of her sense of place highlighted the theme of pride that developed as a result of her involvement with FRESH. This informant noted how the community's perception of the organization changed over time, and this subsequently changed her feelings toward the organization. She recalled, "One of the meetings I was attending, we were just forming FRESH, handing out fliers to the community. A man came up to us and told us to go home and put our aprons back on and take care of our families, that we would not accomplish anything. That always stuck with us at FRESH. But now people do come up to us and say 'Keep up the good work.' Sometimes they say, 'We need your help'. . . It has changed." Withstanding adversity and persisting through difficult battles with DOE over the past 15 years, she developed a sense of pride for her organization over time. Had the circumstances been different, her commitment and loyalty to the goals of the organization might not be as strong as they are today. As her pride and commitment to the organization strengthened, her perspective changed: "In the beginning, I was only in FRESH for the environment reason, and now I find that I am personally involved."

After nearly thirty years in the Fernald area, her sense of place evolved to the point where she could clearly articulate what is most salient. She reflected on her roles as a mother, community member, and advocate for community health and safety. When asked

what she believed was most influential in defining her experiences with the Fernald site, she stated, "Just having children and wanting to protect them. Being a mother and wanting to make sure your environment is safe for everyone, for your family especially. . . . Maybe that's my purpose on the earth. I never realized in my earlier days that I would be doing this."

Former Site Worker. Having lived in the Fernald-area since childhood, this woman became employed at the Fernald site during its construction phase in 1951. She worked there for approximately five years. She and her husband have lived in the community for 47 years. In her interview, two themes were prevalent: 1) government secrecy and 2) pride.

The theme of government secrecy emerged early in her interview, as she described her relationship with her employer, "Only if it was public knowledge did I ever share. My husband and I never shared what was going on. In fact, at the time I was hired over there, I didn't even know what was going on." She respected that her position demanded secrecy, and even found comfort in the fact that a high level of security was maintained at the site, "I was impressed with a lot of things. . . I guess I was not aware that there was so much thoroughness of security and things like that until I became involved with the Atomic Energy Commission." This informant was impressed by the efficient and business-like manner in which the site was run: ". . . things were secure. It was a good job." Having these positive experiences, she developed a high level of trust in her employer, coloring her sense of place as it related to the site.

Her trust in the Fernald site remained strong during a time when other community members questioned the site's role in contaminating the local environment, "I never felt any fear from the place, when I worked there or since. I just couldn't picture them not following up on things or doing things that would hurt the environment or causing anyone to have bad will. I guess accidents happen, and no one has any control over that." Evidently, her well-developed trust in her employer helped her to make sense of the controversy over the potential environmental contamination caused by the site. She absolved her employer of responsibility by conceptualizing the contamination as accidental. Her proximity to the site as one of the initial employees provided her with positive site experiences prior to the emergence of environmental controversy. These experiences resulted in a much more positive sense of place in relation to Fernald than the previous three informants. Essentially, her positive experiences with Fernald corresponded with her positive view of the site's production activities.

However, this informant not only identified herself as a Fernald employee, but also as a community member with a long tenure in the region. Specifically, she expressed a strong sense of pride for her rural community, and she noted how the loss of farmland was unsettling: "What used to be a rural community is no longer rural. I think that was the saddest part was years ago seeing the farmland disappear. . . I used to know everybody, and I can't say that now." As the rural atmosphere gave way to development and the introduction of the Fernald site, this informant experienced disappointment. She talked about the way the site changed the community: "All of a sudden all this industry came, and with the industry came more traffic, more people. . . . When I see a person on the street, I think 'Wow, that's a stranger,' but then I learn that they just live a couple of streets over. I'm not out and amongst the people like I used to be." In spite of the changes caused by the presence of the site, she enjoyed the time she worked there. Her roles as employee and community member each affected how she made sense of the issues surrounding the Fernald site. Her dual roles within the Fernald context revealed a sense of place with multiple views.

In spite of her close geographic proximity to the site, this informant has been able to distance herself from many of the controversial issues that arose because of her strong trust in her employer. Although she was saddened by the loss of farmland in her community, she did not blame the Fernald site for this change. Her sense of place, as it relates to the site, was largely affected by her role as a site employee. This close connection to the Fernald site helped her to interpret the environmental controversies that emerged after she quit working there.

Retired Worker. Entering the Fernald site as a lab technician in the mid 1950s, this man made a career of chemical engineering at Fernald, working there after high school, during college as a co-op student, and later securing permanent employment in a variety of scientific and management positions. He retired after 40 years of service, but was invited to return to work with the current Public Affairs office, where he currently is employed on a part-time basis. Every theme was exemplified in this man's interview.

The loss of control theme was expressed by this informant as he described how the onset of public participation and public knowledge about site activities limited site policy-making and decision-making processes. During production years at the Fernald site, the secrecy surrounding the mission of the nuclear weapons production complex allowed the AEC, and later the DOE, to control site activities and decisions without public knowledge. In the mid-1980s, when con-

taminated well-water was discovered on property adjacent to the site, Fernald was thrust into the public forum, and the level of control over daily activities was lost.

This informant recalled the first public meeting about contaminated wells: ". . . it changed Fernald forever, and I think it changed DOE forever. It took the lid of secrecy off Fernald, what we did here, and created enormous public awareness suddenly." In a more explicit recollection, he discussed how this loss of control affects site operations today: "It takes a lot of self-discipline today, is my observation. It is a much more difficult environment to work in professionally because you must go through all of these steps. You must go through the regulatory oversight; you must go through the internal assessment and evaluations. It's part of the game today." He continued, "As an engineer today, if I were able to go out and dig dirt or sink a well, would I ask public opinion? Probably not. But today we involve the public. That's the correct way." His attitude toward involving the public is skeptical at best because he saw increased public involvement as a direct threat to maintaining government secrecy, another theme prevalent in his sense of place.

As the wall of secrecy began to erode with increased public participation, this informant described how, complex-wide, DOE was losing control of their reputation: "The horror stories were beginning to come out at each and every site. We were at the head of the list, but the other ones were right behind us with their own horror stories. . . ". This loss of government secrecy and change in the way things were run at the site forced this informant to become more aware of how Fernald affected the public. Subsequently, his conceptualization of Fernald was altered. It was no longer an entity that operated solely in a national context. With increased public participation, a new local feature related to the site became salient in his sense of place. His multiple ways of making sense of site issues reflected his multi-faceted sense of place.

In spite of his new-found public awareness, this informant still primarily conceptualized Fernald in terms of its role in Cold War efforts, exemplifying another prevalent theme in his sense of place. He saw Fernald "at the very heart of the nation's nuclear defense program." He felt that Fernald was always "run very professionally. . . very business-like, and when I had the opportunity and fortune to be at that level, I saw it, it was powerful." Essentially, this informant saw Fernald as playing a key part in America's Cold War effort, and he held this role in high regard, as will be reflected in other themes. Because of his long-standing employment at the site and his high level of involvement in Fernald issues, his sense of place was deeply rooted in the organizational culture.

Moreover, this informant's understanding of Fernald as a separate entity from the community led to his use of polarized 'us versus them' rhetoric when discussing Fernald issues. He identified himself primarily with Fernald and recalled his relationship to the community with that in mind: "they knew that we existed because you cannot take a thousand acres of prime farmland and put down a production facility and manufacturing plant without somebody knowing something different happened to their surroundings." Later, he remembered the flippancy with which Fernald workers discounted the fears of the community during the discovery of the contaminated wells: "When you tend to trivialize people's fear of, especially something nuclear, it created anger and that is what [we] experienced with the public. . . I think we misread how the public thought. I'm sure we misread it. They had genuine fears." He seemed sincerely surprised that the community had legitimate concerns, yet this insight only emerged peripherally. This example illustrates a claim made by Taylor (1997a) that employees in nuclear weapons organizations are "resistant to reflection concerning the risks to worker safety and public health created by their work" (p. 213).

Remembering the discovery of well-water contamination, this informant was primarily concerned with the effect it would have on site operations: "The site mission didn't change one iota. The site mission was still to support nuclear materials production in DOE defense programs." Therefore, since Fernald's mission remained the same, regardless of the contamination, he viewed other effects experienced by the community as relatively unimportant. This comment provides a good example of the way that nuclear weapons "organizations commonly privilege the interests of technical rationality over practical interests which focus on the quality of human relationships" (Taylor, 1990, p. 397).

A final theme revealed in this informant's sense of place was pride for Fernald's historical role in nuclear weapons production. He reminisced about his years of work at Fernald, illustrating his undying devotion to his employer: "There are days I would have worked for nothing just to be where I was. I was very fortunate. I didn't tell the boss that, but I would have worked for nothing just to be involved on a national level as I was. It's the most exciting thing I've ever done." His discourse exemplified how he became "economically- and psychologically-dependent on the continued operations of [the] local facilit[y]" (Taylor, 1997a, p. 213).

He expressed this enthusiasm for his work at Fernald repeatedly: "Fernald's chemical plants were the chemical engineer's dream. . . . So as a young engineer, this was a dream to work at." This informant's sense of place significantly involved substantial pride for his technical accomplishments and patriotic service as a Fernald employee (Taylor, 1997a). As a young chemical engineer, this informant felt honored to have the opportunity to be part of an innovative site, like Fernald. As an American, he was proud to be part of the country's nuclear weapons production effort. He believed that he individually played a crucial role in America's involvement in the Cold War by working at Fernald, and he felt that such a role was worthy of honor and respect. He asserted that "the men and women of Fernald should always be proud that we worked here and did the best job we can do, and that we succeeded."

Current Site Worker. Originally from North Carolina, this man moved to Cincinnati to work for Procter and Gamble, and eventually sought employment at the Fernald site. He has worked on remediation technologies and processes since the late 1980s. In his interview, only the theme of government secrecy was identified.

This informant discussed in detail his encounters with government secrecy at the Fernald site. He recalled the mission statement that was disclosed when he was hired: "The mission statement. . . focused primarily on the enrichment and production of uranium for the Department of Energy. It didn't get much more detailed than that. . . If I became aware of other details during the course of performing the work that I was assigned, for the purposes of security, you know, it needed to be kept within the work environment here, only those who had a need-to-know." And he further described the difficulties in maintaining that level of secrecy with friends and family: ". . . when I shared where I worked, the question was 'Where is that?,' 'What do you do?' and so forth. So on my part, there was just. . . not the willingness to openly share where I worked, only because I knew I couldn't share very much about what I did. . . ". When asked about the changes that took place when the lid of secrecy was removed from the Fernald site, he stated, "The mid-1980s were a very challenging period for us because of the significant changes that occurred. [We] went from a period where very little, if any, information was shared with the public in general concerning what we do, to being very informative with the public and certainly telling the public essentially everything now." In his illustration of the theme of government secrecy, this informant reflected on this controversial time with disbelief: "The public was not very pleased with us. How could we keep this from them?"

He continued to discuss the breakdown in government secrecy at Fernald by focusing on his involvement with the Speakers Bureau: "Essentially we made ourselves available, either during or after work hours, to speak to civic organizations, social groups, church clubs, schools, whatever, to speak in more detail about the kinds of things we did here and what levels of contamination existed." This provided his only connection to local communities.

Throughout his interview, this informant aligned himself with the Fernald site, largely neglecting the community context of Fernald until he recounted the events surrounding the discovery of well-water contamination at an off-site location. This demonstrated his close proximity to the site and the issues surrounding the environmental controversy that emerged. His sense of place within the Fernald context directly reflected his employment at the site, offering no ties to outside social connections. This may also be reflective of his tenure in the region, being a relative newcomer to the Fernald scene, and residing outside of the communities neighboring the site. Moreover, given that his sense of place relative to Fernald was a fairly recent conceptualization, his discourse provided no evidence for how his sense of place may have changed over time. Rather, his rhetoric was somewhat unidimensional, reflecting solely his employment role at the Fernald site.

Conclusions & Implications for Future Research

Our analysis shows how divergent memories about the Fernald site reflect the development of individuals' multi-faceted and evolving senses of place in response to environmental controversies. Several factors were significant in determining one's sense of place in response to Fernald, including one's proximity to the site of controversy, one's tenure in a region, and cultural aspects of the site and surrounding area. Our analysis illustrated how the discourse of informants reflected elements of the culture in which they lived and/or worked (Cantrill, 1996). For example, the former resident, who lived in the community from his childhood through early adulthood, expressed a highly complex and multi-faceted sense of place that emphasized social ties with community members. In contrast, the current worker, comparatively new to the Fernald site, has a more unidimensional sense of place that draws heavily from his work experiences there.

The various roles held by these informants and their proximity to the Fernald site ultimately altered their senses of place. This point is represented most explicitly in the language of those informants who

played multiple roles in relation to the site. One former worker, who was also a lifetime resident of the area, expressed various interpretations of how the introduction of the site affected her. On the one hand, the Fernald site was a source of income and livelihood, and she trusted her employer. On the other hand, it degraded the rural essence of the community, and that detracted from her experiences there. Her multi-faceted sense of place raises important questions about "the nature of the 'view' being investigated, and whether there is *a* view or multiple views" (Carbaugh, 1991, p. 337).

Our analysis also displayed how two informants can interpret the same event in entirely different ways, depending on their experiential and cultural backgrounds. For instance, a stark contrast was found in how the former resident and the retired site worker made sense of the dropping of the Atomic bomb. The former resident remarked, "I came to the conclusion . . . that should it not have been done, it would have been done to us. . . it was a right decision. But you do a lot of soul-searching when a lot of innocent people get killed. But there is a lot of things in life that aren't fair, but that's life." In contrast, the retired worker conveyed his feelings of confidence in America's decision to drop the bomb: "Oh, that was a good feeling because the atomic bomb ended World War II. It's a subject of debate in the following decades, still continues to be a moral debate. But in the late '40s and early '50s, the atomic program was respected. And it was a desirable place to work."

The discourse of the retired site worker reflected a perspective described in other research examining the nuclear weapons complex. For example, Taylor notes that nuclear weapons complex employees often believe that "the standards of the times absolve them of historical responsibility for alleged radiation-related illness and deaths" (Taylor, 1997a, p. 213). Conversely, the former resident expressed a reality towards the Atomic bomb that was more reflective of his social connections with other community members and other Americans. Essentially, each individual asserted a unique viewpoint on the topic that is illustrative of their overall sense of place. Our research confirms Hubbard and Hasian's (1998) finding that future research must continue to identify and understand differing strategies for remembering environmental controversies in order to facilitate meaningful and productive discussion between opposing sides.

When researchers analyze the discourse of environmental controversies, it is not uncommon to see individuals on opposing sides using similar patterns of discourse, even though they hold contrasting views on the same issue (Lange, 1993). In this analysis, the discourse of the former resident and the retired site worker display one such scenario. The former resident used the following words to describe the connectedness among his fellow community members: "We learned to live together, work together, love together, cry together, bury your dead together, go to church together." When describing the connectedness among Fernald employees, the retired worker used similar rhetoric: "The production was still under the hands of long-term employees who grew up together, worked together, and knew how to make uranium." Although parallel phrases are used by these two informants in describing their worlds, the similarities in their discourse "may obscure the very real, symbolic differences between [them]" (Cantrill, 1996, p. 168). This point stresses the importance of considering the variety of factors that help formulate one's sense of place in relation to an environmental controversy in order to get a complete understanding of her/his reality.

Some commonalities existed among the senses of place of the residents, as well as the senses of place of the workers. More specifically, those who predominantly identified themselves as residents of the community tended to conceptualize the site as an outside entity, whose presence inevitably changed their community. These informants placed emphasis on how the site affected their daily farming activities, family life and health, and the connectedness of the community. On the other hand, those who identified themselves primarily as site workers de-emphasized the context of the overall community. Rather, they depicted the site in terms of an exclusive "family" of site employees that operated independently of its surroundings. Future research should continue to identify and understand the extent to which cohorts of people in different environmental contexts share a common reality based on their similar background experiences (Taylor, 1997a).

It is important to note that this research marks an initial attempt to examine the discourse of individuals affected by the Fernald controversy. Six videotaped interviews were analyzed in this paper. The DOE conducted approximately 100 additional interviews with Fernald workers and residents in 1999. These interviews should be analyzed in future research to learn more about the unique features of discourse related to personal experiences surrounding Fernald, and how those features relate to the sense of place concept. Moreover, the themes identified in this research may be identifiable in the discourse of other communities affected by a nuclear weapons complex site. Therefore, future research should apply this thematic analysis to new contexts and to comparatively analyze the various sites within the nuclear weapons complex and surrounding communities.

The environmental legacy of the Cold War will take many years and billions of dollars to address. What remains to be determined, for those who lived and worked in America's atomic spaces, and for all Americans, are the historical and cultural legacies of the Cold War, including lessons to be learned concerning military policy, government secrecy, and environmental stewardship. This paper explored personal narratives that contribute to the cultural and historical legacies of Fernald, so as to capture and preserve a piece of the collective memory of this site. There is an immediate need to continue similar research in order to preserve a *national* collective memory of the nuclear weapons complex as a whole, before this memory is lost.

Notes

1. Quotations are taken from transcripts of the interviews completed in 1998 with the informants. Copies available upon request.

Works Cited

Cantrill, J. G. (1996). Gold, Yellowstone, and the search for a rhetorical identity. In C. G. Herndl & S. C. Brown (Eds.). *Green culture: Environmental rhetoric in contemporary America* (pp. 166-194). Madison: U of Wisconsin P.

Cantrill, J. G. (1998). The environmental self and a sense of place: Communication foundations for regional ecosystem management. *Journal of Applied Communication Research, 26*, 301-318.

Cantrill, J. G. & Masluk, M. D. (1996). Place and privilege as predictors of how the environment is described in discourse. *Communication Reports, 9*, 79-84.

Carbaugh, D. (1991). Communication and cultural interpretation. *Quarterly Journal of Speech, 77*, 336-342.

Carbaugh, D. (1992). The mountain and the project: Dueling depictions of natural environment. In C. L. Oravec & J. G. Cantrill (Eds.). *The conference on the discourse of environmental advocacy* (pp. 360-376). Salt Lake City: U of Utah Humanities Center.

Carbaugh, D. (1995a). *Situating selves: The communication of social identities in American scenes.* Albany: State U of New York P.

Carbaugh, D. (1995b). Naturalizing communication and culture. In J. G. Cantrill & C. L. Oravec (Eds.). *The symbolic earth* (pp. 38-57). Lexington: UP of Kentucky.

Cuba, L. & Hummon, D. (1993). A place to call home: Identification with dwelling, community, and region. *Sociological Quarterly, 34*, 111-131.

Duffield J. J. & Depoe, S. P. (1997). Lessons from Fernald: Reversing NIMBYism through democratic decision-making. *Inside EPA's Risk Policy Report, 3*, 31-34.

Dunaway, D. K. & Baum, W. K. (1984). *Oral history: An interdisciplinary anthology.* Nashville, TN: American Association for State and Local History.

Fernald Citizens Task Force (1995, July). *Fernald Citizens Task Force: Recommendations on remediation levels, waste disposition, priorities, and future use.*

Hales, P. B. (1997). *Atomic spaces: Living on the Manhattan Project.* Urbana: U of Illinois P.

Hallmark, J. R. (1998, November). *Competing narratives in public policy: Conflicting stories about plutonium disposition in a United States Department of Energy Site Specific Advisory Board.* Presented at the annual meeting of the National Communication Association, New York, NY.

Hubbard, B. & Hasian, M. A. (1998). Atomic memories of the Enola Gay: Strategies of remembrance at the National Air and Space Museum. *Rhetoric and Public Affairs, 1*, 363-385.

Killingsworth, M. J. & Palmer, J. S. (1992). *Ecospeak: Rhetoric and environmental politics in America.* Carbondale: Southern Illinois UP.

Kuletz, V. (1998). *The tainted desert: Environmental and social ruin in the American west.* New York: Routledge.

Lange, J. I. (1993). The logic of competing information campaigns: Conflict over old-growth and the spotted owl. *Communication Monographs, 60*, 239-257.

McCracken, G. (1988). *The long interview.* Newbury Park, CA: Sage.

Metzler, M. S. (1997). Organizations, democracy, and the public sphere: The implications of democratic (r)evolution at a nuclear weapons facility. *Communication Studies, 48*, 333-358.

Peterson, T. R. (1991). Telling the farmers' story: Competing responses to soil conservation rhetoric. *Quarterly Journal of Speech, 77*, 289-308.

Peterson, T. R. (1997). *Sharing the earth: The rhetoric of sustainable development.* Columbia: U of South Carolina P.

Peterson, T. R. & Horton, C. C. (1995). Rooted in the soil: How understanding the perspectives of landowners can enhance the management of environmental disputes. *Quarterly Journal of Speech, 81*, 139-166.

Peterson, T. R., Witte, K., Enkerlin-Hoeflich, E., Espericueta, L., Flora, J.T., Florey, N., Loughran, T., Stuart, R. (1994). Using informant directed interviews to discover risk orientation: How formative evaluations based in interpretative analysis can improve persuasive safety campaigns. *Journal of Applied Communication Research, 22*, 199-215.

Prosise, T. O. (1998). The collective memory of the atomic bombings misrecognized as objective history: The case of the public opposition to the National Air and Space Museum's Atomic Bomb exhibit. *Western Journal of Communication, 62*, 316-347.

Ratliff, J. N. (1997). The politics of nuclear waste: An analysis of a public hearing on the proposed Yucca Mountain nuclear waste repository. *Communication Studies, 48*, 359-380.

Taylor, B. C. (1990). Reminiscences of Los Alamos: Narrative, critical theory, and the organizational subject. *Western Journal of Speech Communication, 54*, 395-419.

Taylor, B. C. (1992). The politics of the nuclear text: Reading Robert Oppenheimer's *Letters and Reflections*. *Western Journal of Speech Communication, 56*, 429-449.

Taylor, B. C. (1993). *Fat Man and Little Boy*: The cinematic representation of interests in the nuclear weapons organization. *Critical Studies in Mass Communication, 10*, 367-394.

Taylor, B. C. (1996). Make bomb, save world: Reflections on dialogic nuclear ethnography. *Journal of Contemporary Ethnography, 25*, 120-143.

Taylor, B. C. (1997a). Home zero: Images of home and field in nuclear-cultural studies. *Western Journal of Communication, 61*, 209-234.

Taylor, B. C. (1997b). Revis(it)ing nuclear history: Narrative conflict at the Bradbury Science Museum. *Studies in Cultures, Organizations and Societies, 3*, 119-145.

Taylor, B.C. (1997c). Shooting downwind: Depicting the radiated boy in epidemiology and documentary photography. In Huspek, M. & Radford, G.P., Eds. *Transgressing discourses: Communication and the voice of other* (pp. 289-328). Albany: State U of New York P.

Taylor, B.C. (1998). Nuclear weapons and communication studies: A review essay. *Western Journal of Communication, 62*, 300-313.

U.S. Department of Energy (U.S. DOE). (1997, January). *Linking legacies: Connecting the Cold War nuclear weapons production processes to their environmental consequences.* Washington, D.C.: DOE Office of Environmental Management.

U.S. Department of Energy (U.S. DOE). (1995, January). *Closing the circle on the splitting of the atom: The environmental legacy of nuclear weapons production in the United States and what the Department of Energy is doing about it.* Washington, D.C.: DOE, Office of Environmental Management.

U.S. DOE-FEMP. (1995, January). *Community relations plan.* Fernald, Ohio.

U.S. DOE-FEMP. (1994, October). *Fact sheet.* Fernald, Ohio.

Yow, V. R. (1994). *Recording oral history: A practical guide for social scientists.* Thousand Oaks, CA: Sage.

A Space for Government in a Hinterland Place: The Environmental Self at the End of the Road

James G. Cantrill
Communication and Performance Studies
Northern Michigan University—Marquette, MI

Abstract

This paper examines community discourse related to natural resource policy, data generated in one isolated town in the Rocky Mountain West. The intent of the research project was to assess (a) which themes dominate citizen's depictions of their community, (b) the extent to which these perceptual foci are related to a range of activities in relation to the environment, and (c) what social forces may account for the specific pattern of themes that are present. Qualitative and quantitative analysis of in-depth interviews suggests that, despite personal desires to maintain a rich quality of life tied to the natural environment, community respondents disdain government intrusion and seem to assume that their personal stewardship of the land is more valuable than what can be had by regulation from without.

Introduction

Among other issues, political and social discourse in the United States often focuses on the promotion of environmentally benign polices. Furthermore, conventional wisdom suggests that this ongoing discussion typically reflects the competing interests of "green" and "brown" perspectives, which support either the preservation of precious natural resources or the use of those same resources in the service of an expanding economy. Despite a body of research revealing the public's general tendency to preference a dominant social paradigm of limitless resources and private property rights (e.g., Albrecht, Bultena, Hoiberg, & Nowak, 1982; Cantrill & Chimovitz, 1993; Geller & Lasley, 1985; Kuhn & Jackson, 1989; Van Liere & Dunlap, 1983), popular culture generally characterizes environmental conflict as being captured in the battle between environmentalists and industry, with the government caught in some sort of political demilitarized zone.

Commenting on the extent to which government must enter the fracas of environmental disputes and somewhat manage the relationship between communities and the environment, Kraft and Vig (1994) argue:

> The government plays a preeminent role because most environmental ills are *public problems*—they cannot be solved through purely private action. Although individuals and nongovernmental organizations can do much to protect environmental quality, as demonstrated by the impressive growth of grass-roots groups over the past decade, such efforts are often insufficient by themselves without the backing of public policy—for example, on control of toxic chemicals. Moreover, self-interested individuals and a free economic marketplace guided mainly by a concern for short-term profits create spillover effects, or 'externalities,' such as pollution. The character, scope, and urgency of environmental problems and the deficiencies in human institutions therefore necessitate large-scale collective action. Typically, this means governmental policy—local, state, national, and international. (pp. 4-5)

Nonetheless, people often perceive that the government has great discretion in deciding which side of a controversy to form an alliance with, a perception typically fueled by a media industry which plays up contrast and division, even going so far as to characterize government as somehow being "the other" as was the case with forging policy for the management of temperate rain forests (e.g., Gup, 1990).

Mass-mediated depictions of environmental partisanship aside, life at the grassroots of communities across the land perhaps represents a more complicated picture where divisions blur and it becomes difficult to identify who is on what side of the clash. Some studies (e.g., Pomerantz, 1991; Stuart, 1992) indicate that the much-touted environmental consciousness of the mass public seems to be poorly developed, fragmented, and largely coopted by a culture which has traditionally encouraged the exploitation of the planet's bounty. Such is certainly the case when examining instances where decision-makers have attempted to manage either local (e.g., Mazmannian & Morell, 1994) or regional (e.g., Cantrill, Potter, & Stephenson, in press) natural resource policy. So too is the public's self-interest evident in broader movements (e.g., "Wise Use") that have swept the land-

scape in the 1980s and 1990s (e.g., Echeverria & Eby, 1995).

Public reaction to the role of government in natural resource protection presents a mixed creel of positive and negative assumptions. Based on their nationwide survey, Kempton, Boster, and Hartley (1995) conclude that, in general, government is

> seen on the one hand as inefficient, unresponsive to citizens, frequently corrupted by industry lobbying, and driven by internal demands, especially maximizing tax revenues to preserve bureaucratic jobs. . . . On the other hand, government is seen as the only institution powerful enough to control industry. Although government regulations [are] seen as leading to inefficiency and red tape, regulations in general [are] thought to do more good than harm, and this belief [is] even more emphatic for environmental regulations in particular . . . . (p. 158)

Yet the question remains: Does the discourse of communities caught in the crossfire of environmental dispute indeed reveal an incipient distrust of governmental regulation in relation to environmental policy?

To begin to discover what characterizes community discourse related to natural resource policy, this paper examines data generated in one isolated town in the Rocky Mountain West. The intent of this research project was to assess (a) which themes dominate citizens' depictions of their community, (b) the extent to which these perceptual foci are related to a range of activities in relation to the environment, and (c) what social forces may account for the specific pattern of themes that are present.

Background

One seemingly shared view of local discourse related to natural resources (e.g., Luhumann, 1989; Oelschlaeger, 1992; Orr, 1992) suggests that a community is a "created space" which frames values, perceptions, and interactions. As activists, industrialists, policy makers, and ordinary citizens discuss and learn about the environment they craft for themselves collective environmental identities, more or less reflected in each person's "environmental self" (Cantrill, 1992; 1996; 1998). Moerman (1993) argues that such identities arise out of *local* settings and are stable only insofar as *local* patterns of discourse and activity support a particular view of the self in relation to that environment. Simons (1993) further contends that such "places" function as sites for the social negotiation of what may be taken as "truth" in persons' attempts to understand themselves, their communities, and the world at large (cf. Norton, 1991).

A number of general treatises (e.g., Basso, 1988; Stokols, 1990) and studies (e.g., Cantrill & Masluk, 1996; Carbaugh, 1992; Frech, 1993; Hester, 1985; Mitchell, Force, Carroll, & McLaughlin, 1993; Schroeder, 1996) have focused on the "sense of place" construct. Taken together, this family of research suggests that the cognitions residents use to relate themselves to where they live can be observed in discourse, are quite powerful in the generation of responses to environmental policies, and may serve to distance individuals from one another or the agencies that regulate the use of natural resources. Furthermore, there is an apparent interaction between the social and environmental components of perception; one's tenure in a region seems to mediate the extent to which one highlights either social or natural features in describing a felt sense of place. Several conceptual frameworks growing out of anthropology (e.g., Mugerauer, 1989), geography (e.g., Agnew, 1989), and sociology (e.g., Greider & Garkovich, 1994) suggest that a sense of place will change over time with different features becoming more salient than others. For example, Kitayama's and Markus's (1994) analysis suggests that relative newcomers to a region may view their relationship to a location *independent* of social relations, whereas those with a longer tenure exhibit *interdependent* self-construals (i.e., interpersonal relations form the cement that bond one to a place). And another body of literature (e.g., Haggard & Williams, 1992) points to the link between senses of place and the types of activities in which people engage based upon their tenure in a region. Specifically, Vayda (1983) suggests analyzing discourse by comparing the types of activities one pursues given her or his perceptions of where he or she lives (i.e., their sense of place). Further, one can locate such action in a variety of settings, involving a range of actors, and intersecting an array of human-environment relations.

Given the preceding analysis, one way of thinking about environmentalism across the landscape of America (or the planet, for that matter) is to picture a motif of various symbolic environmental*isms*, each indexed by reference to how groups of people describe themselves and the physical and social spaces to which they give voice. For example, the Sagebrush Rebellion of the 1970s and 1980s gained its strength from citizens deciding to circumvent or ignore resource policies on Federal lands in the west; in the case of Catron County, New Mexico, local discussions regarding the perceived value of, say, grazing permits reflected a sense of place largely at odds with governmental oversight (Williams, 1995). The same could be said of numerous other small communities in rural America (cf. Cantrill, 1998; Echeverria & Eby, 1995).

One particular community, and the site chosen for the current research, abuts Yellowstone National Park. Cooke City, Montana, has a year round population of 75 and those who live in the vicinity have been almost wholly dependent in recent years on tourism and recreation for economic subsistence. And, at this juncture, it is important to recognize that the physical location of Cooke City represents something of a "hinterland" exigence for its population. As with a few other small towns in the continental United States (and like numerous settlements in Alaska and the Canadian Far North), those living in Cooke City could be classified as "end of the roaders." Although a prominent scenic byway, U.S. 212, bisects the town, for most of the year inclement weather and the snows of winter separate the population from the rest of "mainstream" America; for example, between October and May the closest town, Gardner, Montana, is roughly 70 miles to the west, necessitating sometimes treacherous travel across the span of Yellowstone National Park. Consequently, its residents live at the limits of institutional structures which cultivates an intense self-reliance and a significant distancing from governmental influence (cf. Fraser, 1990; Fiske, 1991).

However, in 1988, Crown Butte Mines Incorporated began to explore for gold in the New World Mining District above the isolated hamlet and soon discovered an ore body (the New World Project) consisting of 4.2 million tons of exceptionally high-grade gold deposits. Thus began one of the most pivotal environmental battles of the 1990s, pitting the residents of Cooke City against the mining industry, federal and state resource agencies, as well as one another (Cantrill, 1996). The dispute culminated in 1997 with the Clinton administration, on behalf of local and national NGOs, successfully brokering a deal with Crown Butte Mines to purchase patented mining claims, to remediate historic contamination of alpine ecosystems in the district, and to place a moratorium on further mining activity. In the wake of the buy-out, the residents of Cooke City returned to their largely sheltered lifestyles, still bearing the animus resulting from nearly a decade of intercommunal and cross-sector conflict. Within this somewhat tainted milieu, residents also faced a number of emergent constraints on how they would further live their lives, originating in either locally inspired (the creation of a land-use planning district for the region) or federally mandated (housing set-back regulations designed to protect waters flowing into Yellowstone National Park) policies.

Building on the results of previous studies conducted while the New World Project was still a viable land-use option (Cantrill, 1996; Cantrill & Masluk, 1996), data for the present research was collected in January of 1997. As with a variety of other studies investigating the link between citizens' senses of place and the environmental self, this study posed three research questions:

RQ1. What discursive themes characterize Cooke City residents' sense of place?
RQ2. What relationships exist between those themes and residents' preferences for settings and activities?
RQ3. And what might account for the pattern of such relationships?

Method

Subjects

In advance of field work, all year-round residents of Cooke City were contacted by mail and were requested to participate in face-to-face interviews; thirty individuals consented to partake in the study (40% of the sampling frame). Sixty percent of the sample were male (40% female) and their ages ranged from 24 to 73. Fifty percent had lived in Cooke City six years or less and the lengthiest tenure was 66 years.

Data Collection

Respondents were interviewed over a ten-day period and the interview protocol used in this study was similar in language and structure as that employed by Cantrill (1998). Each interview was tape-recorded, lasted between 50 and 110 minutes, and began with a brief overview of the research project after which respondents were guided through a standard set of interview probes. To augment the tape recordings, extensive notes were taken during the conduct of each interview. In addition to questions including the sex, occupation, length of residence in the region, and age of the respondent, individuals were asked to describe (a) why they had moved to and what it was like to live in the area; (b) their impressions of various land-use exigencies (the fires of 1988, the New World Project, an impending zoning ordinance, recreational property and tourism, and land management by governmental agencies); and (c) what they predicted for as well as why they planned to remain in or leave Cooke City in the future. At the end of the interview, each respondent was also requested to (d) make any other comments concerning what they felt was important to know about Cooke City and its surroundings.

Once an interview was finished, respondents were asked to complete an "Activities Survey." This survey consisted of a series of five-point Likert-type scales reflecting respondents' opinions of and current participation in a variety of activities, as well as their

belief that they would engage in those activities if they lived somewhere else. Four topical dimensions cast into two divisions were employed in constructing the 24 distinct activities listed on the survey. The first division dealt with *actions* subdivided between (a) general activities and (b) those which were more regional in nature; in turn, half of those activities would be considered environmentally benign (i.e., "Green" General/Regional Actions) and the remainder were arguably harmful to the environment (i.e., "Brown" General/Regional Actions). The second division dealt with *contexts* subdivided between (a) built and (b) natural, largely forested environments; half of those settings were ones in which individuals participate in groups (i.e., "Social" Built/Natural Environments) and half reflected more solitary contexts for activities (i.e., "Asocial" Built/Natural Environments).

The development of the survey protocol was guided by two separate theoretical lines rooted in the study of social and cognitive psychology. The first is Cantrill's (1992, 1996, 1998) notion of "the environmental self" (cf. Beeson, Stewart, & Stowkowski, 1996; Cuba & Hummon, 1993). Grounded in the work of schema theorists, this perspective suggests that an individual's sense of self is partially represented by beliefs associating the self with the environment. These associative pathways grow out of one's exposure to the natural world (including both polluted as well as pristine settings) and visions of the environment harvested from the mass media and interpersonal networks. The environmental self serves to galvanize attention to and understanding of aspects in the environment or references to the environment encountered in daily discourse. Different bases of experience result in different reactions to different environments, responses to environmental communications, and assumptions regarding one's vested self interest in environmental issues (cf. Krause, 1993; Simons, 1993). The survey was intended to represent a range of ways in which respondents' environmental selves may be connected to acting in various human and natural contexts.

A second basis for the survey is found in Markus's and Nurius's (1986) conception of "possible selves." Also associated with the development of self-schema, this construct assumes that people use their past and present experiences to create preferred futures for themselves. In essence, the sense of self guides a person toward what seem to be favorable futures and away from activities and settings which are negatively evaluated. Of course, this is a rather subjective process wherein one woman's desired future self is another's potential nightmare. Furthermore, Markus and Nurius argue that "because possible selves are not well-anchored in social experience, they comprise the self-knowledge that is most vulnerable and responsive to changes in the environment" (p. 956). It was thereby reasonable to speculate that our views of who we want to be in the future are at least partially mediated by our current sense of place and our awareness of existing opportunities for acting in that environment. For this reason, the survey included probes as to respondents' preferences in different possible places as yet another measure of how salient and valued present activities and settings appeared to be.

Analysis

After the data was collected, a trained assistant used an "open-coding" methodology to categorize responses to interview questions. Strauss and Corbin (1990) define open-coding as a form of analytic induction in which free-response data is inspected for the presence of dominant themes. It is a process of making comparisons between individuals' responses and within respondents' narratives or answers to questions. The approach adopted in this research has been used in a range of studies (e.g., Cantrill, 1996, 1998; Cantrill & Masluk, 1996; Carbaugh, 1992; Lange, 1993; cf. Fiske, 1991). Furthermore, the method is quite flexible in that it permits line-by-line analysis of phrases or single words, examination sentences or paragraphs, or inspection of an entire interview to isolate and compare dominant themes and perceptions.

In an open coding approach, the close examination of transcripts can reveal discrete similarities or differences in respondents' senses of place (which vary in terms of quality and kind) and any relationship those perceptions may have to the role of government. For the sake of illustration, consider the sense of smell. Olfactory properties vary in kind (e.g., sweet, fresh, stale, or rotten) and each of those properties can differ in terms of intensity. Similarly, one's perception of place also includes a range of characteristics that differ regarding the quality of what is perceived. For example, one individual may report a special affinity for intensively-managed landscapes such as industrial forests, another's discourse reveals a preference for governmentally protected wilderness tracts, while yet a third respondent may eschew references to biotic communities in lieu of a rejection of governmental intrusion altogether. Thus, the process of open-coding results in the researcher being able to generate a very complex understanding of how respondents differ from one another as well as what they consider to be the most salient aspects of their environments.

Initial coding involved evaluating respondents' answers to each interview question in terms of what were the kinds of things being referenced in the discourse. In this case, the unit of analysis was an entire response, with distinct references to particular features

tabulated as the analysis progressed. For each answer, theme(s) which best represented the dominant features being referenced were identified. In turn, subsequent units were analyzed and the coding scheme for specific features and general themes was modified as warranted by what individuals noted in responding to questions. Adopting an iterative approach to visiting and revisiting the responses of different respondents, answers to separate probes were compared against each other. Thus, the entire coding scheme was reduced to the most representative listing of cross-respondent themes, indexed by lists of particular features embedded in specific responses to interview questions.

Following the advice of Grant and Fine (1992; cf. Creswell, 1994 and Delemont, 1992), themes embedded in the discourse were assigned numerical designations and, along with the quantitative survey data, were input for data analysis. Separate responses were parsed into new categories reflecting (a) a respondent's general *focus* across all themes (i.e., social, environmental, or mixed), (b) a characterization for how respondents' *themes* clustered together (i.e., relating to personal feelings, social relations, the local regulatory context, or a combination thereof), and (c) the overall *valence* someone had given all their experiences in the region (i.e., positive, neutral, or negative). Roughly 20% of these subsequent codings were subjected to an intercoder reliability analysis revealing high degrees of consistency between independent coders (Holsti estimates: *focus* (.846), *themes* (.865), *valence* (.894)).

Results

Themes Characterizing Residents' Sense of Place.

The first research question involved a determination of what themes best represent Cooke City residents' verbalized impressions of their region and the events that shape their situated lifestyles. Analysis of the interview data resulted in the emergence of more than a dozen dominant themes characterizing respondents' sense of place, by and large evenly divided across three major thematic "packages." Figure 1 displays fourteen themes arrayed within their respective thematic packages.

Four themes were related to very *personal feelings* experienced by the respondents. In general, these feelings dealt with fairly intangible associations linking an individual to the local landscape and/or social structures. First, some residents expressed a *"general affinity"* for where they lived as in, "Ever since I was a kid, I've liked this portion of Montana," or "I really do think this is one of the last best places despite those burnt-out trees up there." Second, references were made to the level of *"comfort"* one had when living in Cooke City such as, "Everything I need is right here," or "We won't have to go to go anywhere unless there's an emergency or to use the airport." Third, a number of responses focused on the *"friendliness"* of townsfolk, for example, "I don't know, I guess I like the way people help one another here," or "We've grown so close to the [neighbors] that it would be really tough to have to move." Finally, some comments referred to the *"emotional arousal"* the area inspires which was reflected in responses such as "I physically got sick when I saw what they were planning to do [with the mine]," and "The sunsets up on the divide are so beautiful you just want to cry."

FIGURE 1
Dominant Themes Embedded in Respondents' Replies to Interview Questions

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Personal Feelings
- A General "Affinity" for the Area
- A Sensed Level Of "Comfort" Associated with Living in the Area
- The Perceived "Friendliness" of Other Residents
- The "Emotional Arousal" Accompanying the Town and Surroundings

Social Relations
- One's "Business Associations" in the Area
- Contexts for "Family" Interaction and Concerns
- A Sense Of "Rugged Individualism"
- A "Melting Pot" of Different Personalities
- Perceive "Divisions or Cohesiveness" in the Community

Local Regulatory Context
- Concerns Regarding Local "Growth and Activity"
- Appropriate Levels of "Government Involvement" in Daily Life
- The Need for "Policy Revisions" Regarding Land-Use Options
- The Necessity for or Benefits of "Civic Regulation"
- Current Impacts on the "Regional Ecosystem"

Five themes dealt with the nuances of various *social relations* between respondents and others in the region. Here, instead of indexing emotional reactions to others (i.e., "feelings"), a respondent pointed to the tangible sorts of activities one engages. First, individuals sometimes focused on *"business associations"*

such as responding, "We do a bit of bartering in the spring when things get slow," or "It looks like we're going to have to count on tourism from here on out." Second, *"family"* activities or issues were featured when commenting, for example, "My husband and I thought that our children would be safe here," or "In my spare time I spend a lot of time with the family so I don't get involved that much." Third, a few respondents spoke of the *"rugged individualism"* of residents as in, "Folks here are quite self-reliant," or "Lots of people just do their own thing without considering how they affect others." Fourth, various respondents noted the *"melting pot"* of different types of people inhabiting Cooke City such as "Our neighbors don't have a lot in common except they like it here," and "The winters here tend to change people but everybody seems to be unique; some you like and some you don't, but most of us seem to get past those differences." Finally, some referenced either *"divisions"* (e.g., "Noranda really split this town into opposing camps.") or *"cohesiveness"* (e.g., "We all stuck together during the fires and watched out for each other's back.").

Five themes centered around the *local regulatory context* in foregrounding how changes or opportunities in the area depended on government policies. First, several interviewees expressed concern about the *"growth and activity"* of the region as in, "Unlike Cooke City, we in Silvergate [a nearby settlement included in the sampling frame] recognize the need for some covenants but [preventing new buildings] is crazy," or "It used to be that people weren't that concerned about getting rid of garbage since many had their own burn piles. Now you have to take everything to the dump." Second, various responses revolved around the question of what should be the level of *"government involvement"* in daily affairs such as "The damn Park Service makes me keep all these records," versus "Because we're surrounded by federal land, we have to accept what they say we can do with our land." Third, some comments reflected a perceived need for *"policy revisions"* given present conditions (e.g., "They ought to allow us more access for cutting down them burnt-out snags," or "We're going to have to do something about allowing all those kids to live together so they can work at minimum wage jobs and goof-off or do drugs the rest of the time."). Fourth, a set of different responses seemed to be captured by the need for and consequences of *"civic regulation"* in the region as in "Despite what it looks like, this isn't the wild west anymore," or "The more you control people, the more they rebel; for example, I think there's a lot more poaching of griz since they were listed as a, what is it, endangered species." Finally, a suite of references were made to changes in the *"regional ecosystem"* following public policy such as, "Hell, that water is a clean as it's ever been and we have more people living in the valley," and "The fishing isn't as good as it used to be and I think it has to do with the increase in tourists fishing for free in the Park."

Analysis indicated that most of the respondents' impressions could be captured by the *local regulatory context* thematic package. When we examined the entire data set to determine which themes most often appeared in replies to the entire range of questions we found that 16% of the comments dealt with the *divisions/cohesiveness* theme, 18% focused on the *growth and activity* theme, 20% addressed the *governmental involvement* theme, and 15% focused on the *civic regulation* theme. Thus, even though various respondents at different times seemed to reflect themes couched within one of the other thematic packages, most of the discourse focused on the association between governmental activities and impressions of what it means to live in Cooke City. Furthermore, respondents' preference for these themes seemed to be independent of whether they foregrounded environmental versus social depictions in their discourse (χ^2 (8) = 8.811, NS). Yet the preference was associated with a negative impression of government; significantly more of the sampled discourse (56%) reflected negative valences related to the four modal themes than could be captured by either positive (22%) or neutral (22%) associations (χ^2 (2) = 10.223, p = .006, C = .53). Nonetheless, as they projected the future for the region, both their thematic focus and anticipated affect (i.e., valence) appeared to be distinct from what they based their current perceptions upon. In comparison with their current views, more than 60% of the respondents' discussion of future regional conditions centered on the regulatory context of increased *growth and activity* (χ^2 (6) = 14.156, p = .028, C = .54) which was accompanied by an increased negative outlook regarding further government intrusion (χ^2 (4) = 18.660, p < .001, C = .59).

Relationships Between Themes and Preferences for Activities.

The second research question prompted us to probe for associations between themes undergirding discourse and respondents' feelings about a variety of activities and settings. In this regard, we did not find any direct, systematic association between discursive themes and preferences for either activities or settings. Independent of what someone focused on in their discourse, different people demonstrated preferences and dispreferences for a range of things they might do or places they might frequent in general or in the Cooke City region in particular. In short, one's sense of

place did not map onto one's activity- or setting-bound environmental self at present or in the future.

Despite our failure to find a link between the themes we observed and survey responses, we can make some generalizations about the nature of our respondents' environmental selves. In particular, and following previous studies (e.g., Cantrill, 1998; Cantrill, et al., in press), it was expected that one's length of tenure in the region would mediate their preference for settings and activities, independent of other controlling factors. When inspecting a series of regression equations it became apparent that this association only held for perceptions of "built" settings for interaction; the longer one's tenure, the less they preferred activities that occurred in places constructed by humans ($F(1, 25) = 13.342$, $p = .001$, $R2 = .35$; $\beta = .590$, $t = 3.65$). Notably, a respondent's tenure (measured by either a median split or in direct proportion to the years living in Cooke City) did not seem to affect the themes they chose to draw upon, nor their focus for those themes ($\chi^2(2) = 2.916$, NS). And, even when one controls for the impact of tenure in a region, respondents demonstrated a general tendency to value both "natural" and "social" activities (reflected in significant bivariate correlations between clustered scales on the survey ranging from .39 to .76) suggesting that, living as they do in the western hinterlands, these people appreciate social interaction in a natural environment more so than they do living in the isolation in their homes or places of work.

Accounting for the Pattern of Relationships

Although we did not observe a consistent pattern of relationships between underlying themes and survey data reflecting a rather diffuse range of environmental selves, subsidiary analyses were conducted to address the third research question. These analyses suggest that, if there was one factor that accounted for the mixed pattern of results noted above, it seems to be a dislike for governmental or otherwise regulatory infringement in our respondents" lives. Yes, the more a respondent valued the government, the less they appreciated engaging in "brown" activities ($F(1, 25) = 7.451$, $p = .011$, $R2 = .23$; $\beta = -.479$, $t = -2.730$), but this finding seems far removed of a host of other empirical observations. In particular, a number of analyses indicate that Cooke City residents chose to move to or stay in the area to avoid regulations and that the events of the recent past were undercutting that value. First, most (56%) of the respondents comments indicate that what mainly attracts them to the area is a felt ability to avoid rules and regulations ($\chi^2(4) = 18.293$, $p = .001$, $C = .62$). Second, the modest correlation ($r = .56$) between preferences for social and asocial settings or activities indicates that Cooke City residents do not eschew social contact, so they generally do not want to be "left alone" but, rather, may seek an active and social lifestyle independent of regulation. Third, the age of a respondent ($\beta = .285$, $t = 2.102$, $p = .047$), their thematic focus ($\beta = .465$, $t = 3.474$, $p = .002$), and how negative were their impressions general conditions in the region at present ($\beta = .590$, $t = 4.569$, $p < .001$) accounted for roughly 63% of the amount of overall variance in how much they valued governmental regulation ($F(3, 23) = 11.314$; $p < .001$; $R^2 = .628$). Thus, the older a Cooke City resident was, the more his/her discourse mirrored the general focus on the governmental regulatory context, and the less satisfied s/he was with events currently taking place in the region, the less s/he valued the government. And this finding was true even for those who demonstrated the greatest preference for "green" activities or who were opposed to, say, the New World Project; in general, federal (e.g., specific land use decisions such as dealing with the 1988 fires) and local (e.g., zoning ordinances) policies were characterized in a negative fashion.

Discussion

We began this study with the assumption that the sense of place shared by those living in small communities on the outskirts of "civilization" might exhibit a distrust of government and that this nascent animosity should be reflected in their discourse and preferences for activities and settings. Our analysis revealed that, indeed, the residents of Cooke City reject governmental intervention in areas dealing with how they relate to the land. That perceived relationship, their sense of place, seems bound to a desire for isolation from society in general, but not from one another. Further, that Cooke City is somewhat physically removed from mainstream society may only heighten the distrust they feel. However, this sense of place did not seem to be mirrored in their preferences for settings or activities; no systematic patterns related to our respondents' environmental selves could be discerned in their responses to survey items.

Qualitative and quantitative analysis of in-depth interviews and survey responses suggests that, despite personal desires to maintain a rich quality of life tied to the natural environment, community respondents disdain government intrusion and seem to assume that their personal stewardship of the land is more valuable than what can be had by regulation from without. And there seem to be at least two reasons why the residents of Cooke City might reject government in general. The first deals with the relationship between living on the edge of "wilderness" and managing the social fabric of life. We often assume that people seek out

less populated regions in order to forge a stronger bond with the natural world. Yet, in the case of our respondents, it may be that these people chose to locate themselves in a small mountain town at the end of the road because it offered the promise of maximizing their degrees of freedom in daily affairs. The fact that the hamlet is situated amidst an amazing array of significant national biological and hydrological resources is not material; what matters is that the residents have assumed ownership of where they live. Of course, "ownership" does not necessarily result in wise "stewardship" (i.e., something that most often is the product of a collective understanding of how to relate to the environment), even though the respondents in this study often spoke as if they were one and the same. And the pattern of concerns reflected by the respondents in this study appears quite similar to what is found in the discourse of the "Wise Use" movement (cf. Lange, 1993; Short, 1991). Bosso (1994) observes that, especially in the Rocky Mountain states, citizens are often quite passionate in their defense of multiple use regimes on public lands and vehemently oppose any attempts by government to use ecosystem management dictates intended for public holdings to interfere with what they do with their private property.

The other possibility which may explain the predominant themes our respondents turned to in addressing questions was forecast in Cantrill's (1996) earlier analysis and pivots on economics. Of course, those living in Cooke City are not completely cutoff from the rest of society as might be the case with, say, an outpost in the Canadian Far North. They depend on tourist dollars, must purchase goods manufactured from without, and must be constantly aware of their relative impoverishment regarding the purchase of land on which to live. As such, anything that might further jeopardize their economic standing and ability to remain in "the last best place" would warrant rejection. Clearly, government protection of the Greater Yellowstone Ecosystem could pose a significant risk to those trying to eke out a living in Cooke City, a risk heightened by ever increasing demands on limited resources such as land and water. Bosso (1994) might agree with this general conclusion since he writes, "[e]ven for those trying to balance ecological values with more immediate economic needs, the short-term and more risk-averse option almost always prevails, particularly in times of economic dislocation and where fundamental values about the relationship between humanity and nature differ," (p. 34). And it is not as if increased governmental regulation might be seen as providing future salvation. Markus's and Nurius's (1986) analysis suggests that a person's "possible" self is relatively unstable insofar as the current, surrounding social context changes and especially if the "self" does not have control over those changes. In the present example, even the local planning district was viewed by some respondents as serving elitist interests, just as were the designs of the federal government to ensure water quality.

Regardless of what drives the perceptions of those living in Cooke City, we can be reasonably certain that the pervasive distrust of government seen here portends significant problems for agencies wishing to protect natural resources for a greater public. It is interesting to speculate whether or not the same pattern might hold for others that contribute to urban sprawl by leaving the social confines of cities or those who purchase second homes, seemingly beyond the hand of governmental regulation. In order to advance environmental policies in the public sphere (e.g., principles of ecosystem management), resource managers must craft discourse that persuades and mobilizes their intended audience (cf., Kraft & Wuertz, 1996). Such target constituencies, often represented by interest groups and politicians, define the perception of problems in the political arena. And these perceptions are generally driven by local conditions and the activities taking place within or adjacent to such environments (DeHaven-Smith, 1988). Consequently, it becomes necessary for resource managers to use citizens' perceptions in developing communication strategies that actually address the core values of a population. But what if those core values are in contrast to the values of agencies seeking to protect and manage natural resources for a greater good?

In a sense, the tension-filled dynamic between government and citizens noted here resembles the same quandary non-governmental organizations face when they rely upon federal and state agencies for support in their various conservation-oriented causes. Typically, those that even side with "the government" risk being branded as outsiders. In this case, North (1995) offers the following advice: "Unfortunately, most [resource]-protection programs involve laws or the government in some fashion, so the resource abuse movement plays upon rural fears of the government to stir up opposition to any conservation proposals. There is simply no way to win the battle for people's hearts and minds if you are saddled with being an apologist for everything the government does. The only tactic which can help neutralize the government bashing engaged in by the resource abuse movement is to refuse to allow them to saddle you with the government on your side of the debate" (p. 320). How might this be accomplished if, in fact, the advocate *is* a spokesperson for the government? Perhaps the answer lies in developing programs that allow communities the wherewithal to manage themselves in ways that meet the needs of a greater society. For example, such

seems to be the intent behind the United States Environmental Protection Agency's "Community Based Environmental Protection Program" wherein citizens are empowered with information and logistical guidance in addressing the problems *they* find most significant, and doing so within a regulatory context that serves the greater good. This same approach is now being adopted by the International Joint Commission in advancing trans-boundary watershed management plans along the U.S.-Canadian border. Perhaps the same may be promoted in Cooke City and throughout the rest of the Greater Yellowstone Ecosystem.

References

Agnew, J. A. (1989). The devaluation of place in social science. In J. A. Agnew & J. S. Duncan (Eds.), *The power of place: Bringing together geographical and sociological imaginations* (pp. 9-29). Boston: Unwin Hyman.

Albrecht, D., Bultena, G., Hoiberg, E. & Nowak, P. (1982). The new environmental paradigm scale. *Journal of Environmental Education, 13*, 39-43.

Basso, K. (1988). 'Speaking with names': Language and landscape among the Western Apache. *Cultural Anthropology, 3*, 99-103.

Beeson, J. E., Stewart, W. P., & Stowkowski, P. A. (1996). *Environmental settings and social interaction: The construction of place identity*. Paper presented at the Sixth International Symposium on Society and Resource Management, University Park, PA.

Bosso, C. J. (1994). After the movement: Environmental activism in the 1990s. In N. J. Vig & M. E. Kraft (Eds.). *Environmental policy in the 1990s: Toward a new agenda* (pp. 31-50). Washington, D.C.: CQ Press.

Cantrill, J. G. (1992). Understanding environmental advocacy: Interdisciplinary research and the role of cognition. *Journal of Environmental Education, 24*, 35-42.

Cantrill, J. G. (1996). Gold, Yellowstone, and the search for a rhetorical identity. In C. G. Herndl & S. T. Brown (Eds.), *Green culture: Environmental rhetoric in contemporary America* (pp. 166-195). Madison: U of Wisconsin P.

Cantrill, J. G. (1998). The environmental self and a sense of place: Communication foundations for regional ecosystem management. *Journal of Applied Communication Research, 26*, 301-318.

Cantrill, J. G., & Chimovitz (1993). Culture, communication, and schema for environmental issues: An initial exploration. *Communication Research Reports, 10*, 47-58.

Cantrill, J. G., & Masluk, M. D. (1996). Place and privilege as predictors of how the environment is described in discourse. *Communication Reports, 9*, 79-84.

Cantrill, J., Potter, T., & Stephenson, W. (in press). Protected areas and regional sustainability: Surveying decision makers in the Lake Superior Basin. *Natural Resources Journal.*

Carbaugh, D. (1992). 'The mountain' and 'the project': Dueling depictions of a natural environment. In C. L. Oravec & J. G. Cantrill (Eds.), *Proceedings of the conference on the discourse of environmental advocacy* (pp. 360-377). Salt Lake City: U of Utah Humanities Center.

Creswell, J. W. (1994). *Research design: Quantitative and qualitative approaches*. Thousand Oaks, CA: Sage.

Cuba, L., & Hummon, D. (1993). A place to call home: Identification with dwelling, community, and region. *Sociological Quarterly, 34*, 111-131.

DeHaven-Smith, L. (1988). Environmental belief systems: Public opinion on land use regulation in Florida. *Environment and Behavior, 17*, 176-199.

Delamont, S. (1992). *Field work in educational settings: Methods, pitfalls and perspectives*. London: Falmer.

Echeverria, J., & Eby, R. B. (1995). Let the people judge: A reader on the Wise Use movement. Washington, D.C.: Island Press.

Fiske, J. (1991). For cultural interpretation: A study of the culture of homelessness. *Critical Studies in Mass Communication, 8*, 445-474.

Fraser, N. (1990). Rethinking the public sphere: A contribution to the critique of actually existing democracy. *Social Text, 25/26*, 56-80.

Frech, M. (1993). Barton Springs ethnography: A search for discourse on the depths of an old swimming hole. In J. G. Cantrill & C. Oravec (Eds.), *Proceedings of the conference on communication and our environment* (pp. 227-232). Marquette: Northern Michigan U Printing Services.

Geller, J. M., & Lasley, P. (1985). The new environmental paradigm scale: A reexamination. *Journal of Environmental Education, 17*, 9-12.

Grant, L., & Fine, G. A. (1992). Sociology unleashed: Creative directions in classical ethnography. In M. D. Compte, W. C. Millroy, & J. Preissle (Eds.), *The handbook of qualitative research in education* (pp. 405-446). New York: Academic Press.

Greider, T., & Garkovich, L. (1994). Landscapes: The social construction of nature and the environment. *Rural Sociology, 59*, 1-24.

Gup, T. (1990, June 25). Owl vs. man. *Time*, 55-56.

Haggard, L. M., & Williams, D. R. (1992). Identity affirmation through leisure activities: Leisure symbols of the self. *Journal of Leisure Research, 24*, 1-18.

Hester, R. (1985). Subconscious landscapes of the heart. *Places, 2*(3), 10-22.

Kempton, W., Boster, J. S., & Hartley, J. A. (1995). *Environmental values in American culture*. Cambridge, MA: MIT P.

Kraft, M. E., & Vig, N. J. (1994). Environmental policy from the 1970s to the 1990s: Continuity and change. In N. J. Vig & M. E. Kraft (Eds.). *Environmental policy in the 1990s: Toward a new agenda* (pp. 3-29). Washington, D.C.: CQ Press.

Kitayama, S., & Markus, H. R. (1994). Culture and self: How cultures influence the ways we view ourselves. In D. Matsumoto (Ed.), *People: Psychology from a cultural perspective* (pp. 17-37). Pacific Grove, CA: Brooks/Cole.

Krause, D. (1993). Environmental consciousness: An empirical study. *Environment and Behavior, 25*, 126-142.

Kuhn, R. B., & Jackson, E. L. (1989). Stability of factor structures in the measurement of public environmental attitudes. *Journal of Environmental Education, 20*, 27-32.

Lange, J. I. (1993). The logic of competing information campaigns: Conflict over old growth and the spotted owl. *Communication Monographs, 60*, 239-57.

Luhmann, N. (1989). *Ecological communication*. Trans. John Bednarz, Jr. Chicago: U of Chicago P.

Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist, 41*, 954-969.

Mazmannian, D. A., & Morell, D. (1994). The 'NIMBY' syndrome: Facility siting and the failure of democratic discourse. In N. J. Vig & M. E. Kraft (Eds.), *Environmental policy in the 1990s* (pp. 233-250). Washington, D.C.: CQ Press.

Mitchell, M. Y., Force, J. E., Carroll, M. S., & McLaughlin, W. J. (1993). Forest places of the heart: Incorporating special places into public management. *Journal of Forestry, 91*(4), 32-37.

Moerman, M. (1993). Ariadne's thread and Indra net: Reflections on ethnography, ethnicity, identity, culture, and interaction. *Research in Language and Social Interaction, 26*, 85-98.

Mugerauer, R. (1989). Language and the emergence of environment. In D. Seamon & R. Mugerauer (Eds.), *Dwelling, place, and environment* (pp. 51-70). New York: Columbia UP.

North, D. (1995). Countering the resource abuse movement. In J. Echeverria & R. B. Eby (Eds.), *Let the people judge: A reader on the Wise Use movement* (pp. 319-326). Washington, D.C.: Island Press.

Norton, B. G. (1991). *Toward unity among environmentalists*. New York: Oxford UP.

Oelschlaeger, M. (1992). Wilderness, civilization, and language. In M. Oelschlaeger (Ed.), *The wilderness condition: Essays on environment and civilization* (pp. 271-283). San Francisco: Sierra Club Press.

Orr, D. W. (1992). *Ecological literacy: Education and the transition to a postmodern world*. Albany: State U of New York P.

Pomerantz, G. A. (1991). Evaluation of natural resource education materials: Implications for resource management. *Journal of Environmental Education, 22*, 16-23.

Schroeder, H. W. (1996). *Voices from Michigan's Black River: Obtaining information of 'special places' for natural resource planning*. General Technical Report NC-184. St. Paul, MN: USDA Forest Service.

Short, B. (1991). Earth First! and the rhetoric of moral confrontation. *Communication Studies, 42*, 172-188.

Simons, I. G. (1993). *Interpreting nature*. New York: Routledge.

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research*. Newbury Park, CA: Sage.

Stokols, D. (1990). Instrumental and spiritual views of people-environment relations. *American Psychologist, 45*, 641-646.

Stuart, C. (1992). America's green point average. *NAPEC Quarterly, 3*(2), 1-6.

VanLiere, K. D., & Dunlap, R. E. (1983). Cognitive integration of social and environmental beliefs. *Sociological Inquiry, 53*, 333-341.

Vayda, A. P. (1983). Progressive contextualization: Methods of research in human ecology. *Human Ecology, 11*, 265-281.

Williams, F. (1995). Sagebrush Rebellion II. In J. Echeverria & R. B. Eby (Eds.), *Let the people judge: A reader on the Wise Use movement* (pp. 136-142). Washington, D.C.: Island Press.

Beyond the Human/Nature Dualism: Nez Perce Environmental Discourse

Tracylee Clarke
and
Michael Salvador
Edward R. Murrow School of Communication
Washington State University—Pullman, WA

Abstract

In the dominant Western view, humans are seen as separate and polarized entities, rather than integrated or interdependent. From this view nature is seen as inferior to the human. However, other cultural voices do not operate from the Western, dualistic frameworks which polarize humans and nature. Among such alternative voices are those expressed by many Native American peoples. This paper explores the degree to which contemporary members of the Nez Perce tribe challenge the human nature dualism perpetuated by the dominant Western paradigm while at the same time balancing their environmental reality with the demands of living in a patriarchal and dualistically-based society. Analysis of Nez Perce discourse reveals a non-dualistic relationship is indeed possible as the Nez Perce challenge the conceptual framework of patriarchy by placing themselves on common ground with their natural world.

Ecofeminists "assume that the oppressions of women, races, classes, and nonhuman nature are interconnected parts of the same dynamic" (Bullis, 1996, 124). This dynamic is born of the framework of oppression which explains, justifies and maintains relationships of domination and subordination. "The logic common to the oppressions is that differences exist, differences warrant hierarchical ordering of differences, and hierarchical ordering of differences warrants subordination of those placed lower on hierarchies by those places higher" (Bullis, 1996, p. 124). This hierarchical ordering is built upon dualism. Plumwood (1993) defines dualism as, "the process by which contrasting concepts are formed by domination and subordination and constructed as oppositional and exclusive" (31). Dualistic constructions reinforce polarization, and maximize the distance or separation between the dualized spheres. "Dualism imposes a conceptual framework which polarizes and splits apart into two orders of being what can be conceptualized and treated in more integrated and unified ways" (Plumwood, 1993, p. 55). For example, in the dominant Western view, humans are seen as separate and polarized entities, rather than integrated or interdependent. From this view nature is seen as inferior to the human. As Plumwood (1993) notes, "the failure to conceive ourselves as essentially or positively in nature leads easily into failure to commit ourselves to the care of the planet and to encourage sustainable social institutions and values which can acknowledge deeply and fully our dependence on and ties to the earth. Modern world-views continue to treat links to nature as either negative or inessential constituents of the human" (p. 71).

However, other cultural voices do not operate from the Western, dualistic frameworks which polarize humans and nature. Bullis (1996) calls for such attention to alternative voices not grounded in the current dominant discourse as she embraces an ecofeministic perspective. This acceptance of multiple voices can be compared to a "web of life" in which all perspectives are validated and given voice. Bullis argues that this "web of life" world view as an alternative to hierarchies can reach a solidarity between competing environmental voices. Among such alternative voices are those expressed by many Native American peoples.

Traditional Native American viewpoints often challenge this human nature dualism. Valerie L. Kuletz, author of *The Tainted Desert, Environmental and Social Ruin in the American West* (1998) argues that although a single monolithic traditional Indian conception of nature does not exist,

> the Native intersubjective relationship is characterized by a perception of the world as animate, a nonhuman world that is engaged in an active relationship with the perceiver of that world. The human being is not separate from that world but both separate and part of it at one and the same time. . . . that is, they are interconstitutive, they make each other. In this dynamic relationship both entities are continually in process, responding to one another; they are not static, unchanging, and dualistically separated from one another. (Kuletz, 1998, pp. 226-227)

While the denial of the human nature dualism by traditional Native American viewpoints has been explored in historical literature, the denial of this dualism by contemporary Native Americans living under the dualistic conceptual framework of hierarchy and denied dependence has received little attention.

Members of the Nez Perce tribe located in Lapwai, Idaho, are highly active in many environmental issues locally and nationally. As the first tribe to reintroduce the endangered gray wolf, the Nez Perce are in a unique environmental position. This paper explores the degree to which contemporary members of the Nez Perce tribe challenge the human nature dualism perpetuated by the dominant Western paradigm while at the same time balancing their environmental reality with the demands of living in a patriarchal and dualistically-based society. Gaard (1993) argues the dualistic conceptual framework of patriarchy supports the ethic of dominance and divides us against the nonhuman nature. Environmental scholars Fullagar and Hailstone (1996) continue the argument and claim in the discourse of mastery, nature becomes the other, completely separate from the human, a background which is never considered for its commonalty. They further note that a relation other than this hyper-separation is possible between the realms of human and non-human. Analysis of Nez Perce discourse reveals a non-dualistic relationship is indeed possible as the Nez Perce challenge the conceptual framework of patriarchy by placing themselves on common ground with their natural world. Rather than a linear or hierarchical line of reasoning, members of the Nez Perce tribe embrace the web of life perspective where "there is a seamless web between human and nonhuman life" (Allen, 1986). This perspective becomes apparent through a metaphor and theme analysis of contemporary Nez Perce discourse.

Interviews with tribal members reveal a unique reverence for the land. They say their relationship is one of balance, harmony and respect. Many Nez Perce believe all creatures on this earth, including themselves, are part of a family, with the earth as their mother, the creator as their father and every living thing as their brothers and sisters. This family metaphor is central to Nez Perce ideology, therefore their environmental actions and beliefs are guided by their love and respect for this family. The affiliation they feel with the earth and the animals structure a unique dependency on and connection with their natural world, similar to that of a kinship between family members. It is this recognized dependency on and connection to the natural world that allows members of the Nez Perce tribe to transcend false dichotomies as they challenge the conceptual framework of dominance and dualism set up by traditional EuroAmerican world-views thus creating "interrelationships between society and nature" (Freudenburg, Frickel, & Gramling, 1995, p. 363). For the Nez Perce, their identity and sense of being are solidified through their interaction with their natural world. The environment is basic to tribal identity, hence the environment becomes not only their physical and natural world but their social world as well.

While interviews with Nez Perce tribal members reveal their contemporary environmental perspective continues to deny dualistic perspectives of nature, a paradox occurs in the minds of many tribal members as an attempt is made to balance their environmental reality with the demands of living in a Western dualistic society. Their environmental perspective is in direct conflict with that of the dominant Western society placing them in a difficult and trying situation. Tribal members' discourse concerning their natural environment reveals a struggle with this rhetorical/cultural/environmental paradox.

Methodology & Procedure

Data Collection

To fully grasp the cultural perspective held by Nez Perce tribal members, this study employed an in-depth long interview method. According to McCracken (1988), no method of inquiry is more revealing than the long interview. This method "can take us into the mental world of the individual, to glimpse the categories and logic by which he or she sees the world. . . . [T]he long interview gives us the opportunity to step into the mind of another person to see and experience the world as they do themselves" (McCracken, 1988, p. 9). Peterson et al. (1994), describe qualitative interviewing as one of the more appropriate methods for research into cultural meaning systems. This study uses the qualitative interview to reconstruct perceptions of the environmental framework that surrounds the Nez Perce for a better understanding of their cultural meaning system as it relates to the environment.

Respondents were members of the Nez Perce tribe located on the Nez Perce reservation, Lapwai, Idaho. Proximity to a site of controversy can account for some differences among different groups concerned with an environmental issue. How close one lives to an area affects his or her processing of information as well as discourse about that environment. The "collective definition of social problems occurs not in some vague location such as society or public opinion, but in particular public arenas in which social problems are framed and grow" (Hilgartner & Bosk, 1988, p. 58). The most important setting for environmental communication may be found in small communities, where

salient environmental issues will more than likely be discussed (Cantrill & Musluk, 1996). Therefore it is relevant to interview tribal members who communicate about environmental issues the tribe faces. Tribal members were contacted by phone and asked for a personal interview. Those interviewed gave additional names of other Nez Perce tribal members concerned with environmental issues. This snowball sampling method was used until the point of theoretical saturation (Peterson & Horton, 1995; Sias & Jablin, 1995) which occurred within forty interviews. All interviews were recorded and transcribed for analysis. General questions such as outlined below were asked of each participant:

- How long have you lived in this area?
- In that time, has the land changed and in what ways?
- What do you think about the quality/status of the environment in this area?
- What aspects of the environment are most important to you ?
- What do you think are the most important issues concerning the environment in this area?
- Do you think most people in the area are as concerned with this/these issue(s) as they should be?
- What do you think needs to be done to improve the situation?
- What do you think the proper relationship between humans and nature should be?
- Who else do you recommend I talk to?

Data Analysis

Obtained through the long interview method, the specific language used to describe events, the stories told and the symbols and images used all helped to paint a picture of what the natural environment means to contemporary Nez Perce tribal members. To fully understand Nez Perce cultural perceptions, root metaphor analysis was employed. Through the long interview method, dominant themes, images and metaphors used by tribal members were identified and coded accordingly.

Metaphor, a linguistic device whereby aspects of one object are carried over to another provides a powerful means to understanding the basis of a culture, perspective or world-view (Burke,1952). Metaphors are grounded in everyday experience and knowledge, (Gerber, 1997) and thus can be recognized by their ability to undergird a broad area of meaning while at the same time allowing us to go beyond mentally mapped categories. They are "symbolic frames that provide an inferential base for understanding more discrete attitudes and behaviors" (Smith & Eisenberg, 1987, p. 369).

The role of metaphor in the organization of knowledge is central to any discussion of how oral communication can "in some sense determine the socioecological ethos of a culture" (Kuletz, 1998, p. 235). Through the metaphor analysis, symbols used by the Nez Perce to define their environment and ties to the natural world were identified for a better understanding of discrete attitudes of Nez Perce tribal members in relation to their natural, cultural and social environments.

The Family Metaphor. Through an analysis of the data obtained by the long interview method, prevalent symbols used by tribal members to define their natural environment were identified. One primary root metaphor and four sustaining metaphors or themes emerged illustrating the importance of Nez Perce tribal members' relationship with the land. The root metaphor used by Nez Perce tribal members was the family metaphor. In support of the family metaphor, four additional metaphors or themes were discovered. These include 1) earth as mother; 2) animals as brothers and sisters, 3) connectedness to the land and 4) environmental heritage.

The capacity of those interviewed to recognize the extent to which their social, cultural and environmental realities are fundamentally a part of each other provides tribal members with a holistic web of life perspective as they contest hierarchical constructs of human centered power and supremacy. "Life on earth is an interconnected web, not a hierarchy. There is no natural hierarchy; human hierarchy is projected on to nature and then used to justify social dominance" (King, 1993, p. 80). This holistic perspective of mutual contingency and mutual dependency is exemplified through the family metaphor as it provides for the Nez Perce an ability to shape their reality as it paints a picture of proper interaction with their natural environment. Interplay between the symbolic and material aspects of Nez Perce relationship with the land guides them in everyday performance as it functions to provide a framework for their way of life. Through the major family metaphor and four supporting metaphors or themes, it is demonstrated that members of the Nez Perce tribe do not view nature from a dualistic hierarchical perspective but realize their interdependency on the land and their connection with the natural world. Those interviewed focus on the fundamental interconnectedness, comprehending not the separation but the inseparability of humans and nature. It is this inseparability that allows members of the Nez Perce tribe to move beyond a binary approach to the environment.

Earth is Mother. *"The Earth is our Mother."* The earth as their mother is the most powerful metaphor used by the informants in this study in regard to the land and their environment. To many Nez Perce the earth is their mother, who has given them life, cared for and sustained them and who they must in turn care for, respect, and protect. When asked about the relationship between humans and the environment, Nez Perce bridge the separation between the two, placing themselves equal to the earth through their relationship to the earth or to the mother of their natural family. One tribal member replied, "I think that the proper relationship between the human being and nature would be like the Perce people have always practiced and that is being conservationists and being environmentalists. We have a lot of respect for our mother earth" (Interview #22). The direct link between practiced environmentalism and the way they treat their mother is made.

Through their kinship with the earth, Nez Perce realize the strong interdependency between themselves and their mother. Each is mutually contingent upon the other for sustainment and survival. "She's the one that takes care of us. If we don't take care of mother earth, we're going to be out of luck" (Interview #30). Another tribal member replied, "Let's take care of mother earth because she's taking care of us" (Interview #27). When asked the difference between the Eurocentric view of nature and the Nez Perce view, one tribal member replied, "People can't think that way. It's foreign to them because they think mother earth was placed here for the human beings to utilize and abuse—to make themselves comfortable. But if you look at it a different way, that mother earth needs to be taken care of and protected because without her, we wouldn't exist. It's clear that the creator provided for us and we should take care of it" (Interview #29). The reference to "people" in the above quote demonstrates many Nez Perce place themselves closer to the environment than closer to other humans who hold a world view of denied dependency on nature.

As their mother, the earth provides for many Nez Perce and takes care of them by feeding them and providing means whereby they may live. "The earth is like our mother. Our mother feeds our people berries and fish, so that is why she is regarded to us as mother earth" (Interview #23). In return, Nez Perce feel they should treat their mother earth with equal respect and care. "Because mother earth is good to us and we took [sic] care of her" (Interview #32). This need to care carries over to a feeling of obligation. "Man should pay closer respect to the rhythms of nature and I mean living with the seasons and not trying to give mother earth too many heart aches" (Interview #11).

The reciprocity between Nez Perce tribal members and the earth is what allows the kinship between man and nature to be sustained. The kinship felt demonstrates the extent to which the Nez Perce place themselves on equal footing with the environment negating the human/nature dualism. The earth as their mother provides powerful imagery of the Nez Perce relationship to the land. By conceptualizing the earth as part of their natural family, the Nez Perce nullify any hierarchical power structures and false dichotomies. Humans are not placed above the land nor deemed superior. Any domination or claim over the earth is considered wrong. "[A] long time ago when Chief Joseph and they were moving, they didn't want to put fences up and have claims to the land because the land is not really yours, it's mother earth" (Interview #30).

Many Native American tribes participate in what is known as sweat lodges or sweat baths. There are many reasons for this participation, however in her study of Nez Perce sweating habits, Carol Cannan (1991), discovered one of the more significant to Native Americans is that of purification and worship. To members of the Nez Perce tribe, the sweat lodge represents the womb of Mother Earth and a place to receive instruction, physical cleansing and purification of the mind and soul. "If you look at the sweat lodge, that's a perfect example. . . it's made to represent mother earth being pregnant. When people go in like as if to go back into mother's womb and when they're cleansed they come out and they are born again, they're renewed" (Interview #13). When asked what the proper relationship with the land should be, one Nez Perce woman answered by explaining the significance of the sweat lodge and what it means to Nez Perce people. A strong view among the interviewees is the earth as their mother bore them and gave them entrance into this world and when they die, they give back to mother earth. "We respect the earth because when we die, we open the ground and place our bodies in and fill it back up and a few other things we open mother earth for our, what we call mud baths, we have a certain way of going into the ground and getting cleaned, and when we're done we fill it back up again" (Interview #13). By entering the earth during a sweating ceremony and again at death, tribal members solidify that literal connection to their mother earth. They place themselves in the earth thus becoming a equal part of the earth. There are no hierarchies, no boundaries, only a solid unitary connection with the soil that gave them birth.

The image of the earth as a nurturing mother serves as a cultural constraint restricting the actions of many Nez Perce tribal members. To hurt their mother by defacing or digging into her body is a horrible

thought for these Nez Perce. Both land and mother are used interchangeably, therefore reinforcing the relational connection between members of the Nez Perce tribe and their environment. Environmental practices that harmfully alter their mother earth are considered against Nez Perce traditional and contemporary ideology:

> When the blacksmiths first came in with metal, that was a big controversy because they didn't believe in putting that metal into mother earth. Farming was considered almost a sin because it wasn't the way for us. This is how Too Hoot Hool Zute put it, he said it, 'do I take a knife and stab my mother in the bosom? Do I take a knife and cut her hair off so I can be rich like the white man' because they believed that when you plowed the ground, that you were stabbing your mother and it was considered a moral wrong to do that. (Interview #13)

In the above quote, "to stab my mother in the bosom" and to "cut her hair," is what many Nez Perce believe are the effects of farming and logging on their mother earth. "The earth is our mother. That's pretty much what I've thought about logging and farming. You're tearing up the land, you're disturbing the natural process of what needs to go on. You're mining, you're digging into our mother's bones, you're taking her vital organs away, you're leaving scars, you're poisoning our land. The earth is our mother and her protection and respect for the land is held in high regard to our people" (Interview #17).

The love and respect for the earth felt by many of those interviewed places them in a difficult situation. Those interviewed expressed a desire to not log or farm, yet the economic advantages of these practices is immense. "The income from our farm lands and timberlands is major" (Interview #32). A large majority of tribal members depend on income from farming and logging, two practices that directly contradict their traditional native way of life. The Nez Perce Indian reservation has from 40 to 65 percent unemployment yearly (Interview #13). This affects tribal members as they are not able to sustain their own world view, thus creating a frustrating paradox in many tribal members' minds. "Conflict occurs because they [tribal members] do have families. We need to have improvement of water quality, improvement of timber lands, improvement of grazing lands without overgrazing or without over harvesting trees or abusing the land resources. I think everybody has that ideal but to really apply it is where the conflict comes. That's difficult" (Interview #39). Although many tribal members would like to discontinue practices such as logging and farming, the economic situation of the tribe will not allow that option. "I think the tribal members would like to see no cut at all and right now, forestry probably contributes up to 40% of the annual budget so you can see an impact with that. If we were to decrease the cut, it would impact quite considerable" (Interview #16).

The incongruity between the ideals of living with nature and making a living place the Nez Perce in a difficult situation. Many tribal members feel the dominant values of society contribute to this paradox. Tension exists within the minds of tribal members as they attempt to cling to cultural traditions while progressing in an economically-minded society. A paradox occurs between their environmental ideals and cultural philosophies and the reality of their current lifestyle. This inconsistency is due in part to the direct contradiction between their environmental philosophies and those of other cultures with whom they share this continent. When speaking of non-Indians, one tribal member stated, "I don't think it's that they're ignorant but they don't have a real deep awareness of how things link" (Interview #18). Tribal members believe the Western environmental philosophy of competition, development and exploitation is the ultimate cause of the many problems our environment faces. According to those interviewed, the ideology of utilization and the need to control the land is opposite of the way one should treat mother nature. By attempting to control the land, the land becomes a commodity and is ultimately abused and destroyed. "Controlling the land has always been an European way of doing everything. Let's control it. They don't realize that in controlling the land, sometimes, sure they get a handle on it to a certain degree but they also destroy some value of that very same land" (Interview #26). This need to utilize and control mother earth has led to the exploitation of her natural resources as mis-management has led to a defacing the land and to ultimately destroying Nez Perce's mother earth. "Everything from explosions to defacing her beautiful outlines and everything else. I know progress, we tear down. . . , like my grandpa used to say, 'those white people, they don't have any respect for mother earth.' They tear down one mountain over here and move it over some place else. You don't know what happened on that mountain. You don't know what's there, what's under there. They don't even think about it, they don't even ask, they just do it because somebody wants money" (Interview #11).

In addition to the white man's habit of utilization and exploitation many Nez Perce described the traditional Western ideology as an obsession with monetary profit and economic development. Many expressed how using a natural source for profit is the

wrong way to treat mother earth. "Everybody's busy chasing the dollar. They don't care about taking care of the earth" (Interview #13). In describing environmental practices of the dominant society, respondents commented their disapproval of selling mother earth for a profit. "I don't think they should use the natural resource as some type of profit" (Interview #18). Tribal members believe money is an obsession that leads to disrespect and a lack of concern for the environment. Statements such as, "[t]here is so much disrespect to the environment in the name of money" (Interview #9), or "[t]hey are always worried about the buck and not what it does to the environment," (Interview #17) depict this viewpoint.

The earth as their mother continues to be a significant part of Nez Perce environmental reality articulated by the interviewees. Mother Earth is continually referred to by tribal members in answer to all questions regarding the environment and is still spoken of with great respect and reverence. "The earth itself, we have a great respect for her" (Interview #23). This reverence sanctions a deep connection and kinship providing the Nez Perce with an expanded conception of moral family and community. Yet this traditional view of their mother and the harms of defacing her by logging and farming creates a paradox in the minds of many Nez Perce. Their respect for their mother is countered by their need for daily survival thus creating cognitive dissonance and inconsistencies in their conflicting realities.

Animals as Brothers and Sisters. *"The connection between the Indian people and animals is very important."* In order to paint a more accurate picture and description of how many Nez Perce define their relationship to the land and their environmental reality, tribal members relationship to animals and all other living creatures also must be described. The "animals as brothers and sisters" metaphor further strengthens the family root metaphor as their relationship to their brothers and sisters guides their thoughts and environmental behavior.

As with their mother earth, many Nez Perce refer to other elements of the natural world as their relations. "We consider the animals and other species our brother and sisters" (Interview #29). Through this kinship a camaraderie is created and confirmed. "All the beings on mother earth, we talk to them and they talk to us" (Interview #22). By accenting their connection to the animals of this earth, those interviewed put themselves on equal footing with their nonhuman relatives. "All life is as valid as other forms of life" (Interview #14). Another tribal interviewed stated, "all species have to be considered equal. There is a balanced way of living with each species" (Interview #29). This sense of equality continually emerged as tribal members spoke of their brothers and sisters emphasizing the belief that because they feel they are on common ground with all their family members, they should treat each the same, giving all the same rights and privileges. "I think the proper relationship is that we're all on common ground and that our form of life is not superior to any other form of life" (Interview #6). By acknowledging that each life is as valid as and equal to the other, the Nez Perce delegitimize the reasoning of a hierarchical social structure that allows one group (humans) to dominate another (nature).

Those interviewed believe both humans and non-humans rely on the same elements to exist, thus they are socially united and physically linked to each other. "There is this inner connectedness between all species and human beings. We all rely on the same thing. We rely on water. We rely on sunlight and we rely on mother earth so why can't we consider ourselves brothers and sisters with all other species of the world" (Interview #29). Additional comments by tribal members such as, "we aren't the only ones here. There are other creatures that share the earth with us" (Interview #26); "we have the same environment that they have" (Interview #29); or, "the land isn't just ours" (Interview #16), illustrate this constructed environmental reality.

Just as both humans and non-humans rely on the same elements for survival, they also rely on each other. This mutual dependency solidifies their kinship and strengthens their relations. "We need every bit of being no matter what form it is for our existence. When we realize that even the smallest insects or even the smallest blade of grass provides some type of lesson to us in understanding how fragile we are and fragile life is, then we begin to respect not only ourselves, but to respect other forms of life" (Interview #6).

To impose harm on any species is to directly impose harm on oneself. "If you want to save those species you're saving yourself. If you abuse the environment of mother earth you're not going to have those species and when you're eliminating species, you're eliminating yourself" (Interview #29). Another tribal member put it this way, "there won't be no more elk or bears or things like that to see. . . if we don't get out there and protect them, now, we're gonna be in bad shape" (Interview #30). Others echoed the same concern. "If we lose the salmon, that's going to affect and impact everything. It's not just the land itself, or the humans on there, but it's everything that it's going to impact" (Interview #8). "We might not see it immediately but sooner or later if one of these species dies off, sooner or later, in my opinion, there's going

to be, we're going to recognize a major impact or realize a major impact because of a particular species dying off" (Interview #15). For the Nez Perce the link between the animal world and their world is extremely powerful, therefore as one interviewee put it, "what ever action is taken you have to consider what other creatures that would adversely affect" (Interview #33).

So central is the view they are literally connected to and dependent upon the natural world, their mother and their brothers and sisters, several Nez Perce tribal members equate losing a member of their family with losing a part of their body. This body comparison serves as forceful imagery when considering the importance of each part of their natural family:

> It should be more on an equal basis. . . all species have to be considered equal. There is a balanced way of living with each species. It became easy for people to say, well we can live without this species and so they eliminated them. First the buffalo, the falcon, we've endangered the Sockeye salmon, we've endangered the Chinook species and now Steelhead are getting listed. So the lost is going on and on. What if you were to equate that to a body part. The buffalo a small finger, the pigeon another, the falcon another, the Sockeye up to your elbow. When would you say stop? (Interview #29)

This body comparison was echoed by other tribal members as well:

> I'm of the opinion that everything was placed upon the earth for a specific reason and it's like a human body or that's kind of how I would analyze it. If a human loses a finger, well then he's going to see some effect. If you lose an eye well obviously you have some impact. There's some effect on the body and it doesn't operate the same way it's supposed to. And analogizing that to the environment and the earth's physical environment, every organism that's here has a purpose, a specific purpose. If you lose one of those organisms, well you're losing, it's like an individual losing a part of their body. It's definitely going to have an impact. We might not see it immediately." (Interview #15)

The direct link between abusing the environment and abusing oneself as illustrated by the above quotes demonstrates the extent to which many Nez Perce feel they are in no way superior to non-humans as their social structure is "not hierarchically organized in relation to the human" (Kuletz, 1998, p. 228).

Through the animals as brothers and sisters metaphor, Nez Perce tribal members draw attention to the mutual contingency humans and animals share. Their world view is built upon an inclusive rather than an exclusive framework. "We share with the other animals, we share with the bugs, we share with the birds, we share with the flying insects, chipmunks, everything else" (Interview #23). The relationship the Nez Perce have with their animal brothers and sisters blurs the boundary between the physical and the social world. For many tribal members there is no human/nature dualism, no separation between humans and animals exists as both share common realities. Thus this metaphor illustrates how the Nez Perce seek to challenge the central assumptions of oppression and dominance set up by the dominant master model through their mutually dependent relationship with the animal world.

Although their world view challenges the human/nature dualism set up by the dominant society, many Nez Perce feel the frustration of living in a world that does not share their social truth:

> Our way of life and the dominant way of life. . . it does conflict because you're using up natural resources at a great rate. The dominant society and their economic development extracts these resources at a very great rate and that's been happening for the last 200 years. People need to realize that these natural resources are in such a state now that if we don't do something collectively, these species and resources will be reduced to such a point that they'll be not there anymore. They will actually be expired— species by species. (Interview #39)

Nez Perce concern for the preservation of their brothers and sisters is most evident when tribal members speak of the salmon. Tribal members have a very special relationship to the salmon. "Our movement as a people reflected our understanding of the natural cycles that are turning upon the lands and the waters. A lot of our action was dictated by the movement of the Salmon. You'd watch the trees and when the leaves turned a certain color, that was a signal that the salmon were coming. The understanding of nature, you learn to take your cues about the world from evidence that nature offered. We responded to nature" (Interview #32).

In the Northwest there are numerous dams located on the rivers. These dams provide power and electricity to citizens of Idaho, Oregon and Washington, including members of the Nez Perce tribe. Although tribal members enjoy the benefits of these dams, tension exists because they realize these dams

place the salmon and many other species in danger of extinction. When asked how he felt about the use of dams, one tribal member replied, "that drives us from the focus of living within nature's limits because we're more concerned with our own personal conveniences. When we start doing that and start to break the bonds of nature and no longer live within nature's means then that's when we say, well, we can make life more comfortable with irrigation and with power so we put in the dams" (Interview #32). Breaking the bonds of nature for comfort's sake creates an inconsistency with many Nez Perce. "People say, I want to be comfortable. I want to be able to turn on electricity lights so I can read my newspaper. Are you going to go to that same switch and turn it off to save an ignominious fish?" (Interview #29).

The focus on convenience and the ideal of economic stability through exploitation perpetuated by the dominant society is in direct conflict with ideals of many of those interviewed. This duality is realized by tribal members and though the Nez Perce are highly involved in reintroducing endangered species such as the gray wolf or the salmon, the frustration that comes by living within two conflicting realities is felt by many. One tribal member sighed as he spoke of the current situation of those they believe are their brothers and sisters. "Who's gonna fight for the fish? Who's gonna fight for the small animals that have to survive?" (Interview #27). These questions continue to be asked as tribal members balance their cultural and environmental views with those of the dominant society.

Connectedness to the Land. *"I think the people here are really connected to the land."* As brothers and sisters with the animals and all the creatures on the earth, many Nez Perce rely on not only the earth as their mother, but each family member as well. This dependence on each other and their mother leads to a certain connectedness between each member of their family. Respondents interviewed described their relationship as "together as one" (Interview #30), or "as living in harmony" (Interview #11). This mutual reliance is created because many believe, "Man and the land are not separate. The environment has always been here, we've always been a part of it" (Interview #12). Another tribal member interviewed stated, "I'm trying to get people to realize that you are connected to your mother earth" (Interview #29).

Just as many Nez Perce feel there is an interdependency between themselves and the animals, they also believe this dependence extends to and includes the earth. "Probably I would say, there's a real interconnectedness there because we rely so heavily on the land and I think the land relies on us for protection and I think it's up to us to save whatever we have as land and try to improve it. So I think there's a real connection there" (Interview #7). For many Nez Perce, this connection is literal. "You gotta consider yourself as part of everything, more than connected, I mean the tree is me, what I do to that tree, you know, if I fertilize that tree and harvest the fruit on it, I'm gonna ingest it and that will show me that tree is me, but I have to realize that before I fertilize it" (Interview #4).

This interdependency is often referred to by tribal members as the circle or cycle of life. "Everything is in a cycle, we're all connected" (Interview #8). Others refer to it as a system, where all parts are vital to its existence and operation. "The whole system is related, the trees, the fish, man" (Interview #18). As members of a system, all are considered necessary to the maintenance of the system and are considered to have a distinct purpose. "The creator put everything on the land for a purpose, it's a circle of life and it's survival. There was a reason for each thing, each ant, beetle, or bird" (Interview #21). Another Nez Perce tribal member stated, "Everything has a place in our area, in our way of living, in that environment. And everything is produced with a purpose in mind. It had a role to play" (Interview #19). Others also echoed this belief. "Different animals have different purposes and I think we all need them no matter what" (Interview #8). Each part of the system may be different but those differences are embraced rather than denied. "This is the beauty of the way the Great Spirit or the Heavenly Spirit or whatever you want to call it, set up the system. It's associated with the point I raised that everything has a specific purpose" (Interview #15). When speaking of endangered species, one member of the Nez Perce tribe spoke of the critical role each species plays in this system. "They're contributing something to the overall ecosystem so when one of those become endangered or die off, you're threatening that whole system" (Interview #6).

The Nez Perce do not consider the environment or the natural world as superior to humankind but believe humans are very much a part of this system. "People have always been a part of the ecosystem. The old people always knew there had to be a balance between populations and the land" (Interview #13). In this system, humans are included as equal, not as superior or inferior. "Some think man is the only one, is a supreme person that can make all the determinations" (Interview #19). "Well, when we talk about the environment, and the Indian way, the Indian picture is everything. . . from head to toe, from mother earth to the sky. We're talking about everything" (Interview #11). These quotes illustrate that to some Nez Perce

there is no separation between Native Americans and their surroundings as everything is included in the Indian picture, including humans. Because all are part of a system, and this system calls for balance, all are considered equal. When speaking of the Western approach to environmental protection, one interviewee stated, "people look at ecosystem management as looking at a certain area. You've got to look at the whole picture. If you're trying to protect this part. . . if you don't protect this area here also, it's still going to have an effect. You've got to protect the thing as a whole" (Interview #17). The binary opposites set up by Western standards do not apply, as with the Nez Perce there is no opposition. No categories are formed and no part of the circle is considered preferred. Hierarchical order and the notion of dualism is done away with as the Nez Perce world-view questions the taken-for-granted subjugation of their environmental family set up by the dominant master model.

This challenge of the dominant master model again places the Nez Perce in their own dualistic paradox as world-views again conflict. To live in harmony with nature and live within this balance is to understand that the system cannot be upset and that all members of the system must understand the notion of give and take, of living within the system. The need for economic development and the competition for more perpetuated by the governing society is in direct contest with tribal members' desire to live in balance and harmony with the natural world. While the Nez Perce hold that this amity with the environment must be obtained, members of the dominant society view the environment as a commodity to be exploited. Referring to those who embrace the dominant view, one tribal member said, "[t]hey're not putting back into the earth what they have taken" (Interview #5); another stated, "[t]hey just took and took and took" (Interview #8). One tribal member beautifully illustrated this point as he described how Western society changed when whites arrived in the West. "The change from a leaver society to a taker society, where the taker wanted to possess more than they dare leave behind and the takers felt wiser than nature. All of a sudden we have this change in values. . . greed is good, more is better kind of thing" (Interview #32). This focus on monetary value and economic development directly contradicts Nez Perce ideology which emphasizes sharing and a conservative use of natural resources. Greed and competition was foreign to the Nez Perce. "See, that is so contrary to the culture, being in a hurry, doing something for greed sake to make money all that sort of, that whole concept of living is not part of our culture. You took what you needed, you took what your people needed that's all you did. Greed was not there" (Interview #13). Exploitation, born of greed, is the ultimate cause of the degradation of the natural world. "It seems like it's always been greed to the Indian, the need of building things and tearing down mother nature. Indians have always respected the land as the way it was whereas white people want to build condominiums, they want to put in various types of businesses and it's slowly tearing down the country and the land and the environment" (Interview #21). Nez Perce realize they must live within the master model but feel a comfortable lifestyle can be obtained by living within the boundaries set by nature. This view is, again, not shared by others:

> Everybody has gotten conditioned to, I've got to make a living, my income has got to approach $100,000 a year to be comfortable. The Nez Perce people don't think that way. They think, well, I'm feeding my family, I'm not rich but I'm comfortable. My father was that way. He worked hard all his life. He always used to say, 'I'm not rich but I have a nice life.' Other people have gotten in this mode of all this competitiveness. More is better. Things have gotten out of hand because of the competitiveness of everybody. (Interview #39).

Living within a society that values economic progression over environmental wholeness places the Nez Perce in a difficult situation as the convictions that sustain their reality are challenged daily by their own struggle to survive.

Environmental Heritage. *"Our responsibility is to keep the circle going."* A final metaphor in support of the dominant family metaphor is the environmental heritage metaphor. Not only are many Nez Perce concerned with preserving the land to live in harmony during their lifetimes, they are also concerned with the future, the heritage not only of the Nez Perce but of the earth as a whole. Those tribal members interviewed articulate the idea that in order to sustain their natural family, future generations must be considered and prepared for carefully. "Our responsibility is to keep the circle going. To keep our connection with that tree. To realize that that tree is the same as I am and our responsibility is to pass that on because if we don't we're all gone" (Interview #4). The ideal focus of many Nez Perce is to consider not only their own generation but several generations ahead. "You have to consider seven generations in the future, your grandkids, grandkids' grandkids and like that tree if you fertilize it every year or you have to consider if that tree is going to be there that healthy in seven generations and if it's not then we shouldn't do it" (Interview #14). Many tribal members express the

view that when planning, it is vital to consider the future generations and the consequences of our present day actions and lifestyles. In order for the members of their natural family to have what they now have, decisions regarding the environment need to be based not only on the history of the Nez Perce and the current environment but future generations as well. To many Nez Perce it is especially important to consider the effect of their actions. "I think you shouldn't try and alter her (the land). A lot of things that have been done have really. . . haven't been looked into as in what the long term effect would be" (Interview #17). To tribal members, one can never take too much precaution when the future of their environmental family is at stake. Their concern is for the environmental heritage they are leaving for the future members of their natural family. "I think we need to be more aware of not what's just happening right now but if we continue this way, what is going to happen to us during the years of 2000? What are we leaving? What kind of heritage are we leaving for our youth?" (Interview #19). Other tribal members interviewed echo this same concern, "[i]f we abuse our resources now, the seventh generation will have nothing" (Interview #39).

Although the family metaphor provides a means for Nez Perce tribal elders to reinforce cultural beliefs and convey the importance of the land to younger tribal members, because of their current economic situations and the environmental conflicts that are occurring on the reservation, certain tribal members are concerned with teaching their traditional environmental values to their future generations. "You're teaching traditional values when these conflicts are out there surfacing around. I think it raises more questions in the young people's mind in the kinds of things they are learning. They ask the questions, 'well, then why does this farmer do this, why is the dam on the river, why do we see the disposal of nuclear waste on our own homeland if we are supposed to respect mother nature; why do we see these kind of changes taking place?'" (Interview #32).

Many tribal members again see a contradiction between their view of environmental planning and the need to utilize and exploit the environment as depicted by the predominant societal view of progression and economic planning. When referencing the Western notion of preparing for an environmental future, one tribal member referred to it as a "lack of environmental planning" (Interview #8). Tribal members feel the current environmental practices of the dominant society are not enough to meet the demands of the future adequately. "Everybody says we've got to have a five-year plan. At the best they go ten or fifteen years. They have never gone beyond that" (Interview 16). Those interviewed believe the need to see beyond the next five years is foreign to most members of the dominant society. "The corporate way of American thinking is the five-year plan. I'm gonna be dead in another five years so why should I care? I want to survive, want to be comfortable. Nobody wants to think 150 years into the future because it doesn't affect them" (Interview #29). Whereas Native Americans consider seven generations into the future, others may only consider one. This contradiction is again an underlying condition for the paradox tribal members live in concerning their environmental reality.

Those tribal members interviewed saw beyond the present to include the past and the future in their world-view, further solidifying their view of the natural world as part of their environmental and cultural. As Lefebure (1991) states, "[i]n nature time is apprehended in space" (p. 95). The natural world sees no separation between the present and the future. Members of the Nez Perce share this concept. This viewpoint allows them to think of their environmental family and holds them responsible for their actions, yet many believe the dominant society does not take responsibility for its actions and the result, a conflict of interests.

A Realized Paradox

It is evident that the contemporary Nez Perce continue to hold true to cultural principles taught by their ancestors. They speak of the earth as their mother and the animals as their brothers and sisters. Their environmental family is still central to their beliefs. However, as strong as these themes are, an even stronger theme emerges as Nez Perce express their frustration about the current situation of the tribe. The family metaphor reveals not only a deep connected relationship to the land but a struggle between cultural ideology and survival in a capitalistic Western society. As illustrated in each of the family metaphors above, Nez Perce traditional reality concerning the environment is in direct disagreement with the views held by members of the dominant society. This places tribal members in a conflicting and paradoxical situation as tribal members live in two conflicting realities. "It's a catch-22, it's a very complex situation" (Interview #2). This duality of cultures is realized and expressed by those interviewed. One tribal member explained, "Some of our people have accepted the dominant society as far as economics go. But at the same time they still have the values that we had over 150 years ago. It's difficult to compete with the dominant society" (Interview #39). As the interview continued, he expressed how this paradox of living placed tribal members in a fastidious circumstance. Others interviewed also repeated this perplexity of living in

competing realities. "I'd like to emphasize that a lot of tribes still have their traditional values that they still want to live and apply but it is difficult when you have to compete with the dominant society. It's hard for them to do that" (Interview #32). Many Nez Perce feel this frustration and view living in a society that values economic progress and industrialization as the blame.

The main obstacle to bridging these two conflicting realities faced by many Nez Perce lies in the current economic status of the tribe. Many of those interviewed feel the financial situation on the reservation does not allow for the situation to be remedied. This became apparent in the interviews as tribal leaders explained the financial operations of the tribe. "The tribe operates on contracts and grants and so we're operating on a percent of a percent. When you're operating on that kind of a program, you're barely able to pay your personnel. You can't go out and do other things that really ought to be done" (Interview #2). Another tribal member further clarified this point. "You have to think about the economic status of the tribe and that you don't want money to be an issue but it is. I mean, look at the reservation. I mean, how it is now, it's not what we want it to be and you have to. . . it's really hard to balance" (Interview #4).

The lack of funding to support environmental programs is also felt on an individual basis. Many Nez Perce are not in a position financially to focus adequate attention on environmental issues. "The economic situation is such that they are out for survival and they are at a level to survive. So when they are at that level, they're not able to go out and be civically and socially involved. So they have to accept whatever evolves" (Interview #2). Many would like to be more involved, but the reality of paying bills, feeding families and making ends meet prevents them from fighting for what one member termed "environmental justice" (Interview 13). "We have a lot of our people who are so caught up in trying to make a living, trying to make ends meet, trying to survive, that sometimes other issues just don't take priority" (Interview #13). Yet these other issues are extremely important to many Nez Perce and they struggle as their cultural viewpoints and the cultural viewpoint of the dominant society of which they are a part work against each other creating a unique dualistic reality.

Not only is the lack of monetary means a concern to many of those interviewed but the time and energy it takes to "make an environmental difference" (Interview #3) becomes a factor as well. Most tribal members are highly concerned and desire to be actively involved in environmental issues. However, as one tribal member put it, "life happens," and many Nez Perce do not have the time nor the energy to contest the "American way of life" (Interview #39). This is illustrated in the following quote. "I think the environment is a concern for everyone, but I don't think that everyone has the time or the energy. I think most people go through life just paying the bills and getting the food on the table is their major focus. Ninety percent of their energy is spent on that. They have little or no energy left for political action, those kind of things" (Interview #26). Because of the money needed and the time expected, many Nez Perce feel an overwhelming frustration. Many have a desire to search for harmony between their world-view and the dominant societal view, yet believe such a harmony does not and cannot exist. When asked if there was something tribal members could do to change their current environmental reality, one Nez Perce replied with a shake of the head in frustration, "We've lost land, we've lost resources, we've lost a whole lot" (Interview #13). Other members also expressed this feeling of defeat. Many tribal members want to make the reservation better, but they feel their efforts are futile. A member of the Nez Perce Tribal Executive Council (NPTEC) explained, "[t]he first opposition I get is from our own tribal people. They say this reservation is in such a condition now how can we ever recover anything?" (Interview #39). He continued to explain how he receives complaints from tribal members who are trying to use better environmental practices, yet feel that their efforts are in vain as their non-Indian neighbors continue to pollute. "We're not going to make a hell of a lot of difference. There's a frustration. We should set the example but it is difficult" (Interview #39).

The anxiety the Nez Perce feel toward their environmental ideology and the lifestyle they must now live in emerges from their discourse regarding their relationship with the land. The natural world is still very much a part of Nez Perce belief system, yet they are constrained by the decisions they must make daily to live in the economically-minded reality of today. The philosophy of the dominant society, competition, economic development and capitalism, is in direct conflict with Nez Perce environmental ideology. This places members of their tribe in a paradoxical situation. There is no easy solution to the ethical dilemmas facing members of the Nez Perce tribe because the environment is a moral issue for tribal members—not merely a different understanding. "It's almost like a moral, like that depth. You may be able to understand it intellectually but it seems to have to be a little more deeper than just a basic understanding" (Interview #14). One tribal member eloquently expressed how much the environment meant to him. "The issues of the environment are moral issues.

Because if they're intrinsically linked to our dependency on nature, culturally, spiritually linked, the issues of the salmon, the issues of the toxic wastes are moral issues. The spirit is the central focus on a relationship between man and the land. It's not a relationship expressed through science. It's not a relationship expressed through technology, nor through economic means. These are moral dilemmas. They are spiritual dilemmas" (Interview #32).

Through the interviews, it became apparent that their feelings toward the land were deep-seated and heartfelt, something that was hard for them to convey and even harder for non-Indians to comprehend. As tribal members expressed their feelings about the land, there were certain hesitations. It was almost as if they were searching for the words to explain their feelings or perhaps questioning if someone from a different culture could ever really understand how they felt about the environment. One respondent addressed this as he struggled to explain his own feelings for the environment. "There's a lot of rhetoric about sovereignty and Indian ways and things like that, but I think it even transcends that, it's a human way of life. It's an issue that no one can appreciate unless you're an Indian" (Interview #2).

Discussion

Throughout the interviews, the family metaphor supported by four additional metaphors or themes work together to establish a strong meaning system for many Nez Perce tribal members. Each of the metaphors or themes express a belief that their relationship with the earth is sacred and meaningful. The family metaphor symbolizes for many Nez Perce an ability to shape their reality as it paints a picture of proper interaction with their natural environment defining and describing their unique tie to nature and their relationship with the land. This world-view sustains a non-dualistic and non-hierarchial approach to the environment as it blurs the boundary between the physical and the social world questioning the human/nature dualism.

Plumwood (1993) contends that in order to set up a human/nature dualism, humans must be constructed as oppositional to nature and nature must be constructed as mindless. The gulf between the human and nature must involve hyper-separation and hierarchical situating of both. Breaking down the dualism then, must involve, "remaking the relationship so as to remove the features of denied dependency" (Plumwood, 1993, p. 123). Through their expression of the family metaphor, members of the Nez Perce deny this "hyper-separation" as termed by Plumwood and are not hierarchically organized in relation to nature. As they express a dependency on and relationship with their natural world, the Nez Perce act to break down this dualism created and perpetuated by the master paradigm. For many of the tribal members interviewed, the physical, mental and social world are inextricably linked with nature or, as phrased by Freudenburg et al. (1995) "conjointly constructed" (p. 370). This union of worlds places the Nez Perce in an interesting situation as their relationship to the environment socially defines their heritage and culture. A non-hierarchial framework coupled with an expanded conception of moral family or community allows the Nez Perce to challenge the central assumptions of oppression and dominance prevalent in Western tradition.

Overcoming the human/nature dualism does not imply dissolving differences but rather exclusions. Both Plumwood (1993) and Bullis (1996) promote acceptance of both difference and continuity in the environmental world. By denying differences, we only confirm dualistic reasoning and fail to achieve a non-hierarchical concept of difference between humans and nature. We should reject the master model of dualism and "conceive human identity in less dualistic and oppositional ways" (Plumwood, 1993, p. 35). Recognition of kinship and variance in the environment are two essential steps to transforming the human/nature dualism. "Respect for others involves acknowledging their distinctness and difference; and not trying to reduce or assimilate them to the human sphere. We need to acknowledge difference as well as continuity to overcome dualism and to establish non-instrumentalising relationships with nature, where both connection and otherness are the basis of interaction" (Plumwood, 1993, p. 174). The Nez Perce see their connection to the environment and yet do not mistake the differences between them and their natural world. Kinship is celebrated and differences are accepted.

Going beyond the human/nature dualism also involves reintegration of nature and culture and the granting of a "positive value to what has been traditionally devalued and excluded as nature without simply reversing values and rejecting the sphere of culture" (Plumwood, 1993, p. 11). This uncritical reversal or the valuing of the subordinate over the dominant does not challenge dualism but merely reverses the hierarchy thus remaining within the problematic of binary opposition. To simply argue that a Native American approach is the only appropriate way to value nature would only reverse the dichotomy and further perpetuate a dominant dualistic mentality. What is needed is acceptance of the voice of the Native American. Tribal members realize the damaging effects of "uncritical reversal" as termed by Plumwood as they plea for their voice to be heard. One tribal

member stated, "I'm not demanding that they be converted to my way, I'm just asking for respect for her (mother earth). If we could, we'd come to a better understanding of how we should be. I'm not saying you should be like me" (Interview #29). Another tribal member expressed this same sentiment as he petitioned for all cultures to "start working together and start becoming of one body and one mind, the people, whether you're Indian or non-Indian, we must work together" (Interview #21). Avoiding identities that are defined by reversing the valuation of the dominant culture and embracing views that petition acceptance of multiple voices is the first step in undermining the notion of dualism.

Although the Nez Perce meaning system enables tribal members to go beyond dualistic frameworks of nature, their environmental perspective places them in another dualism demonstrating the power both to enable and constrain Nez Perce tribal members. Their beliefs regarding the environment empowers them with the ability to sustain their customs providing an avenue for their culture to be expressed, yet at the same time, their convictions constrain them as they struggle between their cultural and environmental views and those of the dominant society. This duality of cultures causes a paradox to occur in the minds of tribal members as they attempt to balance their environmental views and practices while at the same time live in a modern and industrialized society that demands the exploitation of their environmental family. The struggle to hold on to their environmental culture while avoiding acceptance of the master paradigm of oppression and hierarchy is the underlying cause of this paradox.

Conclusion

Freudenburg et al. (1995) argue that what is needed to overcome the human/nature dualism is a "greater awareness of the extent to which the physical is influenced by the social and vise versa" (p. 366). They further argue when the nature of human interaction with the environment is understood more clearly, it is possible to see that the "greater need may be to resist the temptation to separate the social and the environmental, and to realize that the interpenetrating influences are often so extensive that the relevant factors can be considered socioenvironmental" (Freudenburg, et al., 1995, p. 388). Listening to the story of the Nez Perce will bring us to a greater awareness of these socioenvironmental factors. Rhetorical scholar Judith Gerber (1997) also contends that an investigation into the "complex processes at work when the physical, the mental and the social interact" (p. 3), will help us better understand that the dividing line between the physical and the social is a human construct. For the Nez Perce, environmental management becomes interwoven with traditional and contemporary discourses that support and sustain mental and social interaction. Allowing the narrative of the Nez Perce to be told provides rhetorical environmental scholars with an excellent learning tool as the struggle of the Nez Perce is a sample of the paradoxical situation many environmental rhetorical scholars face.

Both Bullis (1996) and Plumwood (1993) argue that a totalizing approach to the environment is not adequate. We instead need to seek alternative starting points and patterns for discourse that are located from different and local circumstances. "The dominant discourse inherently perpetuates the environment destruction responsible for the current crisis. Instead, alternative discourses not grounded in the current dominant discourse are essential for adequate transformation" (Bullis, 1996, p. 123). The Nez Perce provide one alternative discourse. By validating the voice of Native American tribes such as the Nez Perce and realizing what they can teach us about our own paradoxical situations as environmental scholars we can add to the ongoing conversation among environmental discourse. "Such an ongoing conversation should enable a radical shift from the status quo while avoiding a transformation that results in an equally univocal future state. Diversity and conversation need to continue to be incorporated into radical environmental discourse as means of continuing ongoing reflexivity and self-critique. A healthy critical conversation among various voices strengthens radical environmental discourses" (Bullis, 1996, pp. 123-124).

References

Bullis, C. (1996). Retalking environmental discourse from a feminist perspective: The radical potential of ecofeminism. In J. G. Cantrill & C. Oravec (Eds.), *The symbolic earth.* Kentucky: UP of Kentucky.

Cantrill, J. G. & Musluk, M. D. (1996). Place and privilege as predictors of how the environment is described in discourse. *Communication Reports, 9,* 79-84.

Carman, C. J. (1991). Sweat lodge participation among Nez Perce women. *Archaeology of Gender, 22,* 159-164.

Freudenburg, W. R., Frickel, S., & Gramling, R. (1995). Beyond the nature/society divide: Learning to

think about a mountain. *Sociological Forum, 10*(3), 361-391.

Fullagar S., & Hailstone S. (1996). Shifting the ground: Feminist theory in the outdoors. *Social Alternatives, 15*(2), 23-27.

Gaard, G. (1993). Living interconnections with animals and nature. In G. Gaard (Ed.), *Ecofeminism: Women, animals, nature.* Philadelphia: Temple UP.

Gerber, J. (1997). Beyond dualism: The social construction of nature and the natural and social construction of human beings. *Progress in Human Geography, 21*(1), 1-17.

Hilgartner, S., & Bosk, C. L. (1988). The rise and fall of social problems: A public arenas model. *American Journal of Sociology, 94*, 53-78.

Kuletz, V. L. (1998). *The tainted desert: Environmental and social ruin in the American west.* New York: Routledge.

McCracken, G. (1988). *The long interview.* Newbury Park: Sage.

Peterson, T. R., Witte, K., Enkerlin-Hoeflich, F., Espericueta, L., Flora, J. T., Florey, N., Loughran, T., & Stuart, R. (1994). Using informant directed interviews to discover risk orientation: How formative evaluations based in interpretive analysis can improve persuasion safety campaigns. *Journal of Applied Communication Research, 22*, 199-215.

Peterson, T. R., & Horton, C. C. (1995). Rooted in the soil: How understanding the perspectives of landowners can enhance the management of environmental disputes. *Quarterly Journal of Speech, 88*, 139-166.

Plumwood, V. (1993). *Feminism and the mastery of nature.* New York: Routledge.

Sias, P. M., & Jablin, F. M. (1995). Differential superior-subordinate relations: Perceptions of fairness and co-worker communication. *Human Communication Research, 22*, 5-38.

Smith, R. C., & Eisenberg, E. M. (1987). Conflict at Disneyland: A root-metaphor analysis. *Communication Monographs, 54*, 367-380.

Yosemite's Transition From Space to Place: Press Construction of Yosemite Prior to the Yosemite Act of 1864 and the Creation of Yosemite National Park in 1890

Nickieann Fleener
Department of Communication
University of Utah—Salt Lake City, UT
and
Edward J. Ruddell
Department of Parks, Recreation, and Tourism
University of Utah—Salt Lake City, UT

Abstract

This research investigates the way in which press accounts constructed Yosemite as place prior to both the Yosemite Act of 1864 and the Yosemite National Park Act of 1890. More specifically, the research applies a framework drawn from the conventions of 19th century travel writing to the press accounts Yosemite historians identify as significant prior to passage of each Act. The findings indicate that all authors constructed Yosemite in similar fashion regardless of article length, date or origin, and self-identified reasons for writing. While clearly exhibiting the influence of the 19th century travel writing genre, all accounts emphasize that which sets Yosemite apart from all other landscapes and endows it with salience is Yosemite's sublime nature.

Renowned and valued for the range and aesthetic quality of its spectacular landscapes, Yosemite National Park is an internationally famous tourist destination which attracted an estimated 4.5 million visitors in 1998. Given Yosemite's contemporary fame, it is hard to imagine a time when virtually no one knew about the area or considered its landscape to have positive value. Yet, that was precisely the case in the early 1850s when the few people aware of Yosemite's existence were either the Native Americans living in the area or members of the Mariposa Battalion sent to remove them (see Farquhar, 1965; Greene, 1987; Johnston, 1995; Runte, 1990; Russell, 1957; Sanborn, 1981). Newspaper accounts of the subsequent skirmishes contained brief mentions of the area's scenic wonders, but were not picked up by papers outside California. Unlike the 1849 discovery of California's gold which was considered newsworthy throughout the country, the press outside California initially did not consider the discoveries of Yosemite Valley and the Mariposa Grove newsworthy.

Such initial reluctance on the part of the press to consider Yosemite's splendors newsworthy is hardly surprising given both the cultural climate and news conventions of the times. Early nineteenth-century Americans primarily judged the value of land in utilitarian economic terms, not aesthetics. Yosemite's "gold" lay in the majestic sweep and untamed nature of its spectacular vistas, waterfalls, big trees, and mountain peaks, attributes which stood in the way of extractive industry and traditional economic development. Journalists of the time tended to privilege as newsworthy stories which centered on politics, commerce, economics, and events judged to be of national or local significance. Within these conventions, Yosemite was not newsworthy because it was far removed from the lives of the majority of the country's residents and had no discernable commercial value, no political value, and no event of significance outside the local area had taken place there. As California Senator John Conness, sponsor of The Yosemite Act of 1864, put it in his argument for passage of the legislation, while Yosemite's physical features constituted "some of the greatest wonders of the world," the area was "for all public purposes worthless" (1864, p. 2300).

But, American attitudes toward wilderness[1] and journalism[2] were changing and given those changes Yosemite's obscurity was short. In 1856, the first story describing Yosemite's natural wonders to circulate widely outside California was published in *The Country Gentleman* (The Yo-Hem-i-ty Valley, 1856). Interest in the area grew rapidly and in precedent-setting legislation, Congress passed the Yosemite Act of 1864 which deeded the Yosemite Valley and the Mariposa Grove as a grant to California providing that the state preserve and protect the areas "as a public resort. . . for the benefit of mankind. . . in perpetuity"(Act of June 30, 1864, p. 325). Interest in the area continued to grow and in 1890, Congress set aside additional land surrounding that already protected and designated it as Yosemite National Park.

Yosemite's Transition from Space to Place

Yosemite's transition from obscurity to prominence is referred to by environmental geographer Yi-Fu Tuan as the transition from space to place (1977). Tuan argues that what begins as undifferentiated *space* becomes *place* as people's awareness of that space grows and they endow it with value. Environmental geographers tend to study this transition from space to place as a complex cultural process through which environmental meanings are produced and consumed. Within this process, mass media are seen as playing significant roles particularly important in helping develop images of localities among those who do not have first-hand knowledge of the place in question.[3]

Agenda-Setting Research And The Space To Place Transition

Such assertions concerning mass media's potential to aid in the transition from space to place are generally supported within the mass media literature by research into agenda-setting.[4] Initially set forth as a theory by Maxwell McCombs and Donald Shaw in 1972, agenda-setting argues that media set the agenda of issues society will consider salient and influence the way in which society will think about those issues. Grounded in the thinking of Walter Lippmann, agenda-setting has at its core a belief that media are a primary source of the pictures people carry inside their heads of the external world that is "out of reach, out of sight, out of mind"(Lippmann, 1922, p. 29). Further, media not only help create these pictures, but they also convey to their audiences a sense of the salience of the pictures' contents. Or, as McCombs and Shaw (1974) put it, "We judge as important what the media judge as important" (p. 28). Thus, by focusing attention on a specific landscape or geographic area, media place that area onto the public's agenda, create pictures of that landscape in the minds of the public, and endow the landscape with value, thus facilitating the transition from space to place.

Yosemite As A Site For Investigating Media Construction of Place

Yosemite is a site well suited for an historical investigation into media's introduction of a landscape onto the public's agenda and facilitating that landscape's transition from space to place. Throughout most of the 1850s Yosemite was part of the external world clearly "out of reach, out of sight, out of mind" (Lippmann, 1922, p. 29) for the vast majority of Americans. Yet, in 1864 Congress passed the Yosemite Act. Thus, in a relatively brief period of time Yosemite made the transition "from a mysterious Indian stronghold to a world-famous scenic wonder" (Farquhar, 1965, p. 117).

Standard Yosemite histories identify popular press accounts of the area as one important reason underlying Yosemite's rapid transition. These histories typically conclude that by circulating outside the state of California, print media accounts were the first to allow large numbers of people who had no first-hand knowledge of the area to develop images of Yosemite as place.[5] Further, these histories assert that the initial press accounts not only stimulated serious Eastern interest in Yosemite, but perhaps more importantly, endowed Yosemite with value and helped generate support for passage of the Yosemite Act of 1864. In essence, these histories view print media accounts as an important source of both the images of Yosemite people carried in their heads and the salience people attributed to those images. Similarly, these histories assert that once again, 26 years later, print media accounts carried images of Yosemite to a new generation of readers and garnered support for creation of Yosemite National Park.

Research Focus

In spite of the importance attributed to these print media accounts in Yosemite history, scholarly discussions of them tend to focus on the individual experiences of each author in Yosemite and quotations which illustrate how authors described certain of Yosemite's natural features without specifically considering the media's overall construction of Yosemite as place. That construction is the focus of this research.

Thus, the purpose of this research is to analyze how the print media accounts identified as significant by Yosemite historians, published prior to passage of the Yosemite Act of 1864, and those published prior to Yosemite's designation as a national park in 1890 constructed Yosemite as place. In support of this purpose, the inquiry is guided by the following questions: What images of Yosemite were offered by these stories? What type of value did these stories suggest for Yosemite? What factors seem to have influenced the way in which the authors constructed Yosemite? Do similarities and differences exist between the way in which Yosemite was constructed prior to passage of the Yosemite Act of 1864 and prior to Yosemite's designation as a national park? This research informs at least two related areas of scholarly concern: the role of the press as cultural agent in the history of contemporary American discussions concerning the value and management of public lands; and the role of the press in the early history of construction of a place of continuing significance.

Analysis Framework

The framework within which these accounts are analyzed comes from the conventions of 19th century travel writing.. These conventions are primarily influenced by a well-developed philosophy of nature popular in the 19th century known as nature romanticism; the well-delineated norms of 19th century tourism; and an evolving sense of American nationalism.

Essentially European in origin, nature romanticism, according to Stanford Demars (1991) "provided both an aesthetic definition of scenery and a philosophical basis for the relationship" between humans and their "natural" surroundings (p. 12). Narratives influenced by this philosophy tended to depict landscapes in specific ways. For example, the most common terms used by nature romantics to describe landscape were "beautiful," "picturesque," and "sublime" (Blodgett, 1990, p. 120; Demars, 1991, p. 12). Beautiful and picturesque landscapes "required some evidence" of the harmonic "presence of man" as well as his "mastery over the natural world" (Demars, 1991, p. 12). A sublime landscape was vast, untamed, primitive in nature, minimally affected by man, awe-inspiring, and "a more direct expression of God['s]" mystery, grandeur, and power (Demars, 1991, pp. 12-13). A second convention of nature romanticism is "emotional response to [the] landscape" (Demars, 1991, p. 13). The most notable landscapes were those which inspired the writer "to be swept away by [a] tide of emotions" (Demars, 1991, p. 13). And a third characteristic of nature romanticism is giving meaning to a landscape by associating it with "historical" or "romantic" references (Demars, 1991, p. 13; see also Blodgett, 1990, for a similar discussion).

Also essentially European in origin, the social norms of 19th century tourism were delineated by an upper class elite which possessed the leisure time and monetary resources necessary to support travel. Given tourism's linkage with a social elite, travel to a given destination was prima facie evidence that the destination was high status, significant (Demars, 1991), and worthy of consideration, in essence, as making or as having made the transition from space to place. Given tourism's tie to the upper class, it is not surprising that travel norms required that a tourist destination be reasonably accessible via well-laid-out routes, offer suitable accommodations and good food, and be segregated by social class. The destination itself had to hold the promise of some benefit which might enhance the traveler's spiritual, psychological, intellectual, social, or physiological well-being (Demars, 1991). And, the visited landscape had to lend itself to a certain kind of literary expression, or the journey was not worth taking. As the editors of *Magazine of Travel* in their inaugural edition explained, "travels, to be good for anything, must be literary" (cited in Demars, 1991, p. 14).

To these essentially European influences on writing about nature and place, American writers added nationalism, a need to express the nation's uniqueness and worth in favorable comparison with established European cultures. As Roderick Nash (1982) put it,

> America's nature, if not her culture, would command the world's admiration. . . American nationalists began to understand that it was in the wildness of its nature that their country was unmatched. . . And, if as many suspected, wilderness was the medium through which God spoke most clearly, then America had a distinct moral advantage over Europe, where centuries of civilization had deposited a layer of artificiality over His works. (pp. 68-69).

Patriotic Americans were unwilling to admit that American tourist destinations might in any way be inferior to European destinations and set out to prove the worth of America's landscapes (Foster, 1975). While different from European landscapes, American landscapes were in no way inferior, and were in many ways superior because of their scale and wildness.

The Accounts Analyzed

Concerning media construction of Yosemite prior to passage of the Yosemite Act of 1864, Yosemite histories identify as significant five print accounts, including some written by Horace Greeley, James M. Hutchings, and Thomas Starr King. Concerning media construction of Yosemite leading to the 1890 designation of Yosemite as a national park, Yosemite histories identify as significant a selection of writings by John Muir. The accounts analyzed which were published prior to the Yosemite Act of 1864 ran in *The Country Gentleman*, the *New York Tribune*, the *Boston Evening Transcript*, *Ballou's Pictorial Drawing-Room Companion*, and *Hutchings' California Magazine*.

Yosemite historians consistently cite *The Country Gentleman* article "The Yo-Hem-i-ty Valley and Falls" as the first account of the area to circulate widely throughout the East. The significance of this relatively short piece (republished from the *California Christian Advocate* and attributed to that publication's editor who is not specifically named) is usually linked with its "firstness" (Demars, 1991; Greene, 1987; Huth, 1957).

The significance of Horace Greeley's account, another early description of Yosemite, is linked with his prominence as a newspaper editor. In his

introduction to *A Vacation Among the Sierras* (King, 1962), John Hussey identified Greeley's account as "undoubtedly the most important account" published prior to 1860 because of Greeley's prominence and political influence and the popularity of his *New York Tribune* (in King, 1962, p. xxiii). For similar reasons, Runte (1990) judged Greeley to be among the most influential of the early publicists of the area. And Thomas Starr King (1962) frequently credits Greeley's stories as motivation for his own journey and quotes from those stories in his own accounts.

The stories published in *Ballou's Pictorial Drawing-Room Companion* and *Hutchings' California Magazine* are both considered significant because they were the earliest pieces to be accompanied by illustrations (Huth, 1957). The significance of the *Hutchings'* article is also related to its author, James M. Hutchings, and his self-appointed role as early Yosemite publicist (Greene, 1987).

The significance of Thomas Starr King's account is linked with the credibility and popularity King had as a nature writer and orator, and the sweep of his eight articles which "constituted the first thorough description of the Yosemite Valley to obtain widespread national circulation" (Demars, 1970, p. 32). Greene (1987) judges King's stories to be "those which carried the most weight with Eastern readers" (p. 34) because King was widely respected. Given King's social prominence and literary skill, Demars (1991) concluded that King's words "took on the aura of scripture, to be read and re-read by travelers embarking upon pilgrimages to scenic shrines" (p. 16). The positive reception of King's series among opinion leaders is reflected in letters to King from Oliver Wendell Holmes and John Greenleaf Whittier, praising the series (King, 1962). And, in a sermon after King's death, his longtime friend the Rev. Henry W. Bellows wrote "no one had really seen the Sierra Nevada, Mount Shasta, the Yosemite Valley. . . until his fine eye saw and his cunning brain and hand depicted them. . . you will find the newspapers in which his portraiture of these sublime and charming scenes are found, carefully laid away in hundreds of New England homes, as permanent sources of delight" (Bellows, 1864, p. 22).

After appearing as newspaper stories, both Greeley's and King's accounts were published in book form (Greeley, 1860; King, 1962) and both were quoted liberally by authors of early Yosemite guidebooks (Hittell, 1868). Hutchings incorporated his own account into his Yosemite guidebook, *Scenes of Wonder and Curiosity* (1871).

John Muir's extensive published writings about Yosemite began with the appearance of the article "Yosemite Glaciers" in the December 5, 1871 issue of the *New York Tribune*. The following year the *New York Tribune* published two more of Muir's Yosemite pieces, "In the Yo-semite: Holidays Among the Rocks," and "Yosemite in Spring." The fourth of Muir's newspaper columns focused on the Hetch Hetchy Valley. Following the publication of this piece, Muir's life circumstances changed significantly and he did not publish stories focused on Yosemite again until 1890 when "The Treasures of the Yosemite" and "Features of the Proposed Yosemite National Park" were published in *Century Magazine*.

Yosemite histories credit Muir's writings and his influence as being a key factor in Yosemite's designation as a national park. For example, a series of *Modesto Bee* articles which focused on Yosemite history as part of the Park's 1990 centennial celebration asserted John Muir's articles aroused nationwide support for the Yosemite Park bill. And, in his Yosemite history, Hank Johnston (1995) is more specific in his interpretation of Muir's influence when he notes that after the publication of Muir's 1890 pieces, the original Yosemite National Park bill was revised to protect a larger area "that was almost township for township like the one Muir had sketched in his *Century Magazine* articles" (p. 190).

Elements of Media Construction of Yosemite as Place

Nature romanticism. All accounts display the influence of nature romanticism. For example, all emphasized Yosemite's sublime nature. The unnamed author of *The Country Gentleman* (1856) article put it this way:

> Of all the scenery I have ever witnessed, I never saw anything so magnificent. Often, while gazing with amazement on the huge mountains and stupendous falls, I repeated the passage of Scripture: 'Great and marvelous are thy works, Lord God almighty.' Never before was I so deeply impressed with the omnipotence and wisdom of Deity. (p. 243).

Greeley (1860) also links deity with Yosemite by describing the Valley as a "vivid exemplification of the divine power and majesty" (p. 261). Greeley (1860) further connotes Yosemite's sublime nature by consistently using phrases such as an "awful abyss" (p. 256), a "profound abyss" (p. 257), and a "Great Chasm"(p. 256) as synonyms for Yosemite Valley. Hutchings (1871) quotes from Revelation 7:12-17 to liken his experience at first glance of Yosemite to the fear and awe that the Biblical author reflects were experienced at the opening of the sixth seal.

Other authors, like King (1962), both use the word "sublime" and describe the experience of the sublime without specifically using the word (pp. 14, 33, 34, 44, 46, 54). For example, of the view from Inspiration Point, King (1962) wrote, "The scene was sublime, but it was not lonely, desolate or somber, as I had expected. And all the angularity and hardness of line in the ramparts was soothed by some indefinable, mystic grace. I was not surprised, therefore, to learn that this spot where this magnificence bursts on the vision is named 'Inspiration Point'" (p. 44); and he refers to El Capitan as "the sublime rock" (p. 49). King (1962) also frequently describes his "awe" at experiencing the landscape either as a singular response or in tandem with other emotions as in his account of his first view of the Valley. "How can I express the awe and joy," he wrote, "that were blended and continually struggling with each other during the half hour in the hot noon that we remained on the edge of the abyss where the grandeurs of the Yo-Semite were first revealed to us?" (p. 43). Expressing his awe in somewhat different terms, King (1962) referred to his first view of El Capitan as "so terrible that I supposed this must be the most striking scenery in all the valley;" of El Capitan itself King wrote, "A more majestic object than this rock I expect never to see on this planet. Great is granite, and the Yo-Semite is its prophet!" (p. 49). Of his ride along the banks of the Merced river which he described as "a gush of splendor, a column of concentrated light from heaven," King (1962) wrote "every rod of the ride awakens wonder, awe, and a solemn joy" (p. 40).

Of all the authors analyzed, Muir is perhaps the best known for his construction of Yosemite as a sublime landscape (Oravec, 1979). Like King, Muir both uses the specific term "sublime" to describe various aspects of Yosemite's landscape and refers more generally to evidence of divine presence in the landscape. For example, Muir (1890) describes his first vision of Yosemite Valley as "the most divinely beautiful and sublime" sight he had ever seen, bounded by the "mighty Sierra, miles in height, in massive, tranquil grandeur, so gloriously colored and so radiant that it seemed not clothed with light, but wholly composed of it, like the wall of some celestial city" (p. 1). In another passage, Muir (1890) likens the "sublime features" of Yosemite to a temple but adds,

> [N]o temple made with hands can compare with Yosemite. Every rock in its walls seems to glow with life. Some lean back in majestic repose; others, absolutely sheer or nearly so for thousands of feet, advance beyond their companions in thoughtful attitudes giving welcome to storms and calms alike, seemingly conscious, yet heedless of everything going on about them. Awful in stern, immovable majesty. . . ". (p. 2)

Muir (1890) refers to the sound of Yosemite Creek as a "sublime psalm" (p. 10) and the sunbeams playing on Vernal Falls as "the most divinely beautiful mass of yellow light I ever beheld—one of nature's precious sights that come to us but once in a lifetime" (p. 12).

The authors analyzed for this essay also indicate their emotional response to the landscape in passages other than those which specifically convey sublimity. At times the authors indicated an emotional response by saying they were so overwhelmed by a scene or an experience that words failed them. For example, *The Country Gentleman* (1856) author described one such experience this way: "There are many other things worthy of note, which I have neither time nor ability to describe. I never before felt so anxious to write, and so utterly incompetent to do justice to my subject." King (1962) was so moved by his experience at Bridal Veil Falls he wrote, "with no mist in the eyes except what the wonder of the picture stimulated, I am not going to describe it. The ponderous and the sentimental adjectives shall be undisturbed in my Worcester's Dictionary which has come to me 'around the Horn" (p. 47). And, Hutchings (1871) related,

> [I]t may so happen that the reader entertains the idea that if he could just look upon a wonderful or an impressive scene, he could fully and accurately describe it. If so, we gratefully tender to him the use of our chair, for we candidly confess, that we can not. The truth is, the first view of this convulsion-rent valley, with its perpendicular mountain cliffs, deep gorges, and awful chasms, spread out before us like a mysterious scroll, took away the power of thinking, much less of clothing thoughts with suitable language. (p. 12)

Similarly, Muir (1890) found language to be inadequate to describe Yosemite's side canyons and expressed that inadequacy this way: "To describe these, with all their wealth of Yosemite furniture, and wilderness of lofty peaks above them, the home of the avalanche and treasury of the fountain snow, would take us far beyond the bounds of a magazine article" (p. 8).

At other times, the authors more specifically mentioned their emotional reactions to the landscape in the text. For example, Muir (1890) reported that he once found himself so overcome by a landscape that he had to fill his mouth with leaves "hoping their bitter taste might help to keep caution keen and prevent giddiness" (p. 10). Muir (1890) refers to his Yosemite

days as "crowded with joyful and exciting experiences" remembered with keen "delight" (p. 3). Muir (1890) speculates that the traveler will find the journey to Yosemite a long one, not because of miles, but because "the way is so beautiful that one is beguiled at every step, and the great golden days and weeks and months go by uncounted" (p. 1).

Similarly, King's articles (1962) are peppered with references to the feelings he had during his journey. Some of these references are concise assertions of the "joy" (p. 13) or "supreme delight" (p. 43) he felt at a given sight. Others are longer passages in which King (1962) recounts the inner nature of his experience as in these musings on the time he spent alone in the Mariposa grove:

> The afternoon hours we passed in the Mariposa Grove were strangely short. One needs a long summer day for the proper study of the chief senators in the group. What is an afternoon among six hundred? I lay for half an hour alone at the root of the most colossal bole—my companions out of sight and hearing—and watched the golden sunshine mounting the amber trunk, and at last leaving a hundred feet of its shadow to flood its mighty boughs and locks with tender luster. What silence and what mystery! How many centuries of summers has such evening splendor burnished thus the summit of the completed shaft? How long since the quickening sunbeam fell upon the first spear of green in which the prophecy of the superb obelisk was enfolded? Why cannot the dumb column now be confidential? There comes a breath of wind, cooled by the snow on higher swells of the Sierras, which can be seen from the western edge of the grove;—why will not the old patriarch take advantage of that ripple through his leaves and whisper to me his age? Are you as old as Noah? Do you span the centuries as far as Moses? Can you remember the time of Solomon? Were you planted before the seed of Rome took root in Italy? At any rate, tell me whether or not your birth belongs to the Christian centuries; whether we must write B.C. or A.D. against your infancy. I promised the stalwart grey beard that I would tell nobody, or at most only the *Transcript*, if he would just drop into my ear the hour of his nativity. Perhaps he would have told me, if my party had not returned to disturb the conditions of a communication. (p. 64)

The historic and romantic associations contained in King's description of his hours in the Mariposa Grove are not the only examples of this element of 19th century travel writing in the accounts. For example, Greeley (1860) relies on historic references when speculating on the age of the trees in the Mariposa Grove: "That they were of very substantial size when David danced before the ark, when Solomon laid the foundations of the Temple, when Theseus ruled in Athens, when Aeeneas fled from the burning wreck of vanquished Troy, when Sesostris led his victorious Egyptians into the heart of Asia, I have no doubt" (p. 264).

Of the accounts, King's is the one packed with the broadest range of associations. For example, in his discussion of the trees' ages, King (1962) quotes Greeley's description, and then not to be outdone adds his own set of associations:

> [T]he column at whose root I sat took its first draught of sunshine in the time of Charlemagne. It is three hundred years older than the Norman Conquest and the great Hildebrand. It was a giant in the time of the first Crusade. And it antedates the foundation stone of the oldest Gothic spire of Europe. A genial evening of life to the Methuselahs of the wilderness who were babies of a century a thousand years ago. (p. 36)

King (1962) includes a reference to the writings of Mohammed in the following discussion of evergreen trees. "Ruskin teaches us to call the pines 'Sword builders'; truly, we found the saying of Mohammed verified—'Paradise is under the shadow of swords'" (p. 24). He continues by saying that these trees enabled him to understand an element of Greek mythology which he had not previously understood concerning the Hamadryads, nymphs that vivify and inhabit trees. At the end of an extended passage on this theme, King (1962) concludes, "While gazing at them [the pines], the Greek myth was no mystery. There was no sense of imprisoned or fettered energy. The grace was that of a posture in a dance. We should not have been surprised at any moment, in looking at one of these perfect pines, to see the soul of the tree step out a sunny and joyous nymph, beautiful as Hebe" (p. 26). While Muir (1890) refers to Yosemite's waterfalls as choirs offering up psalms, King associates Yosemite's sounds with classical music when he asserts, "[t]he ninth symphony is the Yo-Semite of music" (1962, p. 46).

The Influence of 19th Century Travel Norms.

The social standing of at least Greeley and King marked Yosemite as a destination frequented by society's upper tier. References indicating the potential benefits of travel to Yosemite are laced throughout the text both implicitly and explicitly. For example, the

frequent references to Yosemite's sublime nature and its aesthetic qualities implicitly indicate the authors' beliefs that visits to the area yield spiritual and psychological benefits. King's aforementioned admission that his visit helped him come to understand a Greek myth which he had never been able to understand before is another implicit reference to potential intellectual value. And in at least one passage, King (1962) becomes more explicit in his discussion of these potential benefits by observing that as his party passed through Stockton (the location of California's only insane asylum) on its way to Yosemite: "if more persons would go to the Yo-Semite, fewer would 'go to Stockton'" (p. 6).

All accounts except the *Ballou's Pictorial* article (The Yohamite Falls, 1859) include information about how to get to Yosemite and the type of accommodations both along the way and in Yosemite itself. While *The Country Gentleman* author only generally places the Valley in its proximity to Mariposa, Greeley, Hutchings, and King give fairly well detailed accounts of routes into the Valley. Of accommodations, Greeley (1860) noted that the Valley's innkeeper made his party welcome "to his best accommodations" in spite of their awakening him after 1 a.m. at which time Greeley said he happily "crept into my rude but clean bed" (p. 260). King goes into more detail concerning the hospitality shown him. For example, King (1962) was impressed enough to mention being served an apple pie made from fresh apples ripe before July 1, and astonished enough at being served stewed oysters and lobster for dinner at Yosemite's Upper Hotel, that he mentioned the meal in two separate articles. King (1962) also mentioned that in addition to accommodations for men, the hotel had two rooms "which have beds on posts and furniture for ladies" (p. 51).

By John Muir's time, social conventions regarding travel had changed. While society's upper class still adhered to many of the travel conventions previously discussed, travel had also become more democratized. Road improvements made Yosemite more easily accessible. Accommodations in the area were more plentiful and varied. In short, by 1890, Yosemite tourism was a fairly well established industry (Demars, 1991; Johnston, 1995). Thus, rather than write about how to get to Yosemite itself, which was pretty much known, Muir wrote about access to specific places tourists might wish to visit. As a dedicated outdoorsman, Muir wrote about places to camp rather than hotels. For example, Muir (1890) indicates that "fine camping-grounds" exist all along Tuolumne Meadows and that the Meadows provides entry points for "four capital excursions" (p. 2). He refers to the excursion to the top of Mount Dana as "a very easy one" with "good camping ground" and an ascent "so gentle and smooth that one may ride a mule to the very summit" with "sublime views" (p. 3) the entire way. In addition to such easy-to-moderate journeys, Muir indicates that Yosemite contains more difficult ones as well. For example, Muir (1890) describes the ascent of a glacier in midsummer as "exceedingly tedious because the snow is then weathered into curious and beautiful blades, sharp and slender, and set on edge in a leaning position," but adds "no more interesting problem is ever presented to the mountaineer than a walk over a glacier thus sculptured and adorned" (p. 5).

The Uniqueness and Worthiness of America's Landscape. These deep, rich romantic descriptions of Yosemite implicitly convey a sense that this place is unique and worthy of consideration. In addition to such descriptions, both Greeley and King add statements which assert the area's worth and/or compare it favorably with famous landscapes outside the United States. For example, Greeley (1860) calls Yosemite "the most unique and majestic of nature's marvels" and concludes "I know no single wonder of nature on earth which can claim a superiority over the Yosemite" (pp. 261-262). Greeley (1860) was also particularly impressed by the forests he passed through en route to the Valley and asserted their superiority in this passage:

> And here let me renew my tribute to the marvelous bounty and beauty of the forests of this whole mountain region. The Sierra Nevadas lack the glorious glaciers, the frequent rains, the rich verdure, the abundant cataracts of the Alps; but they far surpass them—they surpass any other mountains I ever saw—in the wealth and grace of their trees. Look down from almost any of their peaks, and your range of vision is filled, bounded, satisfied, by what might be termed a tempest-tossed sea of evergreens, filling every upland valley, covering every hillside, crowning every peak but the highest with their unfading luxuriance. . . I never enjoyed such a tree-feast as on this wearing difficult ride. (p. 301-302)

King also used the Alps as his reference point when relating the beauty and superiority of just one feature of the Valley, Nevada Falls. Of the falls and the area immediate around it, King (1962) wrote:

> The Sierras have put their exclamation point at precisely the right spot. For on the northwest, immediately over it, springs a obelisk of bare granite two thousand feet high, utterly unscaleable on the front, and on its back-line, repeating

> with surprising exactness the contour of the Matterhorn on its longer side, as drawn in the fourth volume of Ruskin's 'Modern Painters,' and in Hinchcliff's 'Summer Among the Alps.' I do not know what splendors of cascade or sublimities of rock the Himalayas hide; but I would venture something on the faith that nowhere on the globe is there a mile of river scenery that will compare with this Sierra glen, through which the Middle Fork of the Merced makes its two glorious plunges under the shadow of granite walls and soaring pinnacles. (pp. 64-65).

Muir (1890) refers to Yosemite's forests as "an assemblage of conifers surpassing all that have yet been discovered in the forests of the world" and describes the sequoias specifically as "king trees, all that there are of their kind in the world" (p. 4). The author of the *Ballou's Pictorial* article (The Yohamite Falls, 1859) indicated that "the most delicate and rare flowers cultivated in Europe as hothouse or garden plants are here found in the greatest variety and boundless profusion" (p. 325).

Thus, Yosemite, whether considered as a whole or as one of its features, was uniquely superior in many ways to well-known and well-respected old world sites.

Beyond Convention. Although all the accounts analyzed are clearly grounded within the conventions typical of much 19th century writing about travel and nature, several articles contain elements which seem to foreshadow more contemporary modes of communicating about place in particular and the environment more generally. For example, both Greeley and King comment on water pollution. Greeley (1860) does so almost in passing when he says of his journey to Yosemite, "thus far we have seen few traces of mining, save the muddy-colored waters of the rivers" (p. 298). On the other hand, King (1962) is much more concerned about the pollution he has seen throughout the area which, in part, explains his delight in his initial glimpse of the Merced River. "This was the first clean river I had seen in California. No placer or hydraulic mining on its banks have polluted it yet. It is as pure at the point where we saw it as when it bursts through the granite ramparts of the Yo-Semite. . . but although the Merced is not discolored and choked with mining mud, it is compelled to lend its strength to the task of unlocking gold from the granite vins of its neighboring hills" (pp. 13-14). And Greeley (1860) included a brief discussion of the relationship between "the general dearth of water" (p. 296) and California's future economic development.

Perhaps more significantly, both Greeley and Muir included calls for resource protection. For example, Greeley (1860) expressed great concern over the future of the Mariposa Grove's Big Trees and called specifically for the village of Mariposa, the county, or California to "immediately provide for the safety of these trees" (p. 313). Both men included passages which reflect changing attitudes toward wilderness. Muir develops the resource protection theme in much greater depth—which is not surprising given that his writings were central to a campaign encouraging the creation of Yosemite National Park. To accomplish his purpose, Muir includes passages which indicate Yosemite's scenic wonders were in peril. For example, Muir (1890) said of the area's forests, "every kind of destruction is moving on with accelerated speed" (p. 4). The article visually supports Muir's assertion with three photographs headed "Destructive work in Yosemite Valley." These visual images of of a plowed meadow (p. 4), a "stump forest" (p. 13), and a clear cut (p. 15) are in sharp contrast to the article's seven additional illustrations which show magnificent views of scenes like the view of Yosemite Valley from Point Lookout, a lake-mirrored view of the Three Brothers, and a lake-mirrored view of Yosemite Falls. Muir ends the article with several paragraphs specifically calling for passage of the Yosemite National Park Bill pending in Congress which would protect the area as a national park. In part, Muir (1890) argued, "the bill cannot too quickly become a law. Unless reserved or protected the whole region will soon or late be devastated by lumbermen and sheep men, and so of course be made unfit for use as a pleasure ground. . . all that is accessible and destructible is being rapidly destroyed" (p. 11).

Conclusions

The accounts analyzed in this research show that early media accounts of Yosemite constructed the area as *place* in remarkably consistent and almost redundant fashion. All accounts are remarkably similar in spite of differing significantly in length, date of origin, and authorship. Even authors like John Muir and James Hutchings, who had self-identified very specific yet very different reasons for writing about Yosemite and who wrote at significantly different times, constructed Yosemite in similar fashion.

This construction was largely consistent with 19th century conventions of writing about nature and place including nature romanticism, the social norms of 19th century travel, and a tie between landscape and American nationalism. All authors constructed Yosemite as a sublime landscape capable of eliciting overpowering emotions, most typically awe, amaze-

ment, joy, and supreme delight. All describe Yosemite with ample historic and romantic associations. All present Yosemite as uniquely American. . . a majestic landscape superior to well-known and well-respected old world sites. And, all indicate that a visit to Yosemite holds the promise of great benefit to the traveler's spiritual, psychological, intellectual, or physiological well-being.

In essence, 19th century writing conventions told the authors not only what to look for in Yosemite, but perhaps more importantly, how to "see" what they viewed. Further, while most 19th century readers had no first-hand knowledge of Yosemite, they did have first-hand knowledge of the conventions. Familiarity with these conventions facilitated the reader's ability to develop images of Yosemite. The salience of those images was underscored by the social status of such authors as Greeley and King.

All the authors analyzed expressed that salience not only by choosing to describe Yosemite, but also by consistently endowing Yosemite with value. That is, the authors not only provided rich descriptions of Yosemite's physical features creating mental pictures for their readers, they also endowed Yosemite with both extrinsic and intrinsic value. Yosemite's extrinsic value was defined primarily in terms of the area as a tourist destination. Since five of the six authors initially visited Yosemite as tourists themselves and one of those stayed to establish his own tourism business in the area, this value is not surprising. Even Muir, who in one sense initially came to Yosemite as a tourist but established residence there and did guide selected individuals, wrote about the area as a glorious place to visit, gave would-be visitors instructions on the accessibility of good sites to see, and indicated that one of the reasons Yosemite should be protected was its potential loss as a public "pleasure ground" (Muir, 1890, p. 1).

The departures from the conventions made by Greeley, King, and Muir seem significant and worthy of additional consideration. To the norms traditionally guiding 19th century travel writing, these men added subtle to direct calls for expanded environmental stewardship. King is clearly disturbed by the water pollution he finds throughout California. While he doesn't seem as disturbed by the pollution as King does, Greeley finds it significant enough to mention. Greeley also reflects upon the way in which California's future development will be driven by the area's ability to manage its scant water resources. While Greeley calls for local or state government protection of the Mariposa Grove, Muir later calls for federal protection of a much larger area. In doing so, Muir mentions specific examples of what he believes to be resource destruction and predicts a gloomy future for Yosemite's wonders if federal protection is not immediately forthcoming. While certainly not the first American writers to call for resource protection, that two such influential writers as Greeley and Muir tied the issue of resource protection to Yosemite, thus bringing the issue to the public's attention, seems significant.

In addition to such considerations related to Yosemite's more extrinsic utilitarian values, the authors clearly convey a sense that Yosemite has intrinsic value as a unique and marvelous place. The authors present Yosemite as surpassing all other known locales on earth in majesty and presence. While Yosemite can be compared with other landscapes, it cannot be fully represented by such comparisons for Yosemite's wonders are unique and its intrinsic value as a place rests in its majestic scale and spectacular vistas.

More specifically, all the authors analyzed tie Yosemite's intrinsic value is to its sublimity. Within the definitions of nature romanticism, Yosemite is not beautiful or picturesque. It is sublime: wild, untamed, unmarked by man, awe inspiring, and a direct reflection of God's grandeur and power.

While the authors clearly indicate that while Yosemite as a landscape has intrinsic value because of its sublime nature, they also recognize the extrinsic value of this same sublimity. It is the extraordinary character of Yosemite's sublimity that marks the area with extraordinary potential as a site for human recreation. Whether one considers more significant the extrinsic or intrinsic value of Yosemite's sublimity, it is sublimity which truly characterizes Yosemite as a place.

Thus, early print stories focusing on Yosemite prior to passage of the Yosemite Act of 1864 clearly brought what had been an area in Lippmann's terms "out of reach, out of sight, out of mind" to the public's consciousness and ascribed definite value to the area. These stories introduced Yosemite to readers who otherwise might have been unaware of the area's existence in such a way as to assert the area's importance. While the actual relationship, if any, between these stories and passage of the Yosemite Act of 1864 is difficult, if not impossible to determine, and clearly beyond the scope of this research, in these stories Yosemite is clearly presented as a *place* and not a *space*. Perhaps more importantly, Yosemite as a place is worthy of addition to society's agenda not as an issue per se, but as an object possessing valuable attributes.

Muir's writings brought Yosemite to the public's agenda both as an object possessing valuable attributes and as an issue, resource protection. In this effort, Muir is not introducing the issue of resource

protection to society's agenda because the issue was already there, but he is defining the issue in terms of one area and one specific piece of legislation. Again, the actual relationship, if any, between the specific pieces of Muir's writing considered here and creation of Yosemite National Park is beyond the scope of this research. What is significant for the purposes of this research is that in spite of many changes in both American culture and journalistic conventions, Muir's creation of Yosemite as place is strikingly similar to press construction of Yosemite prior to the Yosemite Act of 1864.

Notes

1. For more complete discussions of the history changing American attitudes toward wilderness see Huth, 1957; Nash, 1982; and Oelschlaeger, 1991.

2. For a well synthesized discussion of these changes see Dicken-Garcia, 1989; see also Schiller, 1981; and Schudson, 1978.

3. For discussions of the role of media in creating place see Tuan, 1977; Anderson & Gale, 1992; Duncan & Ley, 1993; and Zonn, 1990.

4. Since Maxwell McCombs and Donald Shaw placed the agenda-setting hypothesis into the communication research forum in 1972, more than 200 studies which support the hypothesis about the influence of the media agenda on the public agenda have been published. See Dearing & Rogers, 1996.

5. According to one Yosemite historian, only 653 people visited Yosemite between 1855 and 1864, which indicates the number of individuals who had first-hand knowledge of the area was relatively low. See Blodgett, 1990.

References

Act of June 30, 1864 (13 *Stat. L.*, p. 325). An act authorizing a grant to the State of California of the 'Yo-Semite Valley' and of the land embracing the 'Mariposa Big Tree Grove.'

Adams, P. (1983). *Travel literature and the evolution of the novel.* Lexington: UP of Kentucky.

Andrews, M. (1989). *The search for the picturesque landscape aesthetics and tourism in Britain, 1760-1800.* Stanford, CA: Stanford UP.

Anderson, K., & Gale, F. (Eds.). (1992). *Inventing places.* Melbourne, Australia: Wiley.

Bellows, H. W. (1864). *In memory of Starr King: A discourse given to his flock in San Francisco, Sunday morning and evening, May 1, 1864.* San Francisco: F. Eastman.

Blodgett, P. J. (1990, Summer). Visiting 'The realm of wonder' Yosemite and the business of tourism, 1855-1916. *California History,* 118-133.

Brown, S. R. (1993). *American travel narratives as a literary genre from 1542-1832: The art of the perpetual journey.* Lewiston, ME: Edwin Mellen Press.

Conness, J. (1864). *Congressional Globe,* p. 2300..

Dearing, J. W., & Rogers, E. (Eds.). (1996). *Agenda setting.* Thousand Oaks, CA: Sage.

Demars, S. E. (1991). *The Tourist in Yosemite, 1855-1985.* Salt Lake City: U of Utah P.

Demars, S. E. (1978). *The triumph of tradition: A study of tourism in Yosemite National Park, California.* Unpublished doctoral dissertation, U of Oregon.

Dicken-Garcia, H. (1989). *Journalistic standards in nineteenth-century America.* Madison: U of Wisconsin P.

Duncan, J., & Ley, D. (Eds.). (1993). *Place/Culture/Representation.* London: Routledge.

Farquhar, F. (1995). *History of the Sierra Nevada.* Berkeley: U of California P.

Foster, E. H. *(1975). The civilized wilderness: Backgrounds to American romantic literature, 1817-1860.* New York: The Free Press.

The Great Yo-Semite Valley. (1859, October). *Hutchings' California Magazine,* 1-18.

Greeley, H. (1860) *An overland journey from New York to San Francisco in the summer of 1859.* New York: C. M. Saxton, Barker & Co.

Greene, L. W. (1987). *Yosemite: The park and its resources: A history of the discovery, management, and physical development of Yosemite National Park, California, Volume 1.* Washington, D.C.: U.S. Department of the Interior/National Park Service.

Griffin, E. (1997). *A first look at communication theory* (3rd ed.). New York: McGraw-Hill.

Hittell, J. (1868). *Yosemite: Its wonders and its beauties.* San Francisco: H.H. Bancroft & Co.

Hutchings, J. M. (1871). *Scenes of wonder and curiosity in California: a tourist's guide to the Yo-Semity Valley.* New York: Roman and Co.

Huth, H. (1957). *Nature and the American: Three centuries of changing attitudes.* Berkeley: U of California P.

Johnston, H. (1995). *The Yosemite grant 1864-1906: A pictorial history.* Yosemite National Park, CA: Yosemite Association.

King, T. S. (1962). *A vacation among the Sierras: Yosemite in 1860.* San Francisco: The Book Club of California.

Lippmann, W. (1922). *Public opinion.* New York: Macmillan.

McCombs, M., & Shaw, D. (1974, April). *A progress report on agenda-setting research.* Paper presented to the Association for Education in Journalism, Theory and Methodology Division, San Diego, CA.

Morin, K. M. (1996). *Gender imperialism and the Western American landscapes of Victorian women travelers, 1874-1897.* Unpublished doctoral dissertation, U of Nebraska.

Muir, J. (1890, September). Features of the proposed Yosemite National Park. *The Century Magazine.*

Muir, J. (1873, March 25). The Hetch Hetchy Valley. *Boston Weekly Transcript.*

Muir, J. (1872, January 1). In the Yo-semite: Holidays Among the Rocks. *New York Tribune.*

Muir, J. (1890, August). The Treasures of the Yosemite. *The Century Magazine.*

Muir, J. (1871, December 5). Yosemite Glaciers. *New York Tribune.*

Muir, J. (1872, May 7). Yosemite in Spring. *New York Tribune.*

Nash, R. (1982). *Wilderness and the American mind* (3rd ed.). New Haven, CT: Yale UP.

Oelschlaeger, M. (1991). *The Idea of Wilderness.* New Haven; CT: Yale UP.

Oravec, C. (1979). *Studies in the rhetoric of the conservation movement in America 1865-1913.* Unpublished doctoral dissertation, U of Wisconsin, Madison.

Runte, A. (1990). *Yosemite: The Embattled Wilderness.* Lincoln: U of Nebraska P.

Russell, C. (1957). *100 years in Yosemite: The story of a great national park.* Yosemite National Park: Yosemite Natural History Association.

Rugoff, M., (Ed.). (1960). *The great travelers.* New York: Simon and Schuster.

Sanborn, M. (1981). *Yosemite: Its discovery, its wonders, and its people.* New York: Random House.

Schiller, D. (1981). *Objectivity and the news: The public and the rise of commercial journalism.* Philadelphia: U of Pennsylvania P.

Schudson, M. (1978). *Discovering the news: A social history of newspapers.* New York: Basic Books.

Tuan, Y. (1977). *Space and place: The perception of experience.* Minneapolis: U of Minnesota P.

The Yohamite Falls, California. (1859, May 21). *Ballou's Pictorial Drawing-Room Companion,* 325.

The Yo-Hem-i-ty Valley and Falls. (1856, October 8). *The Country Gentleman,* 243.

Zonn, Leo (Ed.). (1990). *Place images in media: Portrayal, experience, and meaning.* Savage, MD: Rowman & Littlefield.

Talking Water:
A Cultural Analysis of Talk About Water in the Mill River Watershed

Eric Morgan
Department of Communication
University of Massachusetts—Amherst, MA

Abstract

This study analyzes everyday talk about water in four municipalities and among scientists. Grounded in the ethnography of communication and cultural discourse theory, this study shows that communication about water differs in form and meaning for members of different communities. The primary focus is one town's talk about water, yet an analysis of the talk in other communities is presented as well. This study helps further understand the problems encountered when "scientists" attempt to implement environmental policy in communities. A rethinking of the theoretical concepts of space and place is offered to help understand the structure of talk about water.

Introduction

In "Naturalizing Communication and Culture," Carbaugh (1996a) argues that communication, while being radically situated, creates a sense of the places we inhabit. This can occur only if communication is assumed to fulfill a particular social function; one in which people utilize a symbolic system in order create, sustain, and at times alter their social worlds (Hymes, 1972; Philipsen, 1992). Part of the social world being created and maintained through communication is a relationship to the natural environment. Carbaugh is certainly not alone in this argument, which is evident in any review of the recent literature in environmental communication (see Cantrill & Oravec, 1996; Herndl & Brown, 1996; Jagtenberg & McKie, 1997; Peterson, 1997). The unique aspect of Carbaugh's argument is that if this is indeed the case, then people's relationship to the natural environment must vary according to particular communicative systems. But what is the nature of that variance? How is it that people actually communicate in such a way that distinct senses of place become meaningful? Furthermore, what form does that type of communication take? These broad questions can be addressed only through the ethnographic study of local communicative practice. It is these questions which the present study seeks to address by examining one type of communicative practice found in four towns in Western Massachusetts. The communicative practice under consideration is how people talk about water, or "water talk." Prior to a more detailed description of this communicative practice, however, a brief "setting of the stage" is in order.

Water, Watersheds, and Dwarf Wedge Mussels

The spring of 1998 saw a unique opportunity present itself to the Natural Resource and Environmental Conservation (NREC) extension program at the University of Massachusetts, Amherst. A graduate student discovered the presence of a federally recognized endangered species in one of the Mill Rivers of Western Massachusetts. Recognizing that this would be an excellent time to attempt to implement several of the Environmental Protection Agency's mandates concerning water management (for example see the EPA's website Office of Wetlands, Oceans, and Watersheds, 1999), four extension educators formed an interdisciplinary team to study the Mill River and the four communities which it drains. Large portions of these four communities comprise the Mill River Watershed.[1] The ultimate goal of this project was to understand the Mill River from a variety of scientific angles, and thus better "increase the capacity" of these communities to manage their water. The key to this increased capacity would lie in the formation of a watershed council. This watershed council was to work on preventative measures so as to maintain the relatively healthy status of the Mill River.

The extension team members began an awareness campaign focused primarily on schools and municipal boards. At one point, however, several members began to express frustration at their attempts to "get through" to some of the town members. There was a perception on the part of some of the team members that they were "speaking a different language" than the townspeople. It was at this point that the team coordinator approached the Department of Communication for assistance in learning how community members were talking about their water. With this knowledge, the team members felt they would better be able to shift water management practices from a municipal basis to a watershed basis. This project, therefore, is an effort to understand the variety of discourses

used by members of relevant communities within the Mill River watershed in order to relate to their water.

A Basic Orientation

This project implicates a rather unique methodology and philosophical commitment. Grounded in what has come to be called "the ethnography of communication"[2] (Hymes, 1972, 1974; Philipsen, 1989) and cultural discourse theory (Carbaugh, 1994; 1996a), this study seeks to explore the variety of discourses which people use when orienting to and discursively positioning themselves within the natural environment. One key assumption that allows this approach to work is that only through communication can we understand the social worlds that people create, and it is only through communication that we can understand the meanings people have for their physical environments as well (Carbaugh, 1995; Philipsen, 1992).

These concepts are better discussed in terms of the theoretical framework employed to generate and analyze data. The framework used to guide this analysis stems from previous research in environmental communication (Carbaugh, 1996a). Its components lay out one way in which discourse about the natural world might be structured.

Carbaugh (1996a) argues that in examining any local system of talk, it is necessary first to examine the context in which that talk occurs. Answering questions of who, what, when, and where are all essential to understanding the locally grounded meanings associated with situated communication. At this point, a researcher may choose to focus on several key and potent symbols which will draw our attention to some aspects of the natural environment while hiding from view other aspects (Burke, 1941; Carbaugh, 1996b; Lindsley, 1999). Locating these symbols and prominent co-occurring terms will yield symbolic clusters, which organize talk about a particular aspect of the natural environment (Schneider, 1975). These symbolic clusters can be understood further with the idea of code (Carbaugh, 1996a). A code is any interpretive statement made by the analyst that suggests an organization to and a relationship between the symbolic clusters. The idea here is that any instance of communication simultaneously invokes and presumes 1) what it means to be a person; 2) what forms of action are appropriate and even sensible; 3) what types of emotions are to be associated with particular communicative events; 4) how people are and should be related to one another; and most important, 5) how people relate to their surroundings (Carbaugh, 1994; 1997). Explicating these codes (personhood, action, feeling, relating, and dwelling) will provide a rich and locally sensible understanding of any situated communicative practice. It should further be noted that the use of the code, in this sense, is an attempt to account for communicative phenomena in terms of communication, rather than with some other explanatory framework (e.g. economic, psychological, sociological, etc.). These codes are organized into discourses or collections of premises about certain phenomena in the world. Ultimately, the complex system of discourses, symbols, and codes form a cultural system.

The remainder of this essay will utilize this framework to develop a situated theory of communicative practice regarding water. The focus of the findings will be on one community's discourse surrounding water with a brief summary of findings regarding the other four communities involved with the Mill River. In conclusion, I will discuss both theoretical and practical implications of this study. Prior to that, however, a brief discussion of the specific research questions guiding this project is in order.

Research Questions

Three research questions were initially posed in regards to the Mill River Watershed project. First, *What, if any, vocabulary is being used to discuss water, the watershed, and related issues in the relevant communities of the Mill River Watershed?* For purposes of this project, the communities discussed will be those defined by political boundaries. Thus, the actual municipalities of Conway, Deerfield, Whately, and Hatfield will all be of primary concern. It is clear that there are other types of communities as well. For instance, a community could be defined by social groups which extend across town boundaries. Given the fact that water is managed on a municipal basis, however, this initial analysis will focus on "community" defined as a municipality. That is with one exception. I will also take members of the extension group to be representatives of a particular type of community. This is done for purposes of comparison.

The second question further explores how this vocabulary may be organized by the community members. It reads as follows: *How is the talk about water structured for each community?* Upon explicating this, it will be possible to explore some of the underlying premises regarding the relationship between the community members and their natural environment. Thus, the third question becomes relevant: *What, if any, are the premises regarding dwelling active in the talk about water in the watershed communities?*

The understanding of discourse that the answers to these questions will provide may suggest ways in which the NREC team can better address and meet their practical concerns for increasing the capacity of these communities to handle environmental issues and for establishing a watershed council.

Data Collection

Any ethnographic project uses a variety of types of data in order to advance claims (Bernard, 1994). The data set for this project comes from many different sources and was gathered in numerous ways. The primary data are transcripts from interviews with NREC team members, town officials, small business owners, and other townspeople. Other data include newspaper reports, observations, and other texts (town reports, official documents, etc.) regarding water.

Upon receiving approval to conduct the project from NREC team members, the first step was to gather a corpus of data from the team members themselves in order to understand their system of talk about water. This was done by conducting six interviews, each lasting between 30 minutes and one hour.

The next step was to begin a broader project of eliciting talk about water and water related issues from people who live and use water in the four towns of the Mill River Watershed. Before interviewing people, however, it was necessary to gain a sensitivity toward what types of issues were particularly salient in each of the towns. This was accomplished first by examining the transcripts of the team member interviews; second, through casual conversations with individuals who live in the towns; and third, from a review of relevant information regarding water, such as newspaper articles, town reports, and other documents concerning this topic. The purpose of this information-seeking step was to begin to formulate a "native understanding" of water and, we hope, to ask the right questions.

Upon completion of this initial review, a preliminary interview guide was developed and used to interview select people in the towns of Conway, Deerfield, Whately, and Hatfield. This interview guide focused primarily on water issues and how those are dealt with in the towns. The initial interviews led to a revised interview guide, which was used to conduct subsequent interviews.[3] Ultimately, a total of forty interviews as well as numerous pages of field notes and other texts regarding discourse about water in the Mill River watershed were produced. From this data, a locally organized system of talk regarding water can be further explored.

Data Analysis

The data set was analyzed in four separate steps in order to answer the research questions. The first step was to read through the transcripts focusing solely on "water" as a key and potent symbol. Locating the specific instances of this symbol allowed for the examination of the data set for prominent co-occurring terms. These co-occurring terms were then treated as potent symbols within each data subset for the communities. After determining which discursive formulations were key and potent expressive means, each was examined to determine the variety of "radiant" terms occurring with it. The third major step was to formulate cultural propositions by exploring the relationship between these key terms and their radiants. The result was a map of local "water talk." Each cultural proposition was then analyzed with the goal of explicating cultural premises regarding the relationship between people and nature (for examples of this method see Carbaugh, 1988; Lindsley, 1999).

Findings and Analysis

The first research question sought to explore the distinctive ways of speaking about water and water related issues. As one of the reasons for this project was to study the discrepancy between the team's scientific discourse and that of the community members, I started with the tentative "hypothesis" that there were at least two types of discourse active and prevalent. It became clear after some analysis that there were at least two, if not more, discourses prevalent; one used by those in the university and familiar with the university (this not only includes the team members, but others who live in the municipalities and have or have had significant and enduring contact with the university) and those who are residents of the various towns. As far as can be determined, these two discourses are organized around what Schneider (1975) might call two semi-epitomizing symbols. The discourse of the university is organized around the key symbol "system," while that of the townspeople is organized more around the key symbol "issue." The significance of this will be discussed later. Following, will be a brief summary of the talk in the university and three of the four towns. The discursive system active in the town of Conway will be detailed first in order to demonstrate the methods used in arriving at the various conclusions.

Discourses of the Watershed Communities: Conway

Conway is a small, rural town in Western Massachusetts lying just to the west of Interstate 91. One of the "hill-towns" of the Berkshire Mountains, Conway is 75% forested with agriculture comprising the majority of the rest. The population, roughly 1,700, is centered along Route 116 on the South River. The headwaters of the Mill River lie within the town's hills and forests. Similar to other towns comparable in size in Western Massachusetts, Conway is governed by an elected three-member Select Board. Other governing bodies in the town include the Board of Health and the Conservation Commission. Students attend school at Frontier Regional School in Deerfield, Massachu-

setts. Most people in Conway work in surrounding communities with a substantial number of individuals employed by the University of Massachusetts.

The process of arriving at the key communication practices provided by that of the residents of Conway came through an initial review of the transcripts in which I pulled out significant topic areas. The key terms after this initial review were "wells," "beavers," "Conservation Commission," "septic tank," and "water quality." Simply reviewing these particular terms suggests that the residents approach the topic of water in terms of issues and concerns, either realized or potential.

The first term, "wells," occurs in each of the residents' talk about water. This is simply because there is no public water supply in Conway, and every residence has a well as its primary source of usable water. Note the following instances of talk from community members:

- Water is important individually, cause everyone has wells. If you live in Conway, you have a well.
- We have no public water supply, so everybody has either wells or springs, so it is a very important issue individually.
- I think most of these houses here now are Artesian [wells].

The co-occurring terms for this key symbol are "spring," "Artesian," "private," "no public water supply," and "individual." The terms "Artesian," "private," and "individual" all refer to qualities of the well. "No public water supply" is offered as a reason for the individual wells. "Spring" refers to the range of options people have for water usage. As each household or business is responsible for its own water, the well becomes a significant, grounded concept for water for these individuals.

Much like there is no public water supply in Conway, there is no centralized sewage system. Thus the septic tank was also mentioned quite frequently and can be considered a key symbol. There is concern currently about the older septic systems starting to fail in the center of town. According to several residents, the lots are too small for a septic tank with a proper leach field and a well. This led one resident to speculate that Conway would soon see further regulatory action taken in regards to water and sewage. One individual even noted that Conway would soon see the formation of both a water district and a sewage system.

In the absence of a central water department, the local authority, according to some residents, was the Conservation Commission. The commission, even though it is a volunteer board, was held up by residents as the central regulating force within the town of Conway. According to the chair of the commission, their role was to "enforce the Wetlands Protection Act" by working "locally to try to find alternatives." Yet, according to one resident, "[i]t would take an act of God, to get anything done with the Conservation Commission." Another resident thought the Commission was fairly amicable, but went on to add hastily that she "never had to deal with them." The tension present in this representation of the Commission highlights an interesting orientation to how water should be regulated in Conway specifically. This is true especially in light of talk about government and what its proper role should be in the regulation of public utilities. The Conservation Commission, at least in Conway, is the governmental source of authority and regulation.

At the time I was conducting most of the interviews, beavers had made their way into the conversation regarding water. Most of the residents offered one resident's problem with the beavers as a significant concern. Indeed, his crisis, which involved beavers damming a culvert on his property and then chewing through his water line, had succeeded in making the beaver a "hot topic" for the residents of this hill community. Any discussion about this resident's situation would inevitably lead to the related topic concerning the relatively recent ban on trapping beavers in the state. One resident even speculated that the affected resident might have even had a change of heart regarding these animals. The following quotes track the beaver scenario in Conway:

- His well is up on a hill and it goes down beneath the stream and they keep chewing the pipe.
- Beavers don't bother me too much.
- I know we've had a beaver problem in town.
- And there's no way to take care of them (beavers) because trapping isn't allowed That's not our role to get rid of beavers. That's not a local decision.
- But his family did get sick because of them, cause they were drinking unclean water.

Note in particular the characterization of the beaver as a "problem," and furthermore, of beavers "not being a local decision." This becomes an issue because one consequence of this problem is unclean or contaminated water. The location of the problem is the well, which is individually maintained. This is suggestive of certain cultural propositions regarding water in this town.

In locating cultural propositions, a careful consideration of the meanings invoked and suggested by the key symbols is necessary[4] (Philipsen, 1986). First, consider that "wells" are conceived of as individual and private. Thus, the water supply is not in the realm of public regulation. That is unless the water in question happens to be a part of a river, stream, or wetland. At that point, the Conservation Commission becomes the authority with regulatory power. The Conservation Commission is thus positioned as having to solve problems. One problem individuals have regarding their water supply is with beavers. Beavers can affect the health of the water supply and subsequently the health of humans. An important proposition to be made about beavers is that they do not fall under that which is private and individual. In other words, the fact that beavers are protected from trapping makes them the responsibility of the state and other governing entities.

From this statement of cultural propositions, we can explore premises for dwelling as well as for being, acting, and feeling. The propositions suggest that in order to live in this place it requires that one exist in a somewhat antagonistic manner with nature. Furthermore, people live in nature differently than do animals, and that split should be preserved. This premise can be further clarified by positing the other premises mentioned. Premises for being are fairly prominent in the discourse of the townspeople of Conway. It soon becomes clear that when water is the topic, one must presume that people are individuals who must take responsibility for the quality of their water supply (or their "well"-being). Furthermore, government (including the Conservation Commission) is a constraint on that. Part of that constraint pits people and animals against one another in competition for a natural resource. This is of concern because individuals have rights to secure natural resources. Premises for acting suggest that people should act in such a manner as to preserve the link to nature's water supply. Thus, one should be able to protect one's own private water supply, even if beavers are the threat. One premise for feeling about water seems to be characterized by concern. One should be concerned about the threats to water including the threat of public water management. Understanding water and other aspects of the natural environment in this way seems to underlie the talk of the residents of Conway. Deerfield is a totally different story.

Deerfield

Deerfield is a small town located just to the east of Conway. It is bordered by the Berkshire foothills to the west and the Connecticut River to the east. The Deerfield River cuts through the northern part of the township, while the more heavily populated southern portion is drained by the Bloody Brook. The latter is part of the Mill River Watershed. Deerfield is significantly larger than Conway with a population of approximately 5,000 people. The town is largely agricultural with some industry and development, especially in the community of South Deerfield. The forested portions tend to be along the Pocumtuck Ridge and in the Mt. Sugarloaf State Reservation areas.

The key terms located in the discourse of the residents of Deerfield were significantly different than those of Conway. They were "water quality" and "government." The first term, "water quality," co-occurred with such descriptors as "atrocious," "bad tasting," "impure," "brown," and "sediment." The second key symbol, "government," co-occurred with "regulation" and the contrasting terms of "community" and "not business." The "community" as it is manifest in government and "not business" was offered as the valid responses to who should regulate water.

From the analysis of these symbolic clusters it is evident that residents of the town of Deerfield orient to their water differently than do the residents of Conway. Water in Deerfield is conceived and spoken of as impure and unclean in most respects (this includes drinking water which includes ground water and surface water or rivers). One threat to the water is bacteria. The local or community government is and should be responsible for water quality as this is the closest form of government to the people.

Arising from these meanings about water, a premise regarding notions of dwelling can be summarized in noting that water is impure and needs to be protected. This protection is the responsibility of the government; however, the government is not necessarily responsible for the poor quality of water. Thus, poor water and an impure natural environment are part of the conditions of life.

Whately

As one travels down the Mill River, he or she will eventually come to the small farming community of Whately. This town, bordered by the Connecticut River on the east and the Berkshire foothills on the west, is divided nearly in half by the Mill River with Interstate 91 cutting through the eastern third. Whately is interesting in that it has at least three distinct sections, each of which has its own water concerns. The western third is sparsely populated and heavily forested. All the residents here have private wells for a water supply. The dual reservoirs for the city of Northampton are both in this section of the town, which sees the West Brook drain into the Mill River. The center portion of town is more densely populated than the west and straddles the divide be-

tween the hills and the flatlands of the Connecticut River basin. This portion of town had, until fairly recently, a small private water company, which supplied most homes with water. As one moves east across the Great Swamp, the landscape changes and becomes relatively flat. This section of town is heavily agricultural, even though a significant number of private residents are continuing to move in as farmers sell off portions of land to developers. This section of town is now on town water, as is the center of town. The reason, however, is due to a contamination of the ground water supply by agricultural chemicals in 1986. If residents are not on the town water line (which residents must pay to bring to their homes) they must use a personal filtration unit and have their water tested at regular intervals. The aquatic history of Whately is indeed fascinating as it encompasses such a broad range of experience.

This community employs a rather unique discourse surrounding water as it has the collective experience of a major water crisis. Indeed this could be considered the central key term of the residents, "contamination." There are other key terms that exist as well, such as "well" and "water quality." Most individuals, however, knew about and would talk about the contamination. It was even referenced by those outside the community. Among some of the co-occurring terms with this central symbolic expression were "pesticide," "agriculture," "town water," "testing," and "community organizing." Clearly, this event had a profound effect on the manner in which the residents of Whately relate to their water.

"Well" was another key term. There are two distinct uses of the term "well" to be seen in the data. Both have to do with private wells as opposed to public wells. One, however, is used to designate a household in the contamination zone in which the term takes on a variety of meanings in relation to the contamination. The second usage occurs in West Whately and is more in line with the conceptualization of "well" in Conway. Terms such as "deep" or "good" were used in conjunction with the West Whately wells, while terms such as "threatened" were used in conjunction with the contamination wells.

While much of the discourse of the residents interviewed focused on the contamination, it is still possible to formulate cultural propositions from the above key terms. One proposition is that water is a necessary resource, which can be contaminated by agricultural practices. A water contamination is a crisis of significant enough proportion to warrant community organization and the formulation of a public water supply. If one chooses not to participate in the public problem-solving mechanism, then the responsibility for the upkeep of private wells is the individual's responsibility.

The cultural premises underlying this talk are interesting in that they play the presumptions about people, government, and responsibility—so easily defined in the previous two towns—off one another. As such a premise for dwelling is as follows: As one is to be responsible for the environment, one should act accordingly. Cooperation in the form of government is useful in achieving this end. The consequences of acting irresponsibly are grave and can lead to a damaging of the world. More than in the other municipally-based discourses, residents of Whately recognize an intimate relationship to the land and water.

Hatfield

As the Mill River becomes more pronounced in Whately, it flows south to join the Connecticut River in the town of Hatfield. Hatfield, a town of approximately 1500, comprises a "beautiful, pristine river delta," situated between the Connecticut river and the population center of Northampton. Land use is mostly agricultural with some industry. Residents hold a fairly positive view of the landscape with one even inviting a researcher involved with the project "to come visit us sometime." The water supply is public and is governed by a Conservation Commission, a Water Commission, and a Sewage Commission.

The communication produced by Hatfield residents differs significantly from the others in that no one formulated water in negative terms. Indeed each respondent noted that Hatfield has excellent water. Still, a variety of key terms presented themselves as significant. These were "good water," "reservoir/ filtration plant," and "meters."

One of the most significant observations to be made about the talk of residents of Hatfield is that each and every respondent said they had good water. This sentiment was very strong and implicated a host of other ways of orienting to the water through talk. The water was described by various individuals as "fantastic," "delicious," "clean," "tastes good," and "clear." These assessments speak well of the water quality for Hatfield. There were, however, other issues that were tapped into by discussing water. These issues centered around the installation of a filtration plant at the reservoir. Most thought the filtration plant was a fine idea, and served only to ensure the high water quality in the town. Others, however, saw it as a waste of tax-payer dollars and a major scam by the state to require a town with such nice drinking water to put in an unnecessary plant.

The only other key symbol was "water meters." While the existence of water meters was repeatedly

referenced, suggesting a certain prominence, these do not seem to play into the social drama surrounding the filtration plant at the reservoir. Perhaps this is due to a culturally resonant way of orienting to the government-private citizen dimension. Or perhaps it is due to the overall quality of water. Based on the situation in Deerfield, however, the latter does not seem to be the case.

The symbolic clusters grounding the discourse of the residents of Hatfield suggest several cultural meanings. The first is that water is a resource which, because of the water commission, is in a healthy state. The local government, therefore, is and should be responsible for the care of water. Water is a resource that needs to be actively cared for through such efforts as a filtration plant. The regulation of water is necessary. Dwelling in relation to water, in the town of Hatfield, is premised on the belief that the place is beautiful and one which is important. The beauty and health of the land should, therefore, be protected and preserved. This is done, of course, through the proactive response to natural resources by locally elected government officials.

The Discourse of the NREC Team: Talking "Systems"

The communicative systems outlined above show an orientation to water that is distinct and particular. The same water, however, is also the topic of another type of discourse,[5] one which is more abstract and general. This is the discourse employed by scientists and members of the watershed research team. After transcribing and reviewing the transcripts from the members of NREC, it became clear that the symbol "water" implicated several others.

Three key terms surrounding water in particular were immediately salient in the discourse of the team members. These were the terms "watershed," "system," and "process." The first term, "watershed," was clearly the most prominent as it was repeatedly produced by the interviewees both with and without explicit elicitation from the researcher. "Watershed" co-occurred with the symbols "management," "planning," and "boundary." The relationship between these terms can be expressed in the following cultural structuring of discourse:

1. Watersheds are natural boundaries.
2. These bounded and naturally occurring areas should be managed.
3. Planning is the key to successful watershed management.

The key symbol "system" co-occurred with the terms "interdisciplinary," "natural," "ecological," "social," and "boundary." The relationship here can be summarized accordingly:

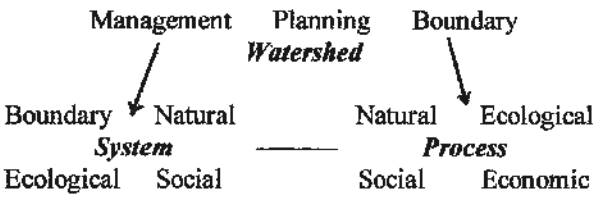
1. Systems have boundaries.
2. There are two types of systems, natural ones and social ones.
3. Natural and social systems are interrelated.
4. Systems tend to "nest" within each other.

The term "process" functions much the same way as the previously discussed term, "system," in that there is a broad range of phenomena described as being "in process." The key co-occurring terms are "natural," "ecological," "social," and "economic." These radiant terms relate to the key term, "process," according to the following organization:

1. Systems are in process.
2. The natural, social, and economic aspects of the world comprise a system (see proposition four above), which is subsequently, in process.

The three symbolic clusters can now be analyzed in terms of each of their relationships to the others. From this examination, several cultural propositions can be advanced. The following diagram highlights the relationships being discussed.

DIAGRAM 1
Relationships of Cultural Propositions



Each of the key terms shows an orientation to the natural environment not as a static entity, but rather as something that is constantly shifting and changing. Given these symbolic clusters, it is clear that there is a commitment to treating the natural environment as a system. This implicates certain orientations toward how the world works, which is, in this case, not consistent with the way the townspeople see the world. The overarching cultural proposition

could be stated rather simply. "Watersheds" are "systems" that are in "process." This cultural proposition implicates an orientation to the world as being interconnected and interdependent. The mutual influence of natural processes and social systems is made explicit in each of the key terms.

There are several cultural premises which render the above propositions sensible. The one of concern for this project, a premise of dwelling, can be stated as such: To live is to live in a system, and because systems influence each other, one should act responsibly through ecological planning and management. This is further justified by the care one should feel for the environment. Thus, the premise for dwelling in the world maintains that people are separate from nature, but that, through proper and responsible action, people can preserve the natural order.

A Pervasive Public Theme: The Individual versus Government

It is clear from the analysis of the key terms that the themes surrounding the discourse of the towns differs from that produced by the team members. If we are to treat these as underlying premises which guide talk about water, we see that the discourse is grounded in terms of "issues," "sources," and "quality." The issues for Conway seem to be the beavers, the state of the wells, and the authority of the Conservation Commission. The issues for Deerfield include the water quality and the role of government regulation. For Hatfield, the issues, aside from the high quality of the water, are the filtration plant and the activities of the water commission. For Whately, the main issue is contamination.

Looking across these issues, it is clear that water is discursively oriented to in terms of its source. From the wells of Conway and Whately to the reservoirs in Deerfield and Hatfield, each of the sources invoked a kind of talk about water that reinforced the orientation toward it as an issue and also as a resource. This latter concept, resource, is an area which begs further exploration. Perhaps one reason why people orient to water in terms of issues as opposed to systems is because it is conceptualized as a resource for human consumption and not as a vital component of a broader ecological system. The commodification of water reinforces its representation as a thing to be used and consumed and thus, plays against a representation of the water as a vital component to all environments. Related to this theme of source and resource is the one of quality. As people are concerned about water quality, they will orient to water in a particular way, especially given a potential cause of bad quality water. For instance, most people noted that water becomes polluted by factories and dumping in the waterways. Only a few noted that pollutants can be carried in ground water. This orientation to point source pollution reinforces the notion that there is a source of polluting and that, through government regulation, it can be remedied. Talk which would indicate an understanding of non-point-source pollution was virtually non-existent in the data. This is not to say, however, that there is a lack of understanding. Rather, it is to suggest that it is not prominent. The less prominent theme concerning the distinctness of town boundaries is evident in people's talk about who should participate in the public conversation regarding water. Not one person, aside from one individual who was interested in serving on the proposed watershed council, suggested that water issues and water quality could be dealt with by talking to other people in other towns. In fact, on the occasions when I ran into people willing to talk who lived in other towns, they made it explicit that they knew very little about the problems of other towns, nor did they care to know.[6] Water was seen as a local issue to be dealt with by individuals or local officials. This is anything but surprising, yet the enduring quality of this conceptualization is important for understanding the difference between the two major types of discourse surrounding water in this project.

These themes, while important, seem to point to a more fundamental one concerning the role of government versus the responsibility of individuals when it comes to the protection of water. In Conway, for instance, individual responsibility concerning water is valorized while those aspects which fall under the purview of governmental responsibility are denounced. This becomes evident through the orientation toward wells as private and individual water supplies and the positioning of the beaver problem within the confines of the state. A water quality issue concerning a well would be acted upon by the individual, perhaps with the assistance of the Conservation Commission, and would be seen as a normal occurrence that one must grapple with when living under the conditions in which residents of this rural hill town find themselves. When the problem stems from something that is regulated by the state or federal government, then the problem becomes more contentious. What becomes active in this case is the underlying tension between individual and government responsibility.

The case of Conway can be contrasted with that of Deerfield or Hatfield. Both of these towns have well-established water commissions that have assumed the responsibility for the care of water. In both cases, government is seen as the proper mechanism through which to deal with problems concerning water quality. Government is seen as the proper venue regardless of the state of water quality. Regardless of the negative sentiment concerning water quality in Deerfield or the

positive one in Hatfield, there is a presumption in these towns that government is and should be the way to affect any sort of change regarding water.

Whately provides an interesting example in that the individual/government dimension plays out a bit differently due to a shared environmental crisis. Prior to 1986, the majority of residents owned private wells. This created a sense of individual responsibility concerning water. After the contamination and the installment of town water, the local government took a more active role in the maintenance of water. Yet, individuals are still concerned with testing and seem to be rather cognizant of the fact that water is actually fairly fragile. The government/individual responsibility dimension is renegotiated such that either end of the dimension is active at particular times. The data at this point suggest that individual responsibility is prominent during moments of elicited talk, such as in an interview, and in interpersonal settings. Government responsibility is prominent at distinctly public communication scenes, such as town meetings.

From this set of data, we can see several underlying premises necessary for and activated in the talk from each town. Themes surrounding water source, water quality, and threats to water supply are all active at some points for some people in these communities. Arising from the premises surrounding what it means to be a person in these four western Massachusetts towns, we see a tension between who should and who is assum(ing) responsibility for water. Further research will tell whether there are other cultural dimensions which can be used to compare these and other towns.

Some Implications: Reconceptualizing Space and Place

So, what does all this mean? Practically, this research suggests that those people interested in the reconfiguration of water policy (extension educators, water commissioners, EPA officers) must not only pay attention to the needs and concerns of the residents in the areas they wish to manage, but they must also understand the local systems of communication which serve to render particular places distinct. They must understand that it is in these communicative systems that people form, alter, and sustain their social worlds. Part of that world is people's relationship to the very land on which they live.

Theoretically, this research suggests that there may be more than just a clashing of two discursive systems operating in a community at any one time. What may be at odds is a difference in how one experiences place. By experience, I mean a lived experience *(Erlebnis)* not a passive one *(Ehrfahrung)*. An experience with place that occurs every minute of every day that one finds oneself somewhere. For it is through this type of experience that people seem to relate to their water and other aspects of the natural environment. It is not an experience of a watershed defined by natural boundaries. One way to account for this difference may be to examine the notions of space and place.

In the introductory chapter to the recent book, *Senses of Place*, the philosopher Edward Casey (1996) wonders what would happen if, theoretically, scholars and researchers rethought the traditional, rational ordering of space and place. He argues that most researchers (anthropologists to be exact) subscribe ultimately to an orientation wherein space precedes place. They take space to be fundamental and place to be the mere partitioning of that space. This is a result of what Husserl (1970) calls the "natural attitude." It is an attitude that presumes and privileges traditional, often Western conceptions of science. However, what if it were the case that place were treated as primary to space? Thus, places become the 'zero-point' from which all other knowing occurs. Indeed, Casey convincingly points out that approaching the concept of place phenomenologically will result in the realization that humans have always and already been in place. While his exposition is quite thorough, we can see some rather profound implications for this project by simply reordering place and space. Indeed it seems that the townspeople, in their primary experience of the water they drink and use, might be orienting to this aspect of their natural environment as radically placed. The discourse stemming from the university and other governmental agencies, on the other hand, have a secondary experience of the same water. This experience is made possible through the traditional ordering of space preceding place. It is clear that many scientists interested in the management of water proceed from map to terrain. In doing this the presumption must be to take place, in this case the watershed, as a position on a coordinate system. For the people, however, their place is not merely a position. It is an experience of the first order. It is an experience of what Tilley (1994) calls somatic and perceptual space and what Casey calls the bodily experience of places. It is one in which lives are lived sensually with a bodily consciousness. The townspeople in this case do not experience their water by proceeding from map to terrain. Rather, they live and organize their communicative systems from terrain to map. The experience is one that takes place to be fundamental and space to be secondary.

Conclusion

The Mill River Watershed has been the focus of intense scrutiny from a number of academic vantage points. This project is but a small part of the larger endeavor which sees multiple disciplines and multiple agencies apply their own theoretical approaches to understanding the Mill River. This ethnographic account of the talk conducted within the watershed will hopefully provide a piece of the puzzle as members of the Natural Resource and Environmental Conservation team strive to understand how best to implement watershed management strategies. That understanding must begin with an understanding of the talk which is habitually used by the scientists to refer to nature and place. In uttering the term "watershed," an entire system of discourse becomes active which orients the speaker to nature in a very specific way. Likewise, in uttering the terms prominent in the communities, a system of discourse concerning issues and uses will become activated. Any effort to enter into a public conversation by members of the NREC team must take this discrepancy into consideration. The team and the four communities of the Mill River Watershed each have their own way of talking about water and orienting to the natural environment. The organization of these systems of talk must be understood if any shift in water management policy is to be tenable.

Notes

1. A watershed is any drainage area defined by natural boundaries. Often times the drainage basin of a river can be considered a watershed; however, some watersheds are drained by a low point like a lake or swamp.

2. This approach views communication in a particular manner with a variety of assumptions. These assumptions are that every communication is spoken it will comprise a system. This system will exhibit some sort of patterning or structure. Each structured system will vary across cultures. Furthermore, these communicative systems are social, thus suggesting that people derive meaning from their interactions.

3. This set of interviews was conducted over the phone. A random sample for each of the four towns was taken from the phone book. A name was picked arbitrarily from the "A" section and called. Every fifth person from the particular town being examined was then called. After five unsuccessful attempts (when people declined to be interviewed), the procedure was repeated with the next letter in the phone book. Using this method allowed for the entire phone book to be sampled for the interviews. Each interviewee was asked if the conversation could be recorded. Only upon agreement was the tape recorder turned on. Most successful interviews (individuals who were interested in talking about their water) were recorded. Only twice did someone grant an interview and not wish to be recorded. The results of the phone interviewing yielded twenty interviews, five from each of the towns.

4. Schneider (1975) argues that one way we can know that communicative systems form cultures is through a coherence of seemingly discrepant patterns. Culture makes these cohere through their meanings. Hence, the attempt here is to make "cultural sense" of these terms.

5. In his discussion of theoretical concepts, Carbaugh (1996a) suggests that there are three types of discourse: actional, affiliational, and topical. These discourses serve separate functions. It is possible to compare the topical discourses under discussion here as if these were actional or affiliational as well. Perhaps, this would allow for a clearer understanding of the system of talk.

6. These instances were all in South Deerfield. The first was at the Deerfield Market, which is run by three people, none of whom live in Deerfield. Two live in Hatfield and one in Whately. Each noted that they thought the water quality in Deerfield was bad, but that they didn't know anything else. The other occasion was an individual who lives in Conway, yet works in Deerfield. She noted that she would never drink the water there, but that she didn't know much about it. Still another example is from a student who lives on a farm in Whately, yet attends school at Frontier Regional Junior and High School. He also noted, "I would never drink the water there."

References

Bernard, H. R. (1994). *Research methods in anthropology: Qualitative and quantitative approaches.* Thousand Oaks, CA: Sage.

Burke, K. (1941). *The philosophy of literary form: Studies in symbolic action.* Baton Rouge: Louisiana State UP.

Cantrill, J. G. & Oravec, C. L. (Eds.). (1996). *The symbolic earth: Discourse and our creation of the environment.* Lexington, KY: UP of Kentucky.

Carbaugh, D. (1988). Cultural terms and tensions in the speech of a television station. *Western Journal of Speech Communication, 52,* 216-237.

Carbaugh, D. (1994). Cultural communication and intercultural encounters: Personhood, strategic action, and emotions. *Teoria Sociologica, 11*(3), 17-45.

Carbaugh, D. (1995). The ethnographic tradition of Philipsen and his associates. In D. P. Cushman & B. Kovacic (Eds.), *Watershed research traditions in human communication theory.* Albany, NY: State U of New York P.

Carbaugh, D. (1996a). Naturalizing communication and culture. In J. G. Cantrill & C. L. Oravec (Eds.), *The symbolic earth: Discourse and our creation of the environment.* Lexington, KY: UP of Kentucky.

Carbaugh, D. (1996b). *Situating selves: The communication of identity in American scenes.* Albany, NY: State U of New York P.

Casey, E. (1996). How to get from space to place in fairly short stretch of time. In S. Feld & K. H. Basso (Eds.), *Senses of place.* Santa Fe, NM: School of American Research Press.

Environmental Protection Agency. (1999). Office of water, oceans, and watersheds. [On-line] Available: http:www.epa.gov/owowwtr1.

Herndl, C. G. & Brown, S. C. (1996). *Green culture: Environmental rhetoric in contemporary America.* Madison: U of Wisconsin P.

Husserl, E. (1970). *Logical investigations.* New York: Humanities.

Hymes, D. (1962). The ethnography of speaking. In T. Gladwin and W. Sturtevant (Eds.), *Anthropology and human behavior.* Washington, D.C.: Anthropological Society of Washington.

Hymes, D. (1972). Models of the interaction of language and social life. In J. J. Gumperz & D. Hymes (Eds.), *Directions in sociolinguistics: The ethnography of communication* (pp. 35-71). New York: Holt, Rinehart, and Winston.

Jagtenberg, T. & McKie, D. (1997). *Eco-impacts and the greening of postmodernity: New maps for communication studies, cultural studies, and sociology.* Thousand Oaks, CA: Sage.

Lindsley, S. L. (1999). Communication and 'The Mexican way': Stability and trust as core symbols in maquiladoras. *Western Journal of Communication, 63*(3), 1-35.

Peterson, T. R. (1997). *Sharing the earth: The rhetoric of sustainable development.* Columbia: U of South Carolina P.

Philipsen, G. (1989). An ethnographic approach to communication studies. In B. Dervin, L. Grossberg, B. J. O'Keefe, and E. Wartella (Eds.), *Rethinking communication, vol.2: Paradigm exemplars.* Newbury Park, CA: Sage.

Philipsen, G. (1992). *Speaking culturally: Explorations in social communication.* Albany, NY: State U of New York P.

Schneider, D. M. (1975). Notes toward a theory of culture. In K. H. Basso & H. A. Selby (Eds.), *Meaning in anthropology.* Albuquerque, NM: U of New Mexico P.

Tilley, C. (1994). *A phenomenology of landscape: Places, paths, and monuments.* Oxford, England: Berg.

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Mountain Bicycling and Wilderness: Navigating Unknown and Dangerous Rhetorical Terrain

Jim Hasenauer
Department of Communication Studies
California State University–Northridge, CA

Abstract

This paper examines the rhetorical situation facing mountain bicycle advocates as they evolved a position on bicycle access to designated federal wilderness. It first examines the historical background of back country bicycling and the 1964 Wilderness Act. It notes that in the 1964 act bicycles were not expressly forbidden from designated wilderness. Originally "mechanized transport" was defined as "propelled by a nonliving power source." Of course, the 1964 Wilderness legislation predates the invention of the modern mountain bicycle in the 1970s and its enormous popularity since the mountain bike became generally available. In 1984, language was inserted into the Code of Federal Regulations to expand the definition of "mechanized transport" to specifically ban bicycles.

Early mountain bike advocacy in the late 1980s set aside the wilderness issue and focused attention instead on access to recreational trails on non-wilderness public lands. Early attempts by anti-wilderness groups to appeal to cyclists were rejected and mountain bicycle organizations took clear steps to align with mainstream environmental interests.

Today, the rhetorical terrain is different. The acceptance of mountain bicycling and the growth of mountain bike advocacy organizations has been concomitant with the acceptance and growth of advocates for new designated wilderness. In the past few years the number and size of proposed new wilderness areas, especially in California and Utah, has led to both dialogue and tension between these groups. There is also a dialogue and tension within the mountain bicycle community itself. The problem is clear. New wilderness will exclude mountain bicyclists. Should cyclists support wilderness designation for its intrinsic environmental benefits and sacrifice their own potential recreational interests or should they try to limit or even oppose new wilderness and preserve trail access? Should new designations be created or should the 1984 bike ban be revisited?

These questions are explored in the context of the proposed Utah Wilderness as it is the first major wilderness planning process where mountain bicycling organizations have been included in the planning process. In 1998, the Utah Wilderness Coalition (UWC) invited the International Mountain Bicycling Association (IMBA) to become a member. This paper examines the rhetorical demands on IMBA as it dealt with different internal and external audiences and a lack of consensus on the wilderness issue. It examines the position of the mountain bike organization as a rhetorical one developed in light of the competing needs to reflect the views of its membership and to maintain principled, yet fragile, alliances with the environmental community. Finally, the paper identifies issues which polarize mountain bike activists and Wilderness advocates that need to be addressed.

Introduction

In a previous paper, I examined the growing acceptance of mountain biking as an appropriate use of trails on public land and the legitimization of mountain bike organizations as they moved from strangers to stakeholders to partners in the recreational trails community (Hasenauer, 1998c). In that paper, I demonstrated that facts regarding the safety and environmental impacts of trail bicycling had exonerated cyclists from a number of anecdotal charges that they were inappropriate on recreational trails, and that the ethic of volunteerism which has emerged in mountain bike organizations has facilitated their acceptance by land managers and other user groups. While that is generally true, a significant polarizing issue emerges from the ban on bicycling in designated federal wilderness. Because this issue is potentially divisive, representatives of mountain bicycle organizations have been cautious, some would say overly cautious, in crafting policy and position statements regarding both existing and proposed Wilderness.

In this paper, I'll offer some preliminary analysis of an extremely complex rhetorical situation for bicycle advocates, the case of federal wilderness designation. In short, bikes have been banned from designated wilderness since 1984. At the same time, mountain bicyclists have been largely supportive of land preservation and other environmental goals. Where

do bicyclists stand when proposed wilderness designation threatens to exclude them from existing or potential riding areas? While this is a practical or philosophical question for individual cyclists, the question of where mountain bike advocacy groups should stand has significant practical and rhetorical consequences in public land policy development.[1]

Wilderness

The 1964 Wilderness Act is a milestone in environmental history for its recognition that there must be places set aside in their pristine state–wholly untouched by development, roads, vehicles and other human-made changes. The Act envisioned "untrammeled" land where humans are only visitors and do not remain. The Act immediately set aside 9.1 million acres of wilderness (Stegner, 1990).

The Wilderness Act did not forbid human visitation, in fact it emphasized "having opportunities for solitude or unconfined type of recreation" but it took steps to minimize human impacts. Section 4c stipulated "there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport" (Public Law 88-577) (16 U.S.C. 1131-1136). The Code of Federal Regulations (CFR) defined "mechanical transport" as "propelled by a non-living power source." The 1964 Wilderness Act allowed bicycle use, but there were very few bicyclists riding in wilderness areas.

Mountain bike technology had not been invented and the bike technology of the time was not well suited to trails on natural terrain. Bikes were either heavy, single- speed or lighter, fragile, 10-speed "racing bikes." While there is a history of bicycle travel on dirt since the bicycle came to the United States in the late 1800s and some of it took place in what would become wilderness, in the 1960s and '70s, the numbers were small enough to be unnoticeable.

Mountain Bikes

People had always modified bicycles to go off-road. In the early 1970s, in Marin County, California near San Francisco, enthusiasts riding these modified "klunkers" began to ride and race regularly on local trails and fire roads. In 1977, Joe Breeze, one of those riders, built ten bike frames specifically for riding off-road. Most people identify this as the birth of the modern mountain bike. A few small custom builders followed suit and the activity began to get attention in road bicycling magazines.

In 1981, the Specialized Bicycle Company introduced the first mass-produced mountain bicycle, the "Stumpjumper," and by 1984 a number of bike companies were producing mountain bikes. The mountain bike revived a stagnant bicycle industry. The bikes were relatively light, multi-geared and strong enough to endure long off-road rides on rough, rocky, primitive trails. Technological advances in materials, suspension and gearing continued.

When mountain bicycling first became popular, land managers didn't know what to expect from the activity or its participants. Many were justifiably cautious. There was an abundance of data used to guide decisions on other types of motorized and non-motorized recreation, but virtually nothing about off-road bicycles. The concerns and complaints of hikers and equestrians, especially in urban fringe areas, led some land managers to close trails.

Mountain Bike Advocacy Organizations

Cyclists organized to prevent and reverse these closures and an incipient social movement was born. In 1983, the National Off Road Bicyclists Association (NORBA) was founded and took up the missions of developing rules for competition and being the "organized voice of off-road bicyclists to secure access to public lands."

Early on, four planning issues emerged: environmental impacts, user safety, liability concerns and most significantly, user conflict. The cyclists themselves played a pivotal role in the framing of these issues. They argued for fact-based decision-making, empirical evidence over anecdote, shared use over exclusion or separate facilities and education as the primary mode of regulating the activity. Now a great deal of experience from more than twenty years of activity has provided some empirical guidance on these issues, but all continue to require new research and dialogue.

Most land managers are charged first with protecting resources and the primary question regarding mountain bike use was, "what are its impacts"? The large body of data on motorized trail use and the resemblance between bicycles and motorcycles led some to believe that impacts were similar. Cyclists countered that the power differential was significant and that bike impacts were closer to those of other non-motorized trail users. In most places, bicyclists went out of their way to distance themselves from motorized trail groups. Studies have concluded that mountain bike impacts are not significantly different than hiker impacts in most cases. Both of these uses tend to have fewer impacts than do equestrians (Wilson & Seney, 1994; Cessford, 1995).

The second concern has been one of safety. Is bicycling safe for the bicyclist and do bicyclists pose a threat to other trail users? Some hikers and equestrians argue that the speed differential and risk of surprise make bikes inherently unsafe on trails. Cycling advocates claim that education and responsible riding

are the solution. Bike advocates point out that while there is potential danger in all outdoor recreation, the number of mountain bike fatalities and serious accidents is minuscule given the number of riders. In both recreation and competition, most mountain bike accidents are minor and predictable (Chow, Bracker, & Patrick, 1993; Kronisch, Pfeifer, & Chow, 1996). Accidents involving bicyclists and other trail users are extremely rare. Safety concerns raise questions of liability for both public and private land managers. Bike organizations, like those representing rock climbers, backpackers and others, urge cyclists to take personal responsibility for themselves and their equipment.

Ultimately, concerns about environmental impact, safety and liability give way to the thornier problem of user conflict. There is an emerging literature here (Moore, 1994; Watson, Williams, & Daigle, 1991) and communication professionals have much to offer. Among the most significant findings is the affinity between cyclists and hikers (Hollenhurst, Schuett, & Olson, 1995) even though hikers do not realize it (Watson, Williams, & Daigle, 1991). There has also been the consistent finding that the perception of user conflict is often exaggerated by the multiple complaints lodged by a small number of people (Moore, 1994).

One user conflict issue is the question of aesthetic or philosophical appropriateness. The bike is a machine; it is manufactured; it has wheels and gears; Native Americans didn't have it. Does it belong on back country trails? Most cyclists see themselves as human scale and muscle-powered with technology not much different than titanium backpack frames, technical clothing or climbing gear. This is not a question of fact and will probably not be resolved by data. While it has been raised in many local, state and regional parks, it is this value issue that underlies the wilderness controversy.

In 1984, the Code of Federal Regulations (CFR) was changed and bicycles were specifically identified as a form of mechanical transport. Mountain bike travel was banned in all Wilderness areas. At the time, bicyclists were not aware of any public process that led to the change in the CFR, and it was treated as one more closure. While many of the early closures on recreational park lands were reversed through the efforts of cycling advocates (Hasenauer, 1998c), the wilderness closure has stuck.

The new regulation created immediate problems where bikes were already riding trails. A case in point was Point Reyes National Seashore, a 71,000-acre park near San Francisco where 24,200 acres of wilderness were designated in 1976. Point Reyes is in Marin County, where the modern mountain bike was invented and from the very beginning there was a great deal of mountain bike use on both its wilderness and non-wilderness trails and roads. The most popular riding was in the wilderness areas and when the park closed trails to bikes in response to a directive from Washington,

> The reaction of local trail riders was immediate. By September 29, the date of the National Seashore Citizen's Advisory Committee meeting, we had petitions with over 1200 signatures demanding public hearings. The meeting was attended by over fifty fat tire friends. Many chose to speak to the commissioners on subjects such as the historic use of bicycles in the park (and in the same area before it was a park), environmental impact, user compatibility and the trails system so ideally suited to bicycles. . . The Advisory Committee reacted favorably and decided unanimously to draft a letter to the director of the National Park Service urging him to seek a formal opinion from the Solicitor General." (Livingston, 1984, p. 17)

The policy stood.

NORBA was one year old, a small, relatively new organization ill equipped to take on federal land-planning policies. Closures were escalating also on non-wilderness recreational trails, especially around population centers. Nascent bike advocacy organizations began to concentrate their efforts on these. Wilderness closure was not a high priority. By 1988, NORBA focused exclusively on racing. It relinquished its advocacy work.

International Mountain Bicycling Association

It was clear that organizations were necessary to earn acceptance and to facilitate communication with land managers and other stakeholders. Clubs tended to form first near cities where dense population and too little open space intensified management issues. Clubs almost always organize around a fixed place, a trail or trail system, a park or a mountain range. Mountain biking is diverse, encompassing a range of riding interests and styles from the occasional bike path rider to world-class competitive athletes. Recreational riders make up the bulk of the sport's numbers. In the U.S., they are served by six national, monthly magazines specifically aimed at mountain bike enthusiasts.

The increasing numbers of closures near cities and NORBA's abdication led to the formation of the International Mountain Bicycling Association in 1988. IMBA's objectives were:

1) to promote the sport of mountain bicycling by educating riders in safe, responsi-

ble and courteous cycling;
2) to facilitate the formation of local mountain bicycle clubs;
3) to act as a clearinghouse of information for the advocacy of land access at all levels of government;
4) to lead the advocacy effort at the national level; and
5) to promote appreciation of and care for recreational lands by mountain bicyclists. (IMBA, 1988, p. 2)

Among the first orders of business was the adoption of codes of conduct while riding. The NORBA code was the first in 1983. IMBA's six Rules of the Trail were adopted in 1988 and have become the standard. They have been translated into several languages and are routinely used on signs, bike shop handlebar hangtags, pamphlets and other materials to guide rider behavior:

IMBA Rules of the Trail
Ride on Open Trails Only
Control Your Bicycle
Never Scare Animals
Always Yield Trail
Leave No Trace
Plan Ahead

Like many advocacy groups, IMBA was first run by volunteers. In 1993, an Executive Director was hired and now there is a small professional staff, but it still relies greatly on volunteer efforts. In 1999, there were some 10-15 million mountain bicyclists, more than 300 local mountain bike clubs, and IMBA–with more than 14,000 members–is widely acknowledged as the representative of organized mountain bike advocacy.

From the start, IMBA's priorities were securing access to recreational trails in non-wilderness areas by encouraging mountain bicyclists to work with environmental groups and other non-motorized trail users. These efforts have done much to reduce conflict and establish partnerships. Cyclists undertook a number of activities to address concerns about mountain bike use. These enhanced their credibility and perceived legitimacy. Bicyclists were building alliances with other groups (Hasenauer, 1998c).

Volunteerism has become an important ethic in mountain biking. IMBA encourages all mountain bicyclists to contribute at least twenty hours a year of volunteer service to their local parks. Organized bicyclists now contribute hundreds of thousands of hours of trail building and maintenance. The first programs were established locally and then publicized through IMBA as models that could be adopted in other places. As IMBA grew, some programs became coordinated from the national office in Boulder, Colorado.

There are mountain bike skills classes that emphasize not only technical riding skills, but minimum impact riding and trail etiquette. When a bicycle magazine runs a story or ad that is perceived as environmentally or socially irresponsible, readers write in to protest. The editorial and advertising contents of the magazines have changed considerably over the last ten years. There is still a great deal of emphasis on racing, technology and performance; but there is now a consistent portrayal of environmental and social obligations and a diversity of rider demographics, skill levels and riding preferences is presented. Mountain bicyclists have also integrated their educational material into the well established Leave No Trace and Tread Lightly programs. Most mountain bike guidebooks have a section on responsible trail riding.

There are a number of local volunteer patrols who function as roving interpreters, peer educators, and first aid providers. These are loosely affiliated under the National Mountain Bike Patrol based on a ski patrol model. There are youth programs taking at-risk or inner-city kids on mountain bike field trips. There are partnerships with scout and school groups. There are even joint social events to bring hikers, equestrians and cyclists together. With the sponsorship of Subaru America, IMBA has two full-time, two-person Trail Care Crews traveling around the United States. Each team has technical expertise in trail planning, construction, and maintenance. They work with land managers and local volunteers on trail projects.

Cycling groups have become involved in public lands protection through lobbying for land acquisition funds and by attempting to monitor and control development on or near open space. Sprung (1997) identifies a number of local projects where mountain bicyclists raised significant funds for public land acquisition. Mountain bicyclists were active with other environmentalists in the legislative campaign which led to the passing of the 1998 TEA-21 transportation bill allocating millions of dollars for trails, alternative transportation facilities and other transportation enhancements. Mountain bicyclists have joined the campaign to revitalize the Land and Water Conservation Fund and are active in the campaign organization at local, regional and national levels.

Bicycle advocates have established programs to encourage racers to act as spokespersons and role models for the sport. These have included giving racing points for volunteer trailwork, placing responsible riding messages in interviews and involving racers in events for youth.

Mountain bike advocates have convinced the bicycle industry to support these advocacy and educa-

tional efforts. Most bike manufacturers are members of IMBA and many have taken on special projects to promote responsible riding. The American bicycling industry had been politically apathetic in comparison to other corporate sectors which have lobbying and legislative affairs programs. The mountain bike trail access issue and the road bike alternative transportation movement has awakened an interest in political work. A new organization, Bikes Belong. has recently been established to coordinate lobbying efforts.

These initiatives and activities, mostly concentrated on trail opportunities in parks and recreational lands, characterize the bulk of mountain bike advocacy over the last twelve years.

IMBA and Wilderness

Still, the wilderness controversy loomed. In the very first issue of IMBA's newsletter, an article indicated that a favorite cycling trail in the Los Padres National Forest in California would be closed to bikes if the Sespe River drainage was declared wilderness (Douglass, 1988). Talks with the land manager, local activists, politicians and others indicated that the Sespe trail probably could have been placed outside wilderness boundaries if organized bicyclists had been involved in the planning effort. For cyclists, this was an early lesson in the significance of land-use planning. Being at the table during preliminary wilderness discussions became a major tenet in IMBA's approach to the issue. The Sespe was declared wilderness in 1992.

On August 3, 1989, Congressman James Hansen of Utah offered HR 3172, an amendment to the 1964 Wilderness Act, that would allow bikes in wilderness (IMBA, 1989). This was a surprise to mountain bike advocates and its implications were widely debated in the mountain bike community. The position that emerged was a rhetorical one. While the IMBA felt Hansen's position was correct, it was unwinnable. Furthermore, supporting it would alienate bicyclists from environmental, hiking, and equestrian groups in other advocacy discussions. Finally it was felt that an amendment to the Wilderness Act was bad precedent and unnecessary, since cyclists' exclusion was by regulation in the CFR rather than in the legislation itself (Hasenauer, 1989). The Hansen bill died in committee.

The Hansen proposal was a catalyst for more discussion on accommodating bikes under current or more favorable wilderness regulations and the next several IMBA newsletters featured letters to the editor and guest editorials on the issue. Suggestions included: new land use designations which would provide Wilderness-like protection from economic exploitation, but accommodate more non-motorized recreation; a rubric of Wilderness tiers or zones much like the Recreational Opportunity Spectrum; attention to wilderness boundaries; cherry-stemming non-motorized trail corridors; and especially the importance of preserving access to existing traditional mountain bike routes. In any case, advocacy activity and policy development were still focused primarily on trail access on non-wilderness public land and especially in urban fringe areas where there is too little open space and recreational demand is high. In these discussions, bike advocates often argued, "we are not talking about wilderness."

Even the language was problematic. In ordinary language, the word "wilderness" is evocative and ambiguous. It conjures a sense of natural terrain on a grand scale. At one level, readily understood by experienced bicyclists, the very essence of the mountain bike experience is to be enveloped by wilderness. In public land policy deliberations, however, bicycle advocates learned to routinely distinguish between "big W", designated Wilderness, and "small w", wilderness as wildland. For the most part, bike advocates eschew using "small w wilderness".

In 1991, the Wilderness Society made several public statements supporting "appropriate, expanded access for mountain bikes on public lands (other than wilderness) and mountain bike use on trails where appropriate" (DeMeglio, 1991, p. 1; IMBA, 1991, p. 3). Ron Tipton, the field operations director of the Wilderness Society, joined the IMBA Board of Directors. The Wilderness Society support was taken as evidence of the growing acceptance of mountain bikers by environmental groups and emphasized the importance of avoiding polarizing issues like wilderness (Kelley, 1991). IMBA encouraged individual cyclists to become informed and make up their own minds on the wilderness issue, but avoided supporting or opposing "wilderness" because it was potentially divisive.

By 1992, IMBA had begun strategic planning and was defining its environmental identity with land preservation as one of its major goals. It had examined the developmental processes of groups like the National Audubon Society and American Rivers and determined that like them, IMBA needed to work for land preservation–not just for its utilitarian value but for its own sake. IMBA leadership felt that this view was widely shared by IMBA members and several studies seem to bear this out (Watson, Williams, & Daigle, 1991; Moore, 1994; Bjorkman, 1996). One study of IMBA membership by Hollenhurst, et al. (1995) found that "mountain bike opinion leaders are overwhelmingly biocentric in their thinking, believing that nature has intrinsic value exclusive of what it does for humans, that humans do not have the moral license to infringe on this right, and that many of our environmental problems are rooted in our societal tendency to dominate, control, and exploit nature" (p. 11).

Meanwhile anti-wilderness groups stepped up their appeals to mountain bikers. It was clear they saw the emerging alliance between cyclists and environmental groups threatening. The California Desert Protection Act mobilized large numbers of anti-wilderness constituencies, including motorized trail user groups. For the most part, IMBA sat it out. Its only involvement was successfully supporting a local club in trying to keep the Palm Canyon area near Palm Springs outside wilderness boundaries (Maag, 1993). Eight million acres were designated wilderness in 1994. IMBA took no position on the legislation.

The 1993 Colorado Wilderness Bill passed with little controversy in the cycling community. While a good number of trails were closed to bikes, a compromise in the Fossil Ridge area of the Oh Be Joyful Valley created a National Recreation Area that restricted development, but allowed both motorized and mechanized trail use. The planning for Colorado Wilderness had begun in 1981 and cyclists had not been involved until later in the process. IMBA's newsletter editor, Gary Sprung, in his position with the High Country Citizen's Alliance, was involved in securing the wilderness (IMBA, 1993).

A significant turning point in bicyclist involvement in wilderness planning occurred in June 1993, when a local IMBA club, the Utah Mountain Bike Association (UMBA), formally endorsed the 5.7 million-acre Utah Wilderness proposal offered by the Utah Wilderness Coalition. The mountain bikers had examined the various proposals, were satisfied that many roads had been cherry-stemmed out of the Wilderness and suggested some boundary modifications to maintain access to some traditional trails near Moab. UMBA director Douglas Alley said:

> The vast majority of UMBA's members feel that there is a place for all of us to enjoy our leisure activities and so it should remain. To our way of thinking, there is only a finite amount of unspoiled terrain left and setting aside some now while it still exists is critical for the enjoyment of future generations as well as enhanced protection of the land from encroaching industrialization." (Sprung, 1993, p 4)

Working relationships were developing between mountain bike and mainstream environmental organizations. In 1994, after six months of mediation, representatives of the Sierra Club and IMBA met in Park City, Utah and agreed on five principles:

1. To work for Wilderness, park and open space protection;
2. That mountain bicycling is a legitimate form of recreation and transportation on trails, including single track when and where it is practiced in an environmentally sound and socially responsible manner;
3. That not all non-Wilderness trails should be open to bicycle use;
4. To create joint projects to educate all non-motorized trail users;
5. To encourage communication between local mountain bicycle clubs and Sierra Club entities. (IMBA, 1994, p. 1)

The issue of access to wilderness was not an important part of the dialogue. IMBA reiterated that its priorities were on non-wilderness recreational lands and wanted Sierra Club support for more open trails on these lands. In terms of wilderness specifically, IMBA argued that its main interest was to be at the table when boundaries were being drawn and to try to maintain access to significant riding areas. IMBA did not agree that bicyclists would never try to secure bike access in existing wilderness, but assured the Sierra Club that such a move was years away. Rudy Lukez, chair of the Sierra Club's Public Lands Committee, said, "Our discussions throughout the weekend demonstrated the common environmental interests of the Sierra Club and IMBA. We share the same desire to provide diversified non-motorized recreational opportunities while protecting the land. Sierra Club members are mountain bikers too" (IMBA, 1994, p. 4). In April 1995, IMBA joined the Sierra Club, the National Audubon Society, the National Resources Defense Council and more than twenty other environmental groups in endorsing and publicizing the Environmental Bill of Rights urging the 104th Congress to maintain and strengthen environmental protection in the United States (Hasenauer, 1995).

The rhetorical impact of IMBA's policies and programs was that mountain bicyclists had been generally successful in establishing their appropriateness and legitimacy. They had working relationships with land managers at federal, state and local levels. They had cooperative relationships and ongoing dialogues with other trail user and environmental groups. New back country trails in non-wilderness were being opened to bikes and many of the trails that had been closed to bikes in the 1980's had been reopened. (Hasenauer, 1998c).

Relationship with the Utah Wilderness Coalition

In 1998, IMBA was invited to join the Utah Wilderness Coalition (UWC). The invitation and the proposal itself created a broad, intense, public discussion in the mountain bike community. For the first time, internet bicycle newsgroups, the IMBA advocacy listserv, and enthusiasts' magazines were involved in a

significant way. IMBA membership had grown and for the first time, a large number of bicyclists were publicly demanding that IMBA get involved to "save the trails." IMBA's success had created higher expectations from its many members. Those members were diverse in their opinions about bicycle access to wilderness and the nature of IMBA's alliances with environmental groups, many of whom had been hostile to the cyclists on local trail issues. A large number of riders from Utah had particular concerns about the potential loss of significant riding opportunities.

From IMBA's perspective, the Utah Wilderness issue was dangerous, divisive and resource intensive. Other projects demanded staff and volunteer time. An initiative with the U.S. National Park Service and a global initiative with mountain bike activists from other countries were in their early stages. A Board election was underway. Longstanding trail access issues near population centers still required attention. Shifting attention to the wilderness question was at best an inconvenience, and at worst risked the support and solidarity of its membership and its working partnerships with other groups. Still, a response to the Utah Wilderness Coalition was required.

One of the difficulties IMBA faced was being responsive to many different audiences both inside and outside the mountain bike community. As noted above, the membership was diverse and differed in its historical, philosophical and political knowledge of wilderness designation.

Historically, the mountain bike press had been unconditionally supportive of IMBA's efforts on behalf of mountain bikers. Over the years, every magazine had written pro-IMBA articles, urged readers to join, to adhere to the rules of the trail, to volunteer with local parks and trail groups and to be politically involved. They routinely gave free placement to IMBA membership advertisements. Keying on the controversy, some mountain bike magazines expressed criticism of IMBA as being too soft or too slow on the issue. A sense of emergency was heightened by the fact that some of the information that was circulating said that Moab's popular cycling trails would be closed to bikes. The magazines suggested that IMBA was being manipulated by environmental groups and that there was much to lose and little to gain by allying with the UWC.

Non-cyclists in the environmental community were part of IMBA's audience and they, too, were diverse. Members of the UWC had invited IMBA to join to secure support for the UWC proposal. Presumably, they and other wilderness advocates especially didn't want mountain bikers to organize against the wilderness plan. National leaders of the Sierra Club had an agreement with IMBA to work for "Wilderness, park and open space protection." IMBA's behavior here was a credibility litmus test. Some anti-bike environmentalists and some members of local Sierra Club chapters felt that IMBA's growing relationship with the national organization was problematic. They didn't want bikes on their local trails–much less in proposed wilderness. They looked to discredit IMBA's environmental credentials.

Anti-wilderness groups like the Blue Ribbon Coalition and several Utah and national motorized recreation groups hoped IMBA would not support Utah Wilderness. They'd prefer that cyclists would oppose it. It seemed that various land managers were also interested in IMBA's response, presumably to see how mountain bikers might position themselves in the constellation of stakeholder and user groups interests.

This was perhaps the most difficult rhetorical situation IMBA had ever faced. As a rule, IMBA sided with local mountain bikers for more trails and worked to convince land managers and other trail users that this view was reasonable. The sides were clearly drawn. In Utah, the most desirable outcome, a recognition of the legitimacy of bikes on some Wilderness trails, was not even on the table. It was necessary to articulate a rhetorically sensitive response that was practical in this situation and would be flexible in the future. It required a clear sense of IMBA as a mountain bike advocacy organization that is committed to the preservation of public lands.

Facing a diversity of viewpoints from a variety of audiences and the exigency of responding to the UWC invitation, IMBA used bicycle newsgroups, the listserve, its newsletter, and the bicycling press to solicit written opinions. It invited all interested parties to a public meeting on the issue prior to an IMBA Board meeting in Park City, Utah on April 25, 1998. The specific questions were:

1. Should IMBA join the Utah Wilderness Coalition?
2. If not, what role, if any, should IMBA take in supporting or opposing new southern Utah Wilderness proposals–plans that ranged anywhere from 1.9 million to 5.7 million acres of new Federal Wilderness?

To facilitate this discussion, IMBA adopted four principles to guide discussion of any wilderness proposal:

1. IMBA will formulate its position on new wilderness proposals on a case by case basis, just as it does with all major land decisions.

2. IMBA is committed to preserving bicycle access to trails and roads where off-road cycling is a traditional or desirable use.

3. IMBA believes that a federal designation can and should be created that assures conservation while at the same time allowing low impact recreational activities such as mountain biking.

4. IMBA supports the concept that not all trails on public lands must be open to bicycle use. (IMBA 1998a, p. 4)

Prior to the meeting, IMBA received hundreds of letters, e-mails, postings and phone calls on the Utah Wilderness issue. The meeting was attended by IMBA Board and staff, and representatives of the Blue Ribbon Coalition, the Bureau of Land Management, Emery County, the Sierra Club, the Southern Utah Wilderness Alliance, Utah state officials, the Utah Trail Machine Association, the Utah Wilderness Coalition, and the Wilderness Society. There were also several U.S. Forest Service employees and a number of individual mountain bike riders.

As expected, the input from membership was diverse. Some felt that it was important to align with environmental groups wherever possible, that the bike ban would be changed someday and it was more important to create wilderness. Others felt that it was important to work with wilderness groups to ensure that bike routes were left outside the wilderness boundaries.

Many of IMBA's advocacy leaders were against IMBA supporting any wilderness designation as long as bicycles were banned by regulation. They argued that to support wilderness under these conditions was to acquiesce that bikes were inappropriate in wilderness. To them, this was unacceptable. Many bicyclists dissatisfied with environmental group opposition to bike access on their local recreational trails were unwilling to support those groups on the wilderness issue. A few bike advocates were aligned with motorized off road groups and were anti-wilderness. They didn't trust or respect the mainstream environmental groups. For many, wilderness was a non-issue. They were more concerned with access to local trails on recreational parklands. It was easy to sacrifice hypothetical riding opportunities in faraway places. A great many mountain bikers, undoubtedly the majority, were on the fence.

There was also a diversity of opinion on tactics and strategy. Some felt that IMBA should join the Utah Wilderness Coalition either unconditionally or with stipulations. Some preferred to support the smaller BLM Wilderness proposal. Some felt IMBA should work to amend the Wilderness Act or to change the CFR regulations that ban bicycles. Several argued that IMBA should find or help legitimize land use designations other than wilderness that would protect the land but allow bikes.

While wilderness proponents argued that only wilderness could protect Southern Utah, a key metaphor that emerged in the discussion was the "land management toolbox." From the bicyclists' perspective, it was acknowledged that wilderness was one tool for preserving wild land, but the question of whether it was the best tool or only one of a number of tools remained unanswered. A number of facts were disputed or unavailable. Those concerning which trails would be within the wilderness boundary (especially around the Moab and San Rafael Swell areas) and how much mountain biking or potential mountain biking would be lost to wilderness were especially significant.

Pressure from IMBA's membership and external audiences required a response to the Utah Wilderness Coalition's invitation to join. There was not a consensus and IMBA crafted a response that reflected many of the principles which first emerged in earlier Wilderness discussions. It emphasized IMBA's environmental commitment but also its commitment to its membership which felt unfairly excluded from trail opportunities in designated wilderness areas and believed that reasonable alternatives to wilderness designations had not been considered.

Ultimately, the IMBA board of directors voted not to join the Utah Wilderness Coalition, but committed to work as a partner with the UWC to protect all the lands in its proposal, although not necessarily all as designated wilderness. IMBA also produced the following Wilderness Policy to guide future discussions about wilderness (IMBA, 1998b, p. 5):

1. IMBA is committed to protecting wildlands and open space while allowing for appropriate bicycle access.

2. IMBA values the role the 1964 Wilderness Act has had in protecting wild places. IMBA believes that additional Wilderness designations are warranted and will support these when appropriate.

3. Bicyclists must be at the table when Wilderness decisions are being made. IMBA is committed to maintaining access to traditional and important bicycle trails through attention to Wilderness boundaries and the use of alternative land protection designations (e.g., National Conservation Areas, Wild and Scenic River zones, Areas of Critical Environmental Concern, National Monuments, etc.).

4. IMBA is not advocating the introduction of mountain bikes in existing designated Wilderness areas. However, IMBA believes that bicyclists are appropriate, muscle-powered trail users that are compatible with the philosophy of the 1964 Wilderness Act and the intent of Congress to exclude motorized "mechanized transport" from Wilderness areas. In 1984, the definition of "mechanized transport" was extended to mountain bikes without adequate data, experience or input.

Conclusion

Talks between mountain bike and wilderness advocates continue. In Colorado, for example, a small group of bike and wilderness activists have formed to determine what they hold in common and how they can support one another. Some examples of specific working goals include wilderness advocates helping to find portions of roadless areas that are appropriate for single track bicycling; bike advocates proactively discouraging mountain biking in existing wilderness; environmental leaders making clear, positive public statements that support mountain bicycling on public lands; bike advocates educating riders about recreation effects on the natural environment; and the values and importance of wilderness. The group is seeking compromises in proposed new wilderness areas near James Peak near Boulder and in Grand Junction (Moore, 1998).

In late 1998, IMBA began circulating the details of two alternative land use designations for comment. National Conservation Areas and National Recreation Areas would be organic designations providing high level land and resource protection which would allow bicycle use on designated trails. Comments on these proposals are being collected (Sprung, 1998).

Wilderness designation remains a wedge issue which divides a large mountain bike constituency from the environmental community. As the Utah debate unfolds and as new wilderness proposals emerge, efforts by both cyclists and wilderness advocates are necessary to find land use planning tools that provide wilderness preservation and back country, non-motorized trail opportunities. As long as bikes aren't allowed, mountain bicyclists will vary in their support of wilderness preservation especially when other land protection designations are possible. If the CFR was changed to allow bicycle use on some designated wilderness trails, there would be overwhelming support of wilderness protection from the mountain bike community. Do bikes belong in wilderness? That conversation is yet to take place.

I have argued in an earlier paper (Hasenauer, 1998c) that the discourse surrounding mountain bike use in the back country might provide a number of heuristic case studies for communication scholars. This discussion of wilderness illustrates rhetorical choices of identity, credibility and legitimization as a relatively new stakeholder group participates in public land policy planning.

Notes

1. It's important for readers to know that I am a participant in this discussion, not just an observer. I have been a mountain bike advocate since 1987 and have often been involved when mountain bike positions about designated Wilderness are developed. I am one of the founders of the International Mountain Bicycling Association, a Board member since 1988, and its former president (1991-96). I intend to be a reflective rhetorical practitioner here. I will try to be fair, honest and open and would appreciate feedback, direction and criticism if my standpoint gets in the way of my analysis.

References

Bjorkman, A. W. (1996). *Off-road bicycle and hiking trail user interactions: A report to the Wisconsin natural resources bureau of research.* Eagle, WI.

Cessford, G. R. (1995). Off-road mountain biking: a profile of participants and their recreation setting and experience preferences. *Department of conservation science and research series no. 93.* Wellington, New Zealand: Department of Conservation.

Chow, T. L., Bracker, M. D., and Patrick, K. (1993). Acute injuries from mountain biking. *Western Journal of Medicine. 159*, 145-148.

DiMeglio, A. (1991). Wilderness society embraces mountain bikers. *Land Access Alert. 4(3)*, 1-2.

Douglass, D. (1988). Bicyclists to be banned from new California coast wilderness area. *Land Access Alert. 1*(1), 3.

Hasenauer, J. (1989). Don't amend the wilderness act. *Land Access Alert. 2*(5).

Hasenauer, J. (1995). IMBA endorses environmental bill of rights. *IMBA Trail News. 8(*3).

Hasenauer, J. (1998a). *Strangers in the recreational trails community: The case of mountain biking.* A paper presented at the North American Interdisciplinary Conference on Environment and Community, U of Nevada at Reno.

Hasenauer, J. (1998b). *Shared use community trail systems.* A paper presented at the National Trails Symposium, Tucson, AZ.

Hasenauer, J. (1998c). *Stranger to stakeholder to partner: the mobilization of constituency on public lands.* A paper presented at the National Communication Association Annual Conference, New York.

Hendricks, W. W. (Ed.) (1997). Mountain bike management and research. *Trends. 34,* 1-56.

Hollenhurst, S. J., Schuett, M. A., Olson, M. S., Chavez, D., & Mainieri, T. (1995). *A national study of mountain biking opinion leaders: characteristics, preferences, attitudes and conflicts.* USDA Forest Service Report: PSW-93-0029CA and PSW-93-0034CA.

IMBA, The International Mountain Bicycling Association (1988). Why IMBA? *Land Access Alert. 1*(1), 2.

IMBA. (1989). Congressional bill would allow bikes in wilderness. *Land Access Alert, 2* (4), 1-2.

IMBA. (1991). Wilderness society continues to support bicycle use. *Land Access Alert. 4*(4).

IMBA. (1993). Colorado wilderness bill passes. *IMBA Trail News. 6*(4), 5.

IMBA. (1994). Mountain bicyclists and Sierra Club agree to work together. *IMBA Trail News. 7*(3), 1, 4.

IMBA. (1998a). IMBA seeks Utah wilderness comments from members. *IMBA Trail News. 11*(1), 4.

IMBA. (1998b). IMBA announces its position on proposed Utah wilderness. *IMBA Trail News. 11*(2), 5.

Kelley (1991). IMBA activists enjoy bicycle festivals in Washington and West Virginia. *Land Access Alert. 4*(5), 1, 6, 8.

Keller, K. (Ed.). (1990). *Mountain bikes on public lands: A manager's guide to the state of the practice.* Washington, D.C.: Bicycle Federation of America.

Kronisch, R. L., Pfeiffer, R. L., & Chow, T. K. (1996). Acute injuries in cross-country and downhill off-road bicycle racing. *Medicine and Science in Sports and Exercise. 28*, 1351-1355.

Livingston, M. (1984). Point Reyes Update. *Fat Tire Flyer. 4*(6).

Maag, P. (1993). Proposed wilderness threatens access in Palm Springs. *IMBA Trail News. 6(2).*

Moore, B. (1998). 'Wildbikers' seek common ground. *IMBA Trail Nnews.* 11(3).

Moore, R. L. (1994). *Conflicts on multiple-use trails: Synthesis of the literature and state of the practice.* Report #FHWA-PD-94-013. Washington, D.C.: Federal Highway Administration.

Schmid, J. (1998). *Trails Resource Bibliography.* South Carolina State Trails Coordinator, Department of Parks Recreation and Tourism, 1205 Pendleton St, Columbia, SC 29201.

Sprung, G. (1993). Utah cyclists endorse huge wilderness proposal. *IMBA Trail News. 6*(4).

Sprung, G. (1997). Mountain biking can foster progressive management. *Trends.34*, 15-17.

Sprung, G. (1998). Alternatives to wilderness act could allow cycling and protect land. *IMBA Trail News. 11*(4).

Stegner, W. (1990). It all began with conservation. *Smithsonian. 21*, 34-46.

Watson, A. E., Williams, D. R., & Daigle, J. J. (1991). Sources of conflict between hikers and mountain bike riders in the rattlesnake NRA. *Journal of Parks and Recreation Administration. 9*, 59-71.

Wilson, J. P., & Seney, J. P. (1994). Erosional impact of hikers, horses, motorcycles and off-road bicycles on mountain trails in Montana. *Mountain Research and Development. 14*, 77-88.

An Early Aesthetic for Seeing the Grand Canyon: The Diaries of Jack Hillers on the Powell Expeditions, 1871-72

Dennis Jaehne
Department of Communication Studies
San Jose State University—San Jose, CA

Abstract

Seeing the Grand Canyon today is culturally conditioned by a preformed symbolic complex. In 1871, members of the Powell Expeditions that first ran the Colorado River encountered the Canyon before it had become today's cultural icon of mass tourism. This paper analyzes the diaries of John K. "Jack" Hillers, the first man to photograph the Grand Canyon, to investigate an early—perhaps initial—aesthetic of seeing the Canyon. Hillers's aesthetic seems to be clinical, objective, geometric, and largely unemotional. This reflects perhaps the discourse of the scientific survey that motivated and funded the expedition.

Seeing Nature

John K. "Jack" Hillers (1843-1925) was the first person to photograph the Grand Canyon. He was part of John Wesley Powell's two-year exploration of the Colorado River from Green River, Wyoming through the Grand Canyon into Arizona in 1871-2. Along with most of his eleven companions on the Survey, he kept a diary[1]. Don Fowler subsequently edited the diary and published it with an introduction and a selection of Hillers's photographs (Fowler, 1972). I was motivated to analyze this diary as part of my larger project of inquiry into how people communicate their experience of nature, and of place. From my perspective, the primary—perhaps primal—act of communicating our experience of nature essentially constitutes the meaning of our relations with the natural world. From these meanings flow our attitudes and behaviors and, by extension, our ability (or failure) to live in harmony with the natural systems that support us.

When I first encountered Hillers's diary, I recalled Walker Percy's (1975) amusing but insightful argument that a tourist can no longer *see* the Grand Canyon. Of course, we don't really know much about how anyone sees the Canyon, or anything else, until they communicate something about it, whether in words or paintings or photographs or dance or some other medium. Percy's argument flows from the premise—now commonplace--that seeing is culturally conditioned. For me, the initial interesting question was how people saw the Grand Canyon before it became an icon, invested with the modern symbolicity we know today[2]. I thought it might be interesting to see how, in fact, one of the Canyon's first "modern" Western visitors dealt with what we might call the "initial encounter experience." I did not suppose that Hillers was free of cultural conditioning, but I did expect that his "symbolic complex" for seeing the rugged and desolate wilderness of the canyon might be different from today's heavily tourism-enriched idioms of seeing. Specifically, then, what did Hillers say? How did he put the experience into words? How did he describe the Canyon? What did he see and how did he articulate what he saw? Ultimately, answering these questions might lead to a better understanding of the evolution of how we have come to see the Canyon and, by extension, the natural world and our relationship with it.

Percy's thesis, paraphrased from the essay entitled "The Loss of the Creature," is that once a "symbolic complex" about something has been formed in our mind (in the tourist mind) it is practically impossible to "see" the thing in itself, because the symbolic complex will forever intrude and condition the encounter. Percy's example is the Grand Canyon. He notes that the Spanish explorer Garcia Lopez de Cardenas "discovered the Grand Canyon and was amazed at the sight" (1975, p. 46). Probably he means that de Cardenas was one of the first, if not the first, of the non-indigenous people to have encountered the Canyon without the benefit of the preformed symbolic complex and who, in fact, then began the communication of the symbolic complex to the rest of the Western world. The nub of Percy's point is this:

> The thing is no longer the thing as it confronted the Spaniard; it is rather that which has already been formulated—by picture postcard, geography book, tourist folders, and the words *Grand Canyon*. As a result of this preformulation, the source of the sightseer's pleasure undergoes a shift. Where the wonder and delight of the Spaniard arose from his penetration of the thing itself, from a progressive discovery of depths,

> patterns, colors, shadows, etc., now the sightseer measures his satisfaction *by the degree to which the canyon conforms to the preformed complex.* (1975, p. 47, italics in original).

Thus it was interesting to me to consider how the earliest explorers described the Grand Canyon and their experience of it[3].

Jack Hillers and the Powell Expedition

This study examines how Hillers put his experience put into discourse. I was curious about his rhetorical style. Would it employ a rhetoric of the sublime that was fashionable in the late 18th century (Oravec, 1981, 1982)? What features are emphasized? What is the tone? Is it sacramental? Utilitarian?[4] Complex and conflicting motives drove the expedition itself. Powell was a restless, driven man, seeking to make a name for himself, perhaps overcompensating in dangerous adventure for the loss of his arm during the Civil War. The expedition also had scientific motives: what were the geology and the topography of this unmapped wilderness? Were there also philosophical and aesthetic motives? One contemporary historian has noted that

> It's really difficult to convey exactly how small one feels in Grand Canyon, how brief one's life becomes when you look at the overwhelming evidence of a couple of billion years, and how urgent it suddenly becomes to do something worthwhile with what's left of your life. It happens to everyone, and it was possible that Powell's future career was decided in that Canyon, in that he was going to make a mark for himself. (Ghiglieri, 1998)

Hillers's achievement as the first photographer of the Grand Canyon made his diary seem doubly significant. Fowler argued for the importance of Hillers's diary on the basis that Hillers was "the first to photograph the Grand Canyon" (1972, n.p.). He justified publication of Hillers's diaries by the new information about the expeditions it contributes and by the claim that "Hillers's photography. . . ranks with other great nineteenth century photographers" (Fowler, 1972, n. p.). Naively, I assumed his journal accounts would reflect the aesthetic sense of someone who is trained to see, who is looking for the scene, the scenic, the picturesque. This, I thought, would shed even more light on the question of how the Canyon experience is put into words.

Note that I made many assumptions: that Hillers was trained to see, to photograph. That his Canyon trip was intentional and in the pursuit of his photographic interests. That he would be writing the journal as an adjunct to his photography; it would provide a record of the sights, of the problems of seeing, perhaps a catalog of the famous pictures. Here would be a treasure trove of the visual made literate. Here, the painterly eye of the photographer would render the subject in prose to complement and explain and contextualize the visual moments of the photos. Why else would a photographer keep a journal? What else would he talk about?

My assumptions, however, were all flawed. Hillers wasn't trained as a photographer. He wasn't even going to the Grand Canyon. He only wound up on the expedition by sheerest chance. A German immigrant and Union army veteran, he was working as a teamster in Salt Lake City in Spring of 1871. Powell was in town making final preparations for this river expedition when he learned one of his team members couldn't go. He somehow heard about and met up with Hillers, liked him, and hired him on as a boatman, "to pull an oar and to help generally" (Fowler, 1972, pp. 1-2, 10). The expedition already had a professional photographer, E. O. Beaman of New York. Beaman took the photos from the first year of the two-year trip but had a falling-out with Powell over the economics of their publishing and marketing arrangements (Fowler, 1972, p. 7; see also, Stegner, 1953). Indeed, Hillers wasn't even the replacement. Powell first tried to use his nephew and then was able to induce a Salt Lake City photographer, James Fennemore, to join on for the second leg of the journey. But Fennemore took ill just as the expedition was about to enter the Grand Canyon and Hillers, who had become interested in the process of photography and who had gained some training from both Beaman and Fennemore while acting as their assistant, found himself in the right place at the right time to be the first to photograph the Grand Canyon.

This was, in fact, Powell's second run down the river. The first, in the summer of 1869, lost two boats and three men and gained little data, because of the calamities suffered and the lack of funding for equipment. Thus, in 1871 Powell returned to do it right. He wanted the geological and geographical data, and he now knew what it would take in terms of men and equipment to run the river. He arranged for supplies to be cached along the river at key points by pack teams.

The 1871-72 trip unfolded in two parts and I organize my analysis of the diaries to correspond to the separate trips. From May to early October, 1871, the twelve men and three boats explored, mapped, surveyed and photographed from Green River, Wyoming to about the Arizona border, just short of the Paria river. At that point the party laid up for the winter and went overland to Kanab, Utah to gather

supplies for the next summer's run down the Grand Canyon. Until this time, Beaman had been the photographer and W. C. Powell (J. W.'s nephew, called Clem) the assistant. After the falling-out with Beaman, however, W. C. Powell was elevated to photographer and Hillers to assistant. However, two diary entries of February 20 and 22, 1872[5] mark the inauspicious official start of his new career:

> This morning I was installed as assistant photographer. Clem tried to take some pictures but failed, bath being out of order—fixed it—while manipulating he upset it—so much for the first day.
>
> Put up the dark tent—Clem put the bath in it open, started to a spring for some water about a quarter of a mile from camp. On our return, lo, our tent had blown over and the bath spilled again. Tried another which he upset a third time.

Clem had little aptitude for the chemical and operational complexities of the wet plate photographic process[6]. Uncle John Wesley apparently knew this and a month later, March 19, 1872, James Fennemore, recruited in Salt Lake City over the winter hiatus, reported to the camp as the official photographer. Hillers was his assistant until Fennemore took sick and had to leave the expedition.

The Diaries

Fowler reports that the whole of Hillers's corpus was "two small leather-bound books and a number of loose sheets" and that "the script is small and sometimes difficult to read, some words being illegible" (1972, p. 14). Hillers says little about his actual process of diary-writing. Did he prop the book on his knee, on a rock, on the decks of the boats or the packsaddles of mules? Did he write lying down, sitting up, standing? Who did he write it for? Fowler notes that Hillers "apparently mailed sections of the diary to his brother Richard in San Francisco" with an admonitory note to be careful not to lose the material and the offer that Richard could "amuse yourself reading it then put it in my trunk" (1972, p. 15).

When did he write it? Was it the last thing he did each night, by campfire, candlelight, or moonlight? Did he remember and re-create several days at once when he had a spare moment? We know he began the diary "some weeks after the beginning of the river trip" (Fowler, 1972, p. 14). Another member of the expedition noted that "Hillers has procured a book and spent the time today in writing up from the start. Believe each member of the party is keeping a journal with the exception of Hattan [the cook]" (Fowler, 1972, p. 15)[7]. I speculate that Hillers signed on as a boatman, teamster, and laborer for an expedition cum adventure that he didn't know much about at first. He must have quickly learned that he was in the company of educated professionals—surveyors, geologists, topographers, astronomers—who were gathering data and recording the experience and that this federally-funded survey was of some historic importance. Perhaps the experience of all his comrades keeping diary accounts convinced him of the value of recording his participation in a history-making event.

Thomas Mallon, in his book about diaries and diarists, tells us that "one cannot read a diary and feel unacquainted with its writer. No form of expression more emphatically embodies the expresser: diaries are the flesh made word" (1984, p. xvii). Hillers's diary might test that premise some. He was not a reflective writer. While he gave a chronicle of the trip, he didn't share much of his inner self or his relations with the others, sensibilities that 19th century readers might have expected and today's readers certainly do. We know that he was "well liked by all" and that his "capabilities, sense of humor, and evenness of temper earned him the nickname of 'Jolly Jack'" (Fowler, 1972, p. 10). Stegner characterizes him as "amiable, faithful, and bottle-loving" (1953, p. 267). He was close to Powell; indeed, the rest of Hillers's career was connected with Powell as he went on to become the chief photographer for the rest of Powell's surveys and for the nascent U.S. Geological Survey. He also did work for Powell's projects as Special Commissioner of Indian Affairs and as head of the Bureau of Ethnology. His more durable photographic legacy appears to be his ethnographic studies of Native people of the Southwest. Stegner notes that he "had a knack for portraiture; there are few better Indian portraits than his, and no better collections" (1953, p. 268).

Analysis of the volume and patterns of diary output suggests something of his writing practice. Hillers made 430 diary entries in the two years of the expedition. The first season, from May into November of 1871, was shorter than the second, from February through October of 1872. In the first year he made 170 diary entries (about 40%) and in the second year 260 entries. This is deceiving of actual output, however, since some entries are shorter than others. In terms of lines of diary output (a surrogate for word counts), Hillers wrote 57 percent (1421 lines) in 1871 as opposed to 42 percent (1070 lines) in 1872. That is, he either had more to say, or more time to say it, or both, in the first year than in the second, even though the numbers of expedition days and diary entries are greater in the second year. This may also reflect the different hardships of their daily work as the Canyon terrain became more difficult and exhausting during the Colorado River phase of the expedition.

Most of the diary entries are short. About eighty percent are fewer than ten lines (145 words). Fully sixty percent are fewer than five lines (70 words). Only twenty percent have more than ten lines and only four percent (17 entries) exceed twenty lines. Again, the two years show strikingly different patterns. In 1871, thirty percent of the entries were more than ten lines, while in 1872 only thirteen percent were more than ten lines. From the other direction, in 1871 only fifteen percent of the entries were smaller than two lines, while in 1872, 42 percent of the entries are smaller than two lines (30 words). Thus, not only were total lines greater in 1871, but the pattern of entries was also markedly different with many more long, or relatively long, passages compared to the long stretches of very brief entries in 1872. Of course, these numbers would be more significant if they were correlated with the activities of the expedition and the content patterns of the entries. What was he (or were they) doing when he was writing a lot, compared to when he was writing a little? What was he talking about in the longer entries versus the shorter? Unfortunately, without cross-referencing with the other diaries, and without additional internal textual work on Hillers's diary, I cannot answer these questions.

If the Grand Canyon experience was commensurate with our modern attitude, why do the line totals written in that final month of canyon experience (8/22 to 9/20 in 1872) rank only 6th out of the fourteen full months of the expedition? (There were 216 lines in that nearly 30-day period, compared to his most prolific month, August 1871, with 326 lines. It seems reasonable to expect that if he encountered the Grand Canyon with anything like our modern sense of wonder and appreciation, he should be moved to erupt with commensurately greater expression of wonder than at any other time in his trip. Of course, there is no reason to read our modern attitudes back into his experience. In fact, my point is to consider a discourse about the Canyon written before the modern sensibility about the Canyon. But it is interesting that the first man to photograph the Grand Canyon did not really play up the experience in his diary—not relative to our expectations today, and not relative to his other experiences on the expedition. But to understand the content of that experience, we must consider the content of the journals, and not just the patterns of output quantity.

The Activity of Exploration--1871

One of Mallon's categories of diary writers is the "traveler." Travelers, he claims, respond to the impulse "to take a piece of a foreign place back with them" (1984, p. 41). They "find in themselves the impulse to hoard the sights and sounds of places to which they may never return" (1984, pp. 41-42). He contrasts this attitude with that of the "chronicler" who sees "every day as being worthy of commemoration" (1984, p. 42). The traveler, however, "has the conviction. . . that one is starting something special, that the next days or weeks are going to be more important, better, worthier of preservation than the usual run of them" (1984, p. 42). And the goal is future oriented: "later, one will want those days to be available as an antidote to the familiar; the diary is their deep freeze" (1984, p. 42). Finally, he finds an additional value in the geographical attentions of the explorer's journals ("you'd better be able to tell your sovereign how you got there") (1984, p. 42). This practical need replaced sentiment as the overriding motivation. Here, for example, we place the journals of the Lewis and Clark expedition in the first decade of the 19th century. Hillers seems to comprise characteristics of both the traveler and the chronicler.
So a first question arises: what is memorable to record about the daily work of exploration? Hillers, it turns out, is the classic "doer"—a man of action rather than reflection. To the degree that he is an observer, he observes the activities of the expedition and the conditions of the environment as they impinge upon their work. He certainly begins this way and maintains a basic attention to activity throughout. And it is probably fair to remind ourselves that packing and boating down these rivers, running and portaging rapids, climbing out of the Canyon, hunting for fresh meat, all for six months at a time, is fundamentally active physical work. The river and its banks, canyon walls, scenery, are relatively static background against which the human activity is perceptually foregrounded as the daily drama. Yet it seems ironic for one who is to become known for his photography of the West, that he seemed only a little inclined to describe what he saw or to reflect upon what he felt. We tend to think of photography as an art of seeing, of composition and of framing, yet Hillers did little of either as he began his journey and his journals. On the other hand, there is an evolution at work. The terrain and its scenic value change, and the teamster learns to be a photographer, as the journey unfolds. So, too, does a grudging sense of the scenic and of the moods of landscape.

Several early entries set the tone for his diary approach: "After breakfast the Major, Steward and myself climbed Fish butte, found some nice specimens of fossil Fish after a couple of hours search returned to camp. After dinner helped to finish boats" (May 17, 1871). The day starts with an activity, breaks for dinner, and continues with an activity. This passage is a bit unusual only in that it names a place. The typical entry form is: who did what today? When the party is working at and around camp, there is presumably little to report and a day's worth of activity can be summarized by naming the work; thus: "At the boats again, covered them with canvas" (May 18, 1871), and

"Painted canvas and made battings for cabins" (May 19, 1871) are two complete diary entries.

When they are under way, the pattern remains the same: "Pulled out at 7 a.m., ran along smoothly. Scenery fine. Camped for dinner on left bank. After dinner passed an island on which we saw a dear. Major fired but missed, landed, and got three. One swam the river and thereby escaped the fate of his comrades. Camped on the left bank" (May 25, 1871). Here, the comment on scenery is unusual; mostly there is none. Note that he identifies which side of the river they camp on for dinner and for the night. We might think this to be useful guidance for someone who wanted to follow their route. However, since there are few landmarks to identify where the party is, the information seems very limited in value. Yet it is one of his most notable consistencies.

On May 26, 1871: "Pulled out in the morning. Saw some Beaver. Major shot twice but missed. Camped on the right bank after a short run for the rest of the day. Jerked our venison. Steward made geological sextions. Beaman took pictures. My friend Fred fixed his sketches." Again we see the pattern of reporting the barest name of activities. The fond reference to "my friend Fred" is one of the few hints of relational talk.

Hillers does comment on the scenery in passing. For example: "Camped on the left bank in a beautiful cotton grove" (May 27, 1871). "Water bright and clear" (May 28, 1871). "River snake-like . . . . Walls perpendicular, in some places, over hanging. . . . went up the river for pictures of the rapid and surrounding sceneries" (May 29, 1871). But there is a flat, banal, matter-of-fact, unengaged quality to his observations. They are the conditions he sees, but the aesthetic of seeing employed is naïve and geometric. This aesthetic dominates the diaries.

Still, the concept of the "scene" or "view" is not lost on him. It does seem at first to be associated with high places and great sweeps of territory, what we might today call scenic vistas. For example, "Climbed up some 2000 feet. No sign of dear but got a splendid view of Kingfisher Creek for some 20 miles we could see a serpent form coming down through Cotton Wood Groves" (May 30, 1871). But high vistas did not always produce views for him. While waiting for someone to arrive with supplies, he climbed a hill and "planted our flag on a high bluff overlooking the Valley below, as a guide for him to our camp, wondering if ever our flag had kissed the breeze from these lofty mountains" (June 14, 1871). This was a rare instance of speculation and landscape-inspired fancy, but was not about scenery per se. On the other hand, it may be viewed as an appropriate thought for explorers within the context of a nationally-funded enterprise such as the survey. Overall, however, within the canyons, along the river, he was more likely to report flat or functional observations than scenic ones. Thus, for example, he notes that the bank at one point is "thickly lined with willows" but this is part of the context of currents and of the boat brushing by the willows and sweeping his comrade off the boat and into the water (May 31, 1871). A "rocky wall" is notable because it "tore out my oar lock" (June 2, 1871). The thick brush is notable because it kept them from climbing high enough to get some pictures (June 2, 1871) or "The shore being thickly fringed with willows made it an awkward thing for us to get her over a fall of about 3 feet" (June 27, 1871). What might otherwise be scenic elements—willows, rock walls—are here treated only as functional impediments to their progress.

Longer entries tend to record not reflection or engagement with scenery, but more complex days of activity on the river. For example, June 5, 1871 is one of the longest entries of the month at 21 lines (and one of only 17 entries over 20 lines in the whole two year trip). It records running some early rapids, camping for dinner, taking pictures of two creeks, looking for a specific falls, leaving part of the party behind for observations and pictures, finding the falls, unpacking the boats, making the portage, with some scraping and damage to the boats, lowering them down with lines, almost losing one to sunken rocks, etc. The next day, another longish entry, more rapids. Amidst all the river activity, Hillers mentions he "went up a beautiful creek" and "all of a sudden we opened out into a beautiful park" (June 6, 1871). June 29, 1871 saw a similar entry: "A little farther up a beautiful park opens out." We have no reference or explanation for what made them beautiful, what made them stand out from all the other elements of landscape or scenery he was experiencing. His discernment of landscape remains steadfastly functional: "This part is a splendid grazing country that is along the river bank" (June 8, 1871). It seems clear that he liked what he saw, but we have little detail about what he was seeing.

It may be that Hillers was unused to keeping a diary, and that he had not learned any particular conventions for scenic description. We know that he had just completed his civil war service, that he had seen action at Petersburg, Cold Harbor, and Richmond, that he had finished his service in several western army garrisons (Fowler, 1972). It may be that his relationship to landscape was formed functionally by the needs of soldiering: identifying campsites, places for ambush or reconnoiter, terrain for attack or defense. However, there is some evidence in the diary, I think, to support the claim that he was learning to see as a photographer. On June 11, 1871, for example, he writes the following description: "Low grounds for a few miles on each side, only here and there where the River had cut through some small hill, could hardly

call them canons being used to such large ones." The comparison, rare in his diary, suggests an implicit standard for what it means to be called a canyon, that is, of the size dimension, and of the ordinary versus the spectacular. Still, he relied mostly on the adjective "beautiful" to distinguish scenery, as in "Ran down to a beautiful Cotton Wood Grove on the right bank. . . " (June 11, 1871).

Though we must assume he was learning about photography from watching Beaman work, there is no indication in the diary that he was thinking about it. References to Beaman and photography were in the background, part of the daily activity, but never amplified. He would note what Beaman was photographing, but never provided any reflection on the choice of subject or how it was decided. There was nothing about how pictures were framed. For example, "Beaman took pictures of rappids" (June 17, 1871) or "Beaman took couple of negatives [of] a Grotto in the cliff" (June 18, 1871) or "Beaman took some pictures of a Creek. . . and its surrounding beauties" (June 25, 1871). "Beaman wanted to take some pictures immediately after making this bend we entered Whirlpool Canon" (July 3, 1871). "Beaman got some fine pictures of a latteral Canon. . . Beaman saw some nice views so we stopped" (August 8, 1871). Still, it is clear that he was increasingly attentive to what Beaman was doing. On June 27, 1871, for example, he noted that "Beaman tried to take a picture of Canon with moon in but failed to get the moon." It is also clear that though he was not the official assistant photographer yet, he was involved in the photographic activities, carrying the equipment up mountains, down creeks, while Beaman made pictures (e.g., June 30, 1871). Staying in camp one day in August he wrote that he and others "climbed a small mountain for to get a photograph of an amphitheatre, but failed to get it on account of the darkness of the day. Left the instruments on the mountain for tomorrow" (August 9, 1871). The next day, however, they went up without him but "Being a fine day they got a beautiful picture" (August 10, 1871). It is hard to imagine now what such an entry might have indexed or recalled to mind.

The adventure of running the river, with its share of close calls, occupied much of his account. From time to time, some feature of landscape would strike him, typically for its singularity: "From this Camp a very peculiar mountain is visible. It is in the shape of a wheat stack, and therefore called so" (June 20, 1871). But this is infrequent. For the most part he only describes the formations that impede the boating: the dangers, the channels, the islands, the obstructions. He is often most descriptive of the river at times when rapids create long and dangerous passages. For example: "The whirlpools are occassioned by the rush of water against the ragged rocks which project from the wall. Nearly the whole wall presents the appearance of a stair laid down on its side" (July 3, 1871). Overall, I found, his greatest energy seemed invested in descriptions of these rapid running scenes:

> After dinner pulled out, ran a few more rappids, at one place barely saved ourself from being crushed to pieces by rocks. We ran too close not expecting such strong suction toward them. Ran one more, an old monster and then opened out into a park, the little low hills being highly colored and its different shades were as numerous as that of the Rainbow, in Horizontal stripes. (July 5, 1871)

Here, the calm follows the storm and the contrast between danger and safety seems to magnify the beauty of the scene of deliverance. In that moment, he pays a rare attention to color. On another instance, climbing out of the canyon to collect pine pitch, he got stuck and nearly fell: "While climbing along a tailess [talus] I got hold of a rock for support which gave way but I steadied it against my leg while I, with my other hand, got hold of shrub and thereby saved myself a descent of some 500 feet" (August 12, 1871). He described the terrain:

> The walls of the canon range from 900 to 3000 feet, sloping backward, very ragged and craggy. The wear and tare of ages have formed innumerable ridges which run at regular intervals from top to bottom. The gulch between two ridges resembles the Devil's Staircase. The mountains here are covered with red pine with a mixture of pinions (August 12, 1871).

Here the contrast between safety and deliverance is less pronounced. He is moved to describe the landscape, but the description seems to lack emotional involvement. As so often, he writes rather clinically, objectively, geometrically. Even the comparison with the Devil's Staircase seems less to evoke a feeling than to offer an objective correlate. The details of scenic description are offered in terms of shape and size, number, slope, and interval: a firm geometrical sense.

On one outing, after he and two colleagues had helped to lug the photographic equipment "up the mountain from which Leaping Brook comes hopping down to the river," he "attempted to sketch some of the falls, but failed to do justice to its beauty so gave it up in disgust" (June 25, 1871). This is a rare glimpse of artistic impulse, even if it has no positive outcome. At least it suggests that he perceived scenes of beauty in the landscape that moved him to respond. Further, it indicates that he had a sense of artistic or aesthetic achievement that could be frustrated.

As they went along these first months, however, the notability of the terrain changed even while Hillers warmed to the experience. In one of his longest entries, July 7, 1871 (30 lines) he describes what must have been, for him, a sublime moment, even if the prose was restrained. After running several rapids in succession, getting the boat stuck on rocks, fishing a colleague out of the river, and tediously lowering the boats with lines, he writes the following passage:

> Then rushed down the river at 10 knots an hour, could fairly see it go down hill. Passed over some small rapids, all o.k. Then we opened out into the Valley of the Uintah. Craggy canon is formed of a mountain split in two by the River. Major first called it split mountain, but changed it to Craggy. Innumerable crags, peaks, and Pinnacles can be seen. Ridges running perpendicular to the River. The scenery is grand. Some peaks ran up to nearly 3000 feet. Those huge old crags bespeak age, a fine study for Geologists, but I decline to puzzle my brain with the age of stone. (July 7, 1871)

We see again the pattern of surviving danger and passing out into calm and beauty. Though the geometric description dominates (ridges perpendicular to river, shapes or forms of mountains), there intrudes also the sense of the scene itself *as scenery* and as distinguished by a sense of grandeur ("grand"). The sense of finding a particular feature to ground the naming, the sense that taken as a whole bit of scenery it is grand, the added depth dimension of age that confounds the geometric description—all these features suggest development of his aesthetic of seeing.

Some of Hillers's longest passages came in a brief trip away from the river. Powell had decided to head back to Uintah Agency for supplies and had Hillers accompany him. They set out on July 10, 1871. They met and visited with several settlers in the area and encountered some Indians. These encounters moved Hillers to several long accounts. He was fascinated in an anthropological way. The following passage, describing the experience when he "Smoked the Pipe of Peace with Old Tuckanoana," gives a flavor of his enthusiasm for what interested, and perhaps amazed, him:

> The Squaws do all the work while the head of the family takes it cool by picking the lice off himself which abound in his dirty carcass. Whatever they put on it stays there until it rots off. They never think of taking it off to wash. Their breeches are of Buckskin and are sewn on their legs skin tight, with sinnew or 'Tammu' as they call it. The women look dirty, some wear Buckskin dresses, fixed with beads. A dress of this kind is valued at about 50 dollars. They carry their children on a piece of bord with a basket on top as a cover for rain or sunshine. The 'Pappoose' is tied to the bord and slung on the Squaws back. It is very seldom that you heard one cry, and they are called pappooses until they get married. (July 11, 1871)

It seems clear that these human contacts engaged him and motivated him more strongly to write than any of the landscape or scenic experiences. Perhaps it is not surprising that the exotic natives elicited such a response.

Hillers returned to the river on July 21, while Powell continued on his quest for supplies and didn't rejoin the expedition until the end of August. When Hillers arrived at the river, "All hands came over to welcome me back an indeed I was glad to be 'at Home' with the boys" (July 21, 1871). They remained at that camp until resuming the river trip on August 5. As is typical, when confined to camp Hillers's diary entries become shorter still: "Washed my clothing and done a little mending" (July 22, 1871); "Took the Dean out of the water, put iron on her keel and caulked and pitched her" (July 26, 1871); "Washed and fished" (July 28, 1871). The irony is that these camp respites permitted the time to reflect.

Summer days on the river were spent running rapids and hunting anxiously for game (mostly deer or beaver) to supplement their meager supplies. Sometimes they would climb out of the river valley for hunting, for surveying or for taking pictures. Not all the vistas were beautiful, however, as Hillers noted in his entry for August 6, 1871:

> We left the valley about 3 p.m. yesterday and are gradually running into what is known as the Little Mountains by the people of this country, but not laid down on the map. Looking from the top it is the most dessolate looking country I have ever seen. Even the hardy sage dies for the want of nurishment. The only sign of life is on the bank of the River wherever it is sandy the willow and cottonwood grow.

It may be that the arid, barren desolation of the landscape was too culturally foreign to his experience to be regarded positively. Thus, he may have felt little impulse to dwell on its description or meaning. On another occasion, as they left one barren canyon and entered another with great visible seams of coal, he wrote, "The features of this are the same as in Desolation [Canyon]. It is God's country, for man don't want it" (August 24, 1871). Still, this desolation could give way to more hospitable landscapes. In this in-

stance, on the very next day he wrote: "The Valley of the White [Price River] is rich in scenery. It is called Castle Valley. The mountains on each side are so much eroded that they form all sorts of castles and fortresses, hence the name. Immediately on the bank of the river grow box elder, cotton wood, willows and grass" (August 25, 1871). The formulation "rich in scenery" is interesting, in that it seems to quantify, or add mass to, a generic scenic quality without specifying its elements. Scenery is implicitly beautiful, in fact a synonym in this context. You can have "more or less" of it in any given landscape.

Human perception depends upon basic distinctions and differences. Some of Hillers's entries rested upon such distinctions: "Passed a weeping willow tree on the right, first I have seen on the trip" (August 7, 1871). His description of the camp environment on August 17, 1871 also affirms his ability to pick out unique or distinctive features: "Opposite our camp is the most highest vertical cliff we have seen on the river. It is some 2800 feet high. On the top is a very singular rock. It resembles the cabins of this country. We called it Cabin Cliff. Mr. Beaman photographed it."

However, even as he got more involved in the photography projects, he still remained reticent about the process or his reactions. There is rarely an evaluation of the effort or the photographs, only the factual report that they went and took the pictures. For example: "Mr. Beaman, Clem and myself climbed a small mountain for the purpose of getting a view of Nine Mile Creek. Took four pictures and started back for camp" (August 18, 1871). Or, "Canonita [boat] stayed behind for Beaman to get a photograph of a natural bridge which spanned a gulch some 200 feet wide and 300 ft. deep, about 1500 ft. from the river. This bridge has been formed by erosion" (August 19, 1871). Or, "Beaman photographed an over hanging cliff of stone 1200 feet in height" (August 23, 1871).

After the major returned from his supply trip, at the end of August, 1871, the trip seemed to enter a new phase. Through September and until they stopped for the season in mid-October, the terrain changed and Hillers seemed to write more responsively to it. He begins to note bluffs as they move through Gunnison's Valley, along the Green River in Southeastern Utah, "but now and then would pass through a line of bluffs, highly colored. . . . Country is barren and lifeless. . . . Saw a beautiful little butte in the shape of a cathedral. Beaman took a photograph of it" (Sept. 4, 1871). This country had not yet been mapped and so many features had not yet been named. Hillers was aware that the expedition was changing this. "This part of the country is not laid down on the map and is left blank, but on our return will be filled up" (Sept. 6, 1871)[6].

A late summer storm created conditions that seemed to impress him. One of his longest scenic passages describes it:

> It began to rain fearfully when we reached the river, and a little while after hundreds of streams came shooting from the top of the bluffs. One in particular came shooting over a vertical wall 200 feet high. The spout was some eight feet in diameter. It looked like a river of red mud rolling down, having come from flats of red sandstone dust. It was a grand sight. . . . All the way down streams came shooting down, some bright as cristal while others were of a reddish or umber collor. Camped on the left bank in an oak grove. First oak seen on the trip. (Sept. 7, 1871)

On the same day he noted the distinctive topography of the sandstone canyons they were now entering. "Walls are increasing in height as we go down. A very peculiar feature is noticeable: the wall on one side is vertical while on the other it is rounded and sloping back. It changes at every bend of the river. In the bend the walls are vertical while on the other they slope and continue so until the river makes a turn" (Sept. 7, 1871). Again, the geometrical aesthetic predominates. Perhaps because he was traveling with surveyors who were making measures of size, scale and distance, which would well have informed conversations among the party, he was learning to see in those terms. The "grand sight" of the storm streams pouring over the bluff seems to rest on their size and height as well as their uniqueness— something he hadn't seen before. He seemed taken by the variability of water clarity—now "bright as cristal," now muddy, now colored—as they moved downstream.

The quality of shape seems to have been of aesthetic importance. For example, Beaman photographed a "tripled alcove" (Sept. 9, 1871), and a particular bend in the river where it "bent back and forward forming a bow knot" (Sept. 9, 1871). Again Beaman climbed out of the canyon "up on top of a ridge about 300 feet high and a thousand wide, and four miles long, round which the river doubles, forming the last loop of the bow knot" (Sept. 10, 1871). This is a surveyor's description as much as a photographer's. It becomes Hillers's dominant motif as they move deeper into the canyons. "The walls of the canon from 800 to 1000 feet in height. Very much cut up, forming numerous alcoves, pinnacles, columns, peaks, towers, castles, and cliffs" (Sept. 11, 1871). Next day: "The walls of the canon are broken down very much and I think can hardly be called a canon, being in some places only about 200 feet, while on the other points it is level with the river excepting a bank.

Saw a curiously eroded mountain or rather a cliff. It was in the shape of a Greek Cross" (Sept. 12, 1871).

Hillers seemed to become more attentive to the canyon. Now it was narrow, now wide. He was looking at the general shape: "This part of the canon is very wide, forming quite a little valley on each side. Walls are overhanging—that is, the homogenus sandstone projecting over the red sandstone which came up at last night's camp" (Sept. 13, 1871). Then there came a "valley of rocks." "I never saw anything to equal it. It was nothing but peaks, pinnacles, towers, spires and chimneys" (Sept. 13, 1871). These typical architectural shapes ground the vocabulary of description. He sees by reading cultural forms back onto terrain and topography the likes of which he's never seen. The focus seems clearly upon shape, form, outline—again a geometric basis. Later that day, "The canon since four o'clock is narrowing up—perpendicular and very rugged. Height 800 to 1000 feet. The country back is cut up, forming numerous terraces, gulches, alcoves, and winding stairways" (Sept. 13, 1871).

In this part of the trip, and of the country, the scenery seemed to take over. On September 16 a party climbed out of the canyon and while Beaman took "a lot" of pictures, Hillers took in the views: "From this point we could see the Siera La Salle stretching northward. A grand view is presented to the eye from this point, of craggs, buttes, spires, and pinnacles in various shapes and forms and color." Some of the party returned from exploring and reported "having seen parks formed or enclosed by pinnacles." The next day most of them headed out again to view these extraordinary parks:

> After an hour's climb we reached the top then walked two miles to the parks. Such a sight I shall never forget. I counted five parks enclosed by pinnacles formed by erosion. They looked to me like monuments in a cemetery. Everything looked sombre and deathlike. Nothing disturbed the scene except the sighing of the wind or the falling of a chip from the rock. The water collects in a large basin in the center of each park and from hence into a gulch into the river. (Sept. 17, 1871)

Note here the entrance of emotion, however bare, into the description. Though he still relies on the geometric shapes (pinnacles) and the scientific (geologic) explanation (formed by erosion), he now adds, via the cemetery comparison, the sense of mood (somber, deathlike) as well as the related auditory element of the sighing wind against the silence. It is a but a fleeting moment, but it evokes a twinge of emotional response.

The deeper, more rugged and changing canyon made the river running more difficult. Some description turned to the features they were navigating. On September 19, for example, Hillers noted, "This canon is called 'Cataract', and well it deserves its name. The water, while going over a fall or rapid, it goes down like steps of stairs." During these days they were kept busy running rapids, portaging around rapids, "picking our way through rocks," and lowering the boats down through treacherous passages on rope lines. They had close calls and harrowing personal escapes, almost losing a boat in the falls. During this period, remarks on scenery were minimal and in passing: "Dinner camp on the left, under a hackberry tree. Walls opposite vertical and 200 feet high" (Sept. 22, 1871). "Had a mile of swift water. Walls very craggy and vertical on top" (Sept. 23, 1871). "[P]ulled through into rapids, ran a little ways, then landed on the right to examine another. Walls craggy and slanting back, towering up some 3000 feet" (Sept. 26, 1871). "Pulled out and ran two small rapids. The canon is very narrow, walls perpendicular, from two to three thousand feet. Broken up in some places, forming towers and pinnacles, some of them nearly 1500 feet. Limestone at the bottom and sand on top" (Sept. 26, 1871). Finally, late in September, "This is the end of Cataract Canon, and thank God, it has been hard work ever since we left the junction. The walls break down and are only about 1800 feet high, all cut up into pinnacles and towers, crags innumerable, hence the name" (Sept. 29, 1871).

On Oct. 1, 1871, they cached one of the boats; they had run out of photographic supplies and were low on provisions. They moved down the river for another week before stopping for the season. As they entered modern-day Glen Canyon (which Powell at the time called Mound Canyon), he noted that the "top of the plateau is curiously eroded. Look like huge mounds closely joined, like a grave yard" (Oct. 2, 1871). He repeated this motif again the next day, using it to describe the country thereabouts more generally. "Canon very near a mile wide. Walls running up and down from 100 to 700 feet in height. Looking from the top it is a vast stretch of sandstone eroded, forming huge mounds closely packed together, like a grave yard. No vegetation can be seen, nothing but the bare rock" (Oct. 3, 1871). At another point, sandstone left the riverbed "as smooth as a barn floor" (Oct. 4, 1871).

The graveyard motif drew from a vocabulary touching only obliquely on the spiritual, yet still suggestive of mood. He had also previously compared formations to cathedrals and crosses. The religious undertones suggest the growing undercurrent of the sublime. Now, at the end of this first year, they came upon a temple:

> At dinner went up into a gulch, about a quarter of a mile, when our progress was stopped by a large temple or space containing a small pool of water. The water had undermined a solid rock, making a regular amphitheatre of about 500 feet long, 300 wide and 200 feet high. The walls rounded up. Almost closing at the top, leaving only a space of about 20 feet for daylight. Before entering this temple a beautiful little cotton wood ornamented its portals. (Oct. 5, 1871)

The temple analogy appears to derive from the sense of an enclosed space that one enters through portals marked symbolically by the cottonwood. The cavernous volume of the amphitheater creates the architectural sense. But if it's a temple in form, it doesn't seem to conjure up any sacred or spiritual response beyond the description.

The remaining entries for 1871 record the overland trip to Kanab and on to Salt Lake City and back to Kanab for the winter. They met Indians and settlers along the way. The entries are brief and devoid of talk about the environment. The final entry is, in retrospect, portentous for Hillers: "Discharged Beaman. Major and him had a falling out" (Nov. 26, 1871).

Into the Canyons: 1872

The second year of the expedition falls neatly into three phases. From the time he resumed his diary in February, until August 16, Hillers was moving around Southern Utah, securing supplies, trying to find accessible routes overland that would take them back to the Colorado River. They packed, hiked, camped up and down the canyons and valleys, returning in late June to the place where they had cached their boat the previous autumn. During this time Hillers and Fennemore took many photographs together and, though Hillers was not explicit about it, it seems apparent that this period saw him learning his craft. They repaired the boat, gathered supplies together and retraced their path along the river until mid-August, when they started down Marble Canyon, which leads into Grand Canyon. On August 15, 1872, Fennemore was too ill to continue the trip and he departed for Salt Lake City. On the 17th, Powell decided "to take only one photographic outfit" and Hillers became the official photographer. The second phase, lasting until September 20, comprises the actual running of the Colorado through Grand Canyon, until they stopped sailing on the 7th of September and hiked out of the Canyon on the 20th. The final phase, through October 26, covers the overland trip back to Salt Lake City[9].

During much of his photographic "apprenticeship" Hillers was not writing about the experience. It was clear that he was making photographs. In February, when he was made assistant to the ill-fated Clem, they began to practice. Typical entries indicated that they "got three views" (Feb. 25, 1872), or "tried to take views but snow drove us in after taking two" (Feb. 26, 1872) or "Took three fine views. Clem took two while I took one" (Feb. 27, 1872). On March 7, he wrote that he had "Photographed all the best scenery," but we don't know what it looked like or what made it the best or what he was comparing it to. The next day he "took views wherever we could get them." And "we filtered our bath and started taking views as we went" (March 9, 1872).

Then, on March 19, Fennemore arrived and replaced Clem. Hillers doesn't say much relationally, but it seems clear that he and Fennemore got on well and threw themselves into the photographic enterprise together. "Fen and myself made views of the Pocket and Gulch" (March 23, 1872); "Fen took picture of the mountain" (March 24, 1872). On a mountain top the party built a monument "while Fen. and myself tried to photograph but it was too hazie" so they stayed over night and in the morning "begun to take views until noon" (March 25 and 26, 1872). "Fen and myself took three views of a lava bed—a recent outpouring" (March 27, 1872). The next day they took three views near the camp, headed off for the Colorado, and took three more views (March 28, 1872). They could see the canyon in the distance. The next day they took two more pictures and tried to photograph some native hieroglyphics, but a storm came up and cut short the attempt. Hillers also began to work independently. On April 1 he set out with Andy, the expedition's cook, and he took a picture of another find of hieroglyphics.

Reaching the cliff high above the Colorado produced a rare outburst of emotion. "What a sight met my eyes! Looking down on the river from the top it appears to be nothing but a narrow gutter from the top to bottom—I should judge about 4000 feet and about 400 feet wide. It looked gloomy and forebidden" (April 1, 1872). Throughout April they worked their way across the plateau above the river, taking pictures when they could, sometimes stopped by stormy weather (e.g., April 12 and 16, 1872), other times taking "fine views of the river" (April 18, 1872). On one day they "obtained seven views" (April 19, 1872) and on another "made ten and returned to camp" (April 20, 1872). These brief accounts establish that Hillers had little interest in expounding on what was being photographed, or why. He tells us nothing about how he selected or framed the scenes or what goals might have motivated him. There is no reflection upon this period of intense apprenticeship.

Still waiting for the expedition to get underway, the party broke into groups and went exploring and photographing on the Kolob Plateau of southern Utah.

Here, Hillers begins to describe the landscape differently. They had climbed 3000 feet and into a snowstorm. Hillers recounts:

> What a change from four hours ago, people walking about in their shirty sleeves. The scenery is grand of its kind and affords fine subjects for the camera. The formation is homogenus sandstone. The top had been overflowed with lava. Some parts of a snow white, while others of it a dark red and intermediate color. Pinnacles innumerable, forming an immense harrow upside down. Here and there are scattered peaks, overlooking the others by a thousand feet. Or like giants among dwarfs. All bare rock, no vegetation on the towers. (April 28, 1872)

Note the scenery compared to "its kind," though that is left unspecified. Note also that he is explicitly seeing for the camera, though we aren't told what that means. Now he describes quality and form, color, a departure from the geometric measures he was accustomed to before. He reaches for metaphor: the pinnacles for an immense harrow upside down; the peaks are giants among dwarfs. The seeing is engaged, emotional, qualitative. He seems to begin to attempt to describe a scene as a compositional unity instead of just abstract geometric features. Still, however, he is not explicit about why these are "fine scenes for the camera." Embedded in that phrase is his unarticulated aesthetic.

Almost all of May 1872 was spent in camp at Kanab and at Pipe Springs, across the modern Arizona state line from Kanab. Here, he writes the fewest lines of any month, only 42, much of it devoted to cleaning up the equipment, printing and mounting their pictures. Early in June, having separated from the party to fetch ammunition he had left behind, Hillers was caught in a "regular mountain thunder shower which saturated every stitch on me." As he tracked the party to catch up to them, he had another epiphany with the landscape:

> Climbed up on a narrow strip resembling a hog back, from bottom to top 2500 feet—in some places it was only 2 ½ feet wide on top. The sun was just going down. When I reached the top I stopped to breathe. I looked down the awful chasm—it looked wild and forbidden, the valley below being in deep shadow. Table Mountain north of it with its pink colors reflected back the golden light of the setting sun long after she had gone from my view. A wilder view I never beheld. It surpassed the Wild Scene on the Colorado at Lava Falls. What a picture for Burstadt [Bierstadt]. After leaving the edge of the cliff I found myself in a beautiful little valley hemmed in by mountains on each side. (June 2, 1872)

Two features are notable in this passage. First, the sense of sublime suggested by "awful," "wild," and "forbidden." Second, his description becomes painterly when he refers to color not as a static property of a thing ("red sandstone") but more diffused in the reflection of sunlight. This is also felt in the contrast of light and shadow. Shadow in the valley is connected with the emotional response of wild and forbidden. The chasm is connected with awful. The mention of Albert Bierstadt (1830-1902), the famous painter of western landscapes, intrigues. It's the only such reference in the diary. The reference is appropriate, and reinforces the interpretation of a "painterly" seeing. There is also a sense of the invocation of diety. Here is finally an overt suggestion that the landscape reaches the level of a sublime art. No other description in the diary would come this close. He seems truly moved by the landscape.

As they continued their cross-country trek, they made numerous pictures. Hillers rarely said much about what they were photographing, often times only referencing the activity and/or the quantity of photos. One exception was June 5, 1872, when he wrote that they "climbed up the ledge with instruments to make pictures—succeeded in getting two fine ones showing the junction of the two streams and also the Canon." But is this a photo of aesthetic interest, or geographic interest, or both, or something else entirely? Sometimes he talks in general terms about the landscape they are photographing, but is less explicit about the actual photo. For example,

> After going about a mile we came to a jump-down of nearly a thousand feet deep, while the walls above us nearly measured the same. It gradually tapered down making it look like a huge bin, top of Canon being nearly 2000 feet wide while at the bottom only six feet, no water being in it, only in pocket. Photographed it and two other views, and then returned to camp. (June 6, 1872)

Again, even when explicit about what he is photographing, he offers no indication of why.

More frequently we learn only that they "went to a high point to obtain a panoramic photograph of the country," or "started down the Canon a little ways for pictures. . . . Made three pictures then returned" (June 7, 1972). Perhaps he was becoming inured to the scale and grandeur of scenery. He would climb 2000 feet up a mountain and note only "a grand sight is had from the top." Or, passing around a mountain at sundown, he wrote "the scene was grand—it put me in mind of

crossing the Isthmus of Panama. Struck a beautiful little Creek which came rushing taring down from the top of the crest" (June 8, 1872). The grand seems to become routine.

These days of mountain travel were difficult—"fearful" he called it:

> . . . no sooner have you reached the top of some Giant than you will have to climb down again on the other side some thousands of feet. Reaching the bottom or rather the divide you find a canon which cuts you off—now you have to go up to its head. Perhaps you are a lucky Dog and find where the water has undermined the bank and let it slope down at an angle of 60 [degrees]. Now pout on the corsetts, but no matter how tight you make them something will give way and away goes your pack. You're lucky if you find everything together again—some is sure to reach the water and then that is the last of it, for the water rushes down with a tremendous force and sweeps it beyond your reach. (June 9, 1872)

Here he seems involved in what he is writing, engaged by the description of what can go wrong, of how difficult the going gets. And perhaps this is the more significant message about encountering the Canyon as an explorer: far more significant than the visual aesthetic is the sheer physical engagement, the work and danger, of the enterprise.

He reports crossing "beautiful streams" and "the finest pasture I saw in Utah" and "a beautiful lake" they took a picture of. Along one "roaring stream" is "the finest place for a ranch I have seen in Utah" (June 9 and 10, 1872). Still, some simple landscape encounters move him to write more.

> We struck a stunning creek—it ran the most water of any we have seen—it ran very swift, jumping and foaming as it went down the steep slope, full of little falls. . . . It leaps over a perpendicular cliff over a thousand feet high, but its fall is broken by a large rock sticking out from the side about three hundred feet from the top—the rest of the way it goes a little slanting at an angle of about 80 [degrees]. (June 11, 1872).

We note his mixing in the surveyor's language of geometric description as well as the importance of the superlative (it ran the most water) in determining what gets noted.

And sometimes, he seems to see the terrain as simply obstacle: "The country below us is all cut up with gulches and canons for miles—nothing but sand rock is visible" (June 11, 1872). On one instance, after two hours climbing took them to 13000 feet above sea level and 3000 feet above their camp, he wrote that "[a] grand sight is obtained from this point of the surrounding country" (June 18, 1872). He identifies whole mountain ranges at each point of the compass. "Looking south, Mt. Seneca Howland stands like a sentinel guarding the junction of the San Juan and Colorado. . . . The intermediate country between here and all these mountains is cut up by canons and gulches. It seems almost impossible for men to travel over it" (June 18, 1872).

But they did travel over and through it, arriving back where they had cached one of their boats the previous autumn on June 22, 1872. After fixing up the boat, they sailed again along the final stretch they had traveled the previous year, stopping at the head of Marble Canyon to await Major Powell's return (in mid-August) from the six-month fund-raising trip he had made to the East over the winter. They explored side canyons and made numerous photographs during this time, but Hillers says little about either landscape or the pictures. They encountered Indian ruins that intrigued him, but we learn only that they "made four views" (June 26, 1872). On one day, "nothing of interest presented itself to photograph" but they camped later and photographed more ruins (June 27, 1872). On another day, he tells us they "made three views," started down river, stopped and "made two pictures," had dinner, "made two pictures of Red Bud Canon" (June 29, 1872). More ruins, "a large island in the shape of a heart" (July 1, 1872), "two pictures of a vertical wall, beautifully frescoed," (July 3, 1872), "a beautiful valley coming in, and also a creek, its edge studded with cotton woods" (July 3, 1872). And so it went, two pictures here, four there, two more, four more, too windy for pictures, not enough light for pictures—but only the barest mention, or no description at all, of what was photographed, or what was worthy of photographing, or why. This is all the more frustrating since the record seems to show that Hillers had developed his modes of seeing and talking about landscape greatly during this photographic apprentice phase.

Powell returned to the group on August 13, 1872. They had been hanging around camp and killing time waiting. The diary entries were short, the shortest of all. It was not enjoyable, as Hillers noted: "Hard to work trying to kill time" (July 29, 1872), "Trying to kill time" (Aug. 5, 1872), "Reading and sleeping" (Aug. 7, 1872), "Same as yesterday. Raining" (August 8, 1872). On August 15, Fennemore was again ill and decided to return to Salt Lake City. Powell cached some of the photographic equipment, took a single outfit, and made the by now experienced Hillers the official photographer of the Survey. Then

they set out into the final leg of the journey, the Grand Canyon itself.

Running the Grand Canyon

As before, when running the river, Hillers's entries are focused on movement and activity. They run a rapid, camp for dinner, have a portage, take a picture, run a rapid, camp, and so it goes. Comments about scenery are in passing: "Walls are now from 7-800 feet high" (Aug. 17, 1872). "Walls 1200 feet—grey and red sandstone with a bedding of limestone" (Aug. 18, 1872). This is survey language and geology language. "Have been running the marble up and is now up 100 feet. Walls of canon 2000 feet" (Aug. 20, 1872). "Canon very narrow, walls 3000 feet, nearly vertical, no foothold for portages" (Aug. 21, 1872). "A sort of greenish looking shale is making its appearance. Walls 3300 feet. Vertical on top and talused below" (Aug. 22, 1872). When he does describe a picture, it is objective, a catalog name: ". . . stopped to make a picture of a spring coming out of the side of the canon wall—flowed quite a stream. Also made a picture of a cave" (Aug 21, 1872).

Finally, on August 24, they left Marble Canyon behind and entered the Grand Canyon proper. It becomes quickly clear that the challenges of running the river in the canyon are the biggest they have encountered. It is not the scenery that engages Hillers, but the rapids and portages, the scale of effort: "Came to a hell of a looking place. Here the granite comes up, two gulches having emptied their debris, forming the biggest fall we have seen. Stopped at the head, made a picture of it" (Aug. 29, 1872). "Could not find a place to let down. Walls on each side vertical, smooth slippery rocks. . . . found our boat. . . filled in perfect hell of waves and foam. . . . Ran four more then came to another monster. . . . Spent all afternoon to make 20 yards" (Aug. 29, 1872). Hell and monsters no longer reference Bierstadt, but Bosch. A boat strikes a rock, fills with water, but there is no time to stop for repairs. They run ten miles and ten rapids "some of them very dangerous, but shot through them like an arrow. Could not make portage if we had wanted to. Vertical walls on both sides" (Aug. 31, 1872). "That is what I call going it, you bet. A lone willow flourishes here—the first since Marble Canon" (Aug. 31, 1872). Scenic descriptions are as rare and desolate as the canyon landscape itself.

These rapids continued for a week. An "old roarer of a rapid three miles long" (Sept. 1, 1872), a big rapid, three small rapids, a fall, a portage, "ran all afternoon, rapid after rapid, until 20 were left behind" (Sept. 2, 1872). So it goes, making pictures on the fly: two here, two there. They encounter "hellish big waves" and are "whirled about by whirlpools," are thrown overboard, sucked under, and find themselves "at the head of another huge monster" where they "had dinner, made two pictures" (Sept. 3, 1872). On September 5 they found "the narrowest place on the river, the river not more than 60 feet wide. . . . Half mile farther down heard an angel's whisper in the roar of falling water" (Sept. 5, 1872). They stopped at one creek to explore and "found several cascades—made pictures of them" (Sept. 6, 1872).

On another creek exploration Hillers made one of his few scenery comments on the Grand Canyon proper. "Had to climb up 800 feet. Obtained two pictures. A fine view is obtained from this height of the Grand Canon, its walls towering up 6000 feet, and terraced back, each formation forming a terrace" (Sept. 7, 1872). But that's it: towering walls and terraced forms—no color, no shape, no shadow, no expanse, no awe, no mood. They went back to camp and ran more rapids. Two days later, on September 9, "Quite a surprise this morning at breakfast. Major told us that our voyage of toil and danger was at an end on the river. Everybody felt like praising God" (Sept. 9, 1872). This seems like a great irony. Where moderns find God in their initial encounter with the Canyon, Hillers turns to God when he can finally leave the Canyon and put it behind him.

It took eleven more days to climb out of the Canyon. They worked their way out slowly, setting traps, taking pictures. Hillers offered almost miscellaneous descriptions as they went: "Walls of the canon 3000 feet. Lower stratum yellowish looking shale—upper part marble" (Sept. 11, 1872). "Got up about a mile. A stratum of limestone appears on top. Shales gone under, and now marble is on the bottom walls, growing lower" (Sept. 12, 1872). He has become a geological observer. But there is still the nascent photographer working. "[W]aited a long time for light—the sun only peeps down into the canon about half an hour, but as the canon changes directions every quarter of a mile, we got good light often" (Sept. 13, 1872). Still, the photographer is not really in love with his subject, or at least maintains an ambivalence. His summary thoughts betray this. "Spent a restless night. This canon is the most gloomiest place I have ever been in—not a bird in it. The only thing of life is the bat and mosquitoes. Made some fine work today" (Sept. 14, 1872). A few interesting features remain. Hillers enjoys the cactus apples that grow along the canyon walls. The canyon also "often doubles on itself, leaving only a thin wall in the bend. Photographed one today measuring in height over 2000 feet, all marble, measuring through its base only about 200 feet" (Sept. 15, 1872).

The remaining descriptions are all geological: "Walls now about 1500. Marble, lime and sandstone" (Sept. 16, 1872). "Ran the marble, lime and red sandstone under a kind of red shale and gray sandstone up.

Canon half mile wide. No water except a pocket. Walls about 900 feet. The shales are talus. The rest is vertical" (Sept. 18, 1872). "Run the shales and gray sandstone under and limestone up" (Sept. 19, 1872). Finally, on September 20, "[a]fter riding four miles we climbed out. What a relief to the eye, after being penned up in the canon for three months" (Sept. 20, 1872).

Hillers was now Powell's chief photographer. The Canyon expedition behind them, Hillers spent some time putting their supplies and photographic equipment in order. The diaries conclude with descriptions of a trip to photograph the Kaibab Paiute Indians near Kanab and then to the Hopi mesas. Hillers stayed with Powell for the next two years, working to map the High Plateau area of Central Utah (Fowler, 1872, p. 152).

Conclusion

My naïveté led me to assume that the grandiosity of the enterprise, from my modern perspective, would be matched by a grandiose prose. I expected Hillers to be a "seer" because he became a photographer. I expected descriptions of landscape founded on awe, evoking the sublime, conveying majesty and grandeur. But this perhaps only suggests that I was guilty of reading my experience of today's symbolic complex of the Canyon back onto Hillers. Certainly he was aware (who can say whether consciously?) that scenery could be abstracted from the general environmental background, and that it could be grand, fine, or beautiful. He had at least a primitive sense of landscape aesthetic. He was able at one or two points to register awe and approach the dread and the spirituality that are characteristic of the sublime. But his discourse turned out to be largely unemotional, save for the excitement surrounding the dangerous passages through rapids. For scenery, he was more often clinical and abstract.

Perhaps befitting the conversation of his comrades and their technical mission as a scientific survey, Hillers was more often geometric and technical in his descriptions, recording the shapes, sizes, attitudes and angles of landscape features. He noted unique features of landscape, typically in terms of features that looked like, or reminded him of, human cultural features from the American experience—a butte in the shape of a cross, a terrain mounded like graves in a graveyard, a mountain shaped like a hog's back, a plateau scraped clean as a barn floor, hills shaped like a harrow turned upside down. Thus, those features that attracted his notice seem to be instances where he could project cultural terms onto the landscape.

A more precise understanding and evaluation of his diary, and his aesthetic of seeing, would be greatly aided by comparison with the other diaries on the expedition. This would allow perhaps a more complete sense of discourse, relationship, and activity to inform our judgments. Similarly, this research could be extended by comparing Hillers's journal with those of other explorers of the West, not only those of his own expedition, but those of the King Survey, Haynes Survey, and Lewis and Clark. Perhaps we would find a firmer basis for generic understanding of a discourse of exploration. Finally, we would gain better understanding of his aesthetic of seeing by reading the diary along with an analysis of the pictures he made on the expedition. Fowler (1972) includes 44 photographs relating to the expedition, only eight of which are landscapes by Hillers. The majority of the pictures reprinted record the ethnographic studies of the Southwest Indians.

It seems clear as well that his ability to see evolved in parallel with his interest in, his apprenticeship in, and his increasing practice of photography. Though he is never introspective about what he is thinking or learning, there are a few instances where one can see him framing scenes, or at least seeing in the landscape elements that will serve as subjects (or objects?) of photography. I didn't measure the percentage of commentary devoted to photography, but it would no doubt rank highly after one takes out the reports on camping, portaging, running rapids, and river activity in general—by far the greatest preoccupation of the diaries. If we subtract the activities of necessity, the physical work of the expedition qua expedition, photography would be the largest remainder, the single greatest investment of optional activity. It is not surprising that it leads him to some moments of scenic description, or at least influences how he sees. What is perhaps more surprising is that it does not lead him to reflect upon this learning.

On the other hand, Hillers is a man of action and his sense of what counts as important in the record of the journey is strongly physical, the encounter of humans with nature as a force, symbolized and condensed in the running of the river. It is important to remember that he did not come to the Canyon as a tourist, but in a sense, as a laborer. He did not come to enjoy scenery, but to work, to explore a dangerous river and chart the unknown. Thus, his experience of the Canyon is as a site—even a process—of physical adventure, not as a site of aesthetic contemplation. Such concerns are secondary to his mission.

Since he did not have the limitation, or the influence, of a preformed symbolic complex, it seems reasonable to assume that he did not find the Canyon a special place in the same sense that we find it today. Nor was he under any obligation to confirm a preexisting conception of what the Canyon must look like, or what one must see to have a "genuine" Canyon

experience, as Percy (1975) amusingly argues. It may be significant that the modern symbolic complex is born of industrial tourism and the leisure that makes possible contemplation of the Canyon, from the rim, as an aesthetic artifact. Such leisure and contemplation were not possible to the explorers who were running the river at the bottom of the Canyon, and whose day-to-day physical existence was circumscribed by severe survival requirements. It may be, then, that aesthetic contemplation and appreciation in fact requires leisure for its exercise and its development.

We now hear the term "Grand Canyon" and conjure a postcard, synoptic image, typically from somewhere on the South Rim. That represents, or at least condenses, a good part of "seeing" the Canyon. Our titular term connotes that the Grand Canyon, as a noun, is a singular, unified, coherent thing or entity. Thus, it must be comprehensible to the eye, seeable. But perhaps the enduring lesson of Hillers's diary accounts in this regard is that he couldn't see the Grand Canyon as a whole, as a photograph. The Canyon, for him, was a physical activity, changing daily, engaging not just his eye but his whole body. There was no singular, unified Canyon he could summarize as a photograph; there were instead the many canyons that unfolded over the weeks of the journey. Instead of lamenting the absence of a unifying aesthetic in his diary, as I have tended to do here, we should rather rejoice that he has reminded us of the perhaps truer processual basis of our relationship with the natural world.

Notes

1. Wallace Stegner notes that "few exploring journeys have actually been so thoroughly annotated as Powell's second trip down the Colorado" (1953, p. 136).

2. Sue Senecah (1992) traces the evolution of the rhetorical construction of the Grand Canyon from desolate wasteland into its current status as a "multi-referential sacred symbol, an icon, within American culture" (p. 203). Her historical treatment is an excellent introduction to the various eras and actors in the Canyon's construction as culturally significant site of "nature."

3. I must point out that I do not relate this project either to the history of today's Grand Canyon National Park, or to the experience of today's Canyon visitor, though these findings might make an interesting background for such inquiry. The Grand Canyon has an ample literature and I make no claim to have surveyed it. Interested readers may consult, for a start into Grand Canyon lore, Stephen J. Pyne's brief history (1998). Perhaps the most significant history of the Canyon's early exploration is Wallace Stegner's *Beyond the Hundredth Meridian* (1953), which recounts the Powell expeditions Hillers chronicles. An excellent short article by Susan Senecah traces the development of the "big canyon" into a "grand icon" (1992). Alfred Runte's (1979) now classic history of the national parks describes the role of monumental scenery in warranting the creation of the national parks. Marc Neumann's new ethnographic study examines the contemporary visitor experience (2000; see also Hardy-Short & Short, 1997).

3. Senecah (1992) reports at least six "competing and complementary attitudes" towards nature, and, by extension, the Canyon (pp. 206-7). They are: biblical, instrumentalist, romantic, scientific, adversarial, spiritual. Though I have not used these categories formally in this analysis of Hillers's diaries, I believe the categories provide a useful schema for making sense of

   Hillers's discourse and features from several of these categories crop up in my analysis.

4. All diary entries are found in Fowler (1972). I will therefore refer only to the date of the entry. Spelling is rendered in the original, without [sic].

5. A note about the photography: I'm not a photographer and know little of the technicalities of the process. I've learned, however, that the equipment in use at that time was primitive by today's standards, and cumbersome to deal with. Fowler reports that "Beaman's equipment—large format camera, portable darkroom, chemicals, and large glass negatives for the collodion wet-plate process then used—weighed nearly a ton" (1972, p. 10). When we consider that this equipment had to be set up and taken down regularly, stowed aboard the small boats, run through river rapids, and portaged around the worst, then lugged up out of the canyons for the panoramic vista scenes, we begin to get some sense of the level of labor and commitment photography implied. Perhaps this is also a reason why Hillers seemed to have little interest in commenting upon photography at the end of the day. See also Stegner's note about the difficul-

ties in dealing with the equipment (1953, p. 390).

6. Fowler speculates that he actually purchased the diary book while on a supply trip, since Jones' diary entry notes the event on August 9, 1871, a day that Hillers had just returned from a supply trip (Fowler, 1972, p. 15). If so, the first part of the diary must have been constructed from memory after the fact, perhaps relying on the accounts of his comrades. Whether he copied from intermediate notes, we do not know. From the start of the trip to August 9, 1871 he provides 86 diary entries, nearly 700 lines of printed text, a bit over 10,000 words, or about 28% of the total 36,500 words he wrote covering this two year expedition.

7. Stegner reports that "Powell also took pains to honor his immediate associates and assistants. Every member of the Powell Survey. . . seems to have been immortalized in some topographical feature of the High Plateaus or the Grand Canyon" (1953, p. 193). Hillers has both a butte and a peak in Utah's Henry Mountains named after him.

8. Remaining portions of the diary, recounting Hillers's travels with Powell among the Southwest Indians, have not been considered as part of this project.

References

Fowler, D. (Ed.). (1972). *'Photographed all the best scenery': Jack Hillers's diary of the Powell expeditions, 1871-75*. Salt Lake City: U of Utah.

Ghiglieri, M. (1998). *The American Experience: Lost in the Grand Canyon*. Boston: PBS/WGBH Educational Foundation. http://www.pbs.org/wgbh/pages/amex/canyon/ filmmore/ transcript/ transcript1.htm

Hardy-Short, D. & Short, B. (1997). Redefining the wilderness experience: The Grand Canyon, Canyon Forest Village, and controlled tourism. In S. Senecah (Ed.), *Proceedings of the Fourth Biennial Conference on Communication and Environment* (pp. 217-225). Syracuse: SUNY College of Environmental Science and Forestry.

Mallon, T. (1984). *A book of one's own: People and their diaries*. New York: Ticknor & Fields.

Neumann, M. (2000). *On the rim*. Minneapolis: U of Minnesota P.

Oravec, C. (1981). John Muir, Yosemite, and the sublime response: A study in the rhetoric of preservationism. *Quarterly Journal of Speech, 67*, 245-258.

Oravec. C. (1982). The evolutionary sublime and the essay of natural history. *Communication Monographs, 49*, 215-228.

Percy, W. (1975). *The message in the bottle*. New York: Farrar, Straus, and Giroux.

Pyne, S. (1998). *How the canyon became grand: A short history*. New York: Viking.

Runte, A. (1979). *National parks: The American experience*. Lincoln: U of Nebraska.

Senecah, S. (1992). The sacredness of natural places: How a big canyon became a grand icon. In C. Oravec & J. Cantrill (Eds.), *The Conference on the Discourse of Environmental Advocacy* (pp. 203-223). Salt Lake City: U of Utah Humanities Center.

Stegner, W. (1953). *Beyond the hundredth meridian: The exploration of the Grand Canyon and the second opening of the West*. Boston: Houghton Mifflin.

Appreciating the Wilderness: Aesthetics and Wilderness Preservation in the Forest Service/Park Service Controversy of the 1920s

Steve Schwarze
Department of Communication Studies
University of Montana—Missoula, MT
(1999 Affiliation, Department of Speech Communication, Augustana College, IL)

Abstract

This essay argues for a rhetorical explanation of the relationship between economics and environmental preservation. It contrasts wilderness preservation efforts of the National Park Service and National Forest Service in the 1920s and 1930s, and claims that neither explicit economic pressures, nor an implicit sense of economic affluence, can entirely explain the appeal of each agency's wilderness preservation efforts. Instead, this essay argues that the tacit connection between economic standing and aesthetic appreciation contributed to the persuasive appeal of each agency's preservation efforts. Using Thorstein Veblen's theory of aesthetic taste as a point of departure, I show how the different social display functions served by different modes of wilderness appreciation contributed as much to the success of preservation policies as did the more direct economic interests that led to their implementation.

The relationship between economic pressures and environmental preservation constitutes a fundamental problematic for environmentalism and for the study of environmental communication. In some instances, scholars have characterized this relationship as dictated by direct economic pressure: powerful economic interests define the terms of environmental controversies and limit the extent of preservation efforts (Luke; Meister and Japp; Rowell). In other cases, the relationship has a more indirect character: general economic affluence promotes public receptiveness to environmental preservation (Nash, Allin).

These economic explanations provide a useful account of the broad outlines of preservationist attitudes and policies. However, neither the sheer power of capital nor a widespread sense of affluence can entirely determine specific attitudes or policies. Those economic factors cannot fully determine how the meaning of "preservation" gets articulated in a particular situation, nor can they explain why some articulations of preservation are persuasive. In order to answer these questions, a more subtle, rhetorical explanation of the relationship between economics and environmental concern needs to be developed.

This essay proposes an explanation that emphasizes the tacit connection between economic standing and aesthetic appreciation. I explore this connection by focusing on the preservation efforts of the U.S. Forest Service and the National Park Service in the 1920s. In contrast to other wilderness historians (Allin; Nash; Rothman), I argue that neither explicit economic pressures, nor an implicit sense of economic well-being, can entirely explain the appeal of each agency's wilderness preservation efforts. Instead, I claim that the display function of wilderness appreciation contributed to the appeal of each agency's preservation efforts. The display function of wilderness appreciation helped make different types of preservation persuasive and appealing to different segments of the population.

I develop this argument in three parts. First, I explain briefly how economic standing influences aesthetic taste, using the vocabulary from a text that gained popularity during the time of the controversy: Thorstein Veblen's *The Theory of the Leisure Class*. Second, I show how Veblen's arguments confirm the interpretations of wilderness historians who argue that increasing affluence made it possible for wilderness to be perceived as an object of aesthetic appreciation rather than merely a location for material resource extraction. Third, I complicate the argument of these historians by explaining how the display functions of aesthetic appreciation help make different types of preservation persuasive. The Park Service's preservation policies were driven by an aesthetic of automobile tourism; the Forest Service responded by establishing roadless wild areas that preserved an aesthetic of pioneer living. The different display functions served by different modes of wilderness appreciation contributed as much to the success of preservation policies as did the more direct economic interests that led to their implementation.

As I show in this paper, histories of wilderness preservation explain the conditions that made these preservation efforts possible. However, they do not explain how different kinds of efforts get articulated in persuasive and appealing ways. This paper attempts to provide a rhetorical account for those appeals.

Economic Standing and Aesthetic Appeal: Veblen's Theory

Veblen's *The Theory of the Leisure Class*, written in 1899, develops a useful vocabulary for explaining the relationship between the economic order and aesthetic appeal. In Veblen's view, aesthetic tastes and the socio-moral judgments attached to them are shaped significantly by the need for economic distinction. Veblen argues that once societies escape a purely subsistence economy, persons seek out objects and activities that allow them to display their exemption from a life of sheer work. They engage in visible leisure activities (conspicuous leisure) and proudly consume unnecessary objects (conspicuous consumption). In Veblen's view, these leisure activities and acts of consumption gain their appeal from the social function these actions serve. By displaying these actions before others, persons signify their economic standing and gain honor and esteem. Because of these socio-moral rewards that accrue from acts of conspicuous consumption and conspicuous leisure, over time those acts become attractive and appealing in themselves.

Veblen's argument suggests that the social functions of conspicuous consumption and conspicuous leisure help determine aesthetic appeal. Even though these aesthetic determinations are far removed from their supposed origins in the transition out of a subsistence culture; and, even though persons are not necessarily conscious of this determination, Veblen contends that we still seek out and appreciate those objects and activities that best display our exemption from work. This explanation of taste attempts to refute the common-sense belief that aesthetic appreciation is derived from the inherent attractiveness that emanates from an object or from the intrinsic pleasure of some leisure activity. The supposedly inherent and intrinsic dimensions of objects and activities are rationalizations (in Veblen's terms, the "proximate grounds") of why these objects and activities are desirable.

Ultimately, Veblen offers an account of the economic grounds of aesthetic appeal. He shows how objects and activities come to be seen as aesthetically appealing, and persist in being perceived that way, because of their usefulness in displaying economic standing and garnering social and moral rewards. Insofar as consumption and leisure can be used to heighten one's standing in the eyes of others, people will gravitate toward those objects and activities that best display exemption from a life of sheer work.

Aesthetic Appeal and Wilderness Appreciation

Veblen's theory of aesthetic appeal supports the claims of wilderness historians that appreciation of wilderness is predicated upon one's distance from labor. For example, Roderick Nash and Craig Allin point to two different groups that exemplify how economic standing influences wilderness appreciation. First, they refer to early American writers who praised the virtues of the wilderness. In describing wilderness appreciation as a literary genre among romantic writers, Nash claims that "the capacity to appreciate wilderness was, in fact, deemed one of the qualities of a gentleman. Invariably the essayists associated enjoyment of wild nature with refinement and good breeding" (60). Here, wilderness appreciation signaled a certain social standing. Craig Allin makes a more direct biographical comment in characterizing Henry David Thoreau and George Catlin: "What is significant is not that they possessed fabled riches, for they did not; but that their economic situation freed them for substantial periods of time from the mundane considerations that must preoccupy anyone in a subsistence economy" (24). For both Allin and Nash, wilderness appreciation as exhibited by these writers goes hand-in-hand with economic standing.

Second, Nash and Allin suggest that at the turn of the century, a growing portion of American society in general was in an economic position to appreciate wilderness. Allin asserts that, "In the process of taming the continent [during the 1800s], economic surpluses were generated which made a modicum of education and leisure available to a greater number of Americans. These men and women were sufficiently freed of the oppressions of a subsistence economy to value wilderness in its own right and to concern themselves over its diminution" (24). Nash, too, claims that "the average citizen could approach wilderness with the viewpoint of the vacationer, rather than the conqueror" (143). Both of these claims assert that economic standing influences people's aesthetic perception of wilderness. For turn of the century Americans, economic advances that allowed citizens to distance themselves from the daily struggle with wild nature provided the condition of possibility for aesthetic appreciation. Once that struggle has been overcome, wilderness can be appreciated aesthetically, rather than viewed as a sheer material resource.

So far, I have argued along with Allin and Nash that economic conditions at the turn of the 20th century made wilderness appreciation possible. Writers who were detached from a life of labor began to see the wilderness in a new light, as did growing numbers of Americans who gained distance from daily struggles with nature. Although individuals may have given

other reasons why they appreciated wilderness, the perspective offered by Veblen and contemporary wilderness historians provides a more fundamental economic and social explanation: this aesthetic preference became possible because it functioned as a sign of one's economic standing.

There is a limit to the explanatory power of this argument, however. Allin and Nash argue that elevated economic standing makes it possible for people to appreciate wilderness and to favor its preservation. But these arguments cannot explain why specific types of preservation come to be seen as aesthetically appealing. They describe the conditions needed for wilderness appreciation to emerge, but they do not explain why people might prefer a certain type of preservation or a specific kind of wilderness experience. Given contemporary disputes about management of national parks and wilderness areas, this question continues to be a salient one. Therefore, in the next section I explain how different aesthetic appeals emerged from the more general impulse toward preservation, using Veblen again to discuss these differences.

Wilderness Appreciation and Preservation: Institutional and Aesthetic Factors

The cultural appreciation of wilderness heightened the demand for outdoor recreation in early twentieth-century U.S. In 1916, Congress formed the National Park Service, and by 1920 over 920,000 people were visiting the parks each year. While this was a tremendous start for the fledgling agency, it did not yet match the national forests, which attracted three million recreational visitors in 1917 (Allin 67). The competition between these agencies for tourists and control over land and resources led to a protracted struggle between the Forest Service and Park Service during the 1920s (Rothman). In part, the struggle between these institutions was a struggle between two different types of preservation that were articulated to two different aesthetics: an aesthetic of automobile tourism and an aesthetic of pioneer living.

The Park Service's approach to preservation was shaped in part by its close connections with the automobile industry. Although the Park Service was charged to preserve scenic and historic lands, the specific form of preservation it implemented ultimately made automobile tourists, rather than wilderness, the primary concern in decision-making. Steve Mather, the first head of the NPS, devoted his energy to building roads in the parks in order to attract automobile tourists. Thus, preservation within the Park Service meant preservation oriented to automobile tourists (Rothman 114).

The institutional relationship between the Park Service and the automobile industry helps explain the broad contours of the Service's approach to preservation. However, it does not explain the persuasiveness of the Park Service's approach. It cannot explain why people flocked to the parks and why people perceived this mode of appreciation as desirable. Veblen's notion of conspicuous leisure, however, helps explain the appeal of the Park Service's articulation of preservation. In the National Parks automobile tourism, supplemented by hotel and resort accommodations, functioned as a means for vacationers to display their leisure time. What made this a desirable option was not merely the increasing preservationist sentiment discussed by Allin, nor only the close connections between Mather and the auto industry, but also the fact this form of tourism promoted conspicuous leisure as described by Veblen. In other words, the Park Service's type of preservation was desirable because it afforded persons the opportunity to display their status as people of leisure.

A similar pattern of institutional interests and aesthetic preferences converged in the Forest Service's articulation of preservation. The Forest Service saw the Park Service's attempts to acquire their land as a significant institutional threat (Allin 67). By the mid-1920s, the leadership of the Forest Service began to pursue strategies of defense against Park Service acquisitions. One strategy involved criticizing the Park Service's preservation attempts. In the eyes of few Forest Service employees, development in the national parks came at a price. The problems and pressures of industrialized America that led people to wilderness in the first place were reproducing themselves in the National Parks. For example, Aldo Leopold writes in *Sunset Magazine* in 1925 that the desire to build roads threatened the very possibility of wilderness:

> To my mind the Good Roads Movement has become a Good Roads Mania; it has grown into a pleurisy. We are building good roads to give the rancher access to the city, which is good, and to give the city dweller access to recreation in the forests and mountains, which is good, but we now, out of sheer momentum, are thrusting more and ever more roads into every little remaining patch of wilderness, which in many cases is sheer stupidity. For by so doing we are cutting off, irrevocably and forever, our national contact with the Covered Wagon days. (21)

In response to these sorts of concerns, the Forest Service designated certain lands as roadless preserves. These designations allowed the Forest Service to retain control of their lands and allowed it to garner the

support of some preservationists. Although the designations were motivated in part by institutional threats, this sort of action was appealing because of the aesthetic sensibility of preservationists who were critical of widespread commercial development.

As with the Park Service, an institutional explanation of the Forest Service's actions only partially accounts for the emergence of this type of preservation. It does not explain why people found the Forest Service's approach to preservation and that mode of appreciation desirable. In this instance, Veblen's concept of the instinct of workmanship gives us some clues as to how this mode of wilderness appreciation becomes appealing. For Veblen, the instinct of workmanship is the desire in all human activity to accomplish some specifiable end. Proceeding from the assumption that humans are goal-directed beings, Veblen asserts that humans have a propensity to perform tasks efficiently and have a distaste for "futility, waste, or incapacity" (15). In other words, we prefer activities that efficiently achieve their goals. Even leisure can be performed efficiently, insofar as it produces esteem in the eyes of others.

In the Forest Service, then, the mode of appreciation that linked rugged outdoor recreation to the practice of wilderness preservation helped realize the instinct of workmanship. The appeal of the Forest Service's preservation policies can be understood as a manifestation of the desire to engage in productive activity, even while ostensibly partaking of leisure. This connection between wilderness and the desire for efficient, productive activity resonates with much early 20th century discourse that laments the loss of the wilderness. For example, Teddy Roosevelt and Aldo Leopold both relied on Frederick Jackson Turner's "end of the frontier" thesis to advocate preservation of wild areas (Nash 149). They advocated preservation in part because they believed that struggles against wild nature help produce a distinctively American character. As Leopold put it:

> There is little question that many of the attributes most distinctive of America and Americans are the impress of the wilderness and the life that accompanied it. If we have any such thing as an American culture (and I think we have), its distinguishing marks are a certain vigorous individualism combined with ability to organize, a certain intellectual curiosity bent to practical ends, a lack of subservience to stiff social forms, and a intolerance of drones, all of which are the distinctive characteristics of successful pioneers. ("Wilderness" 401)

Leopold's praise of industrious pioneer living exemplifies how social and moral rewards accrue from the instinct of workmanship described by Veblen. Thus, the instinct of workmanship helps explain the appeal of the Forest Service's preservation efforts, in which wilderness preservation was intended to promote rugged outdoor recreation. These efforts generated a mode of appreciation that allowed people to garner a sense of social and moral worth on two levels. Not only could they partake in leisure activity in the forests (thus signaling their exemption from work), but they also could partake in the productive, practical activity that characterized life on the frontier (thus realizing their instinct of workmanship). Wilderness preservation in the forests becomes appealing, then, as it articulates two apparently contradictory sources of esteem: leisure and productivity.

While wilderness historians such as Nash and Allin have noted the role of Turner's frontier thesis in shifting public sentiment toward preservation generally, none have explained the impact of this sentiment on competing versions of wilderness preservation. However, Veblen's concept of the instinct of workmanship helps us understand why the Forest Service's articulation of wilderness preservation was persuasive. The rationales for wilderness untainted by roads and commercial development emerge from the ascendancy of the frontier thesis and anti-commercial sentiment (Nash 143-145). But these arguments become persuasive because the form of recreation that began to emerge in the Forest Service fulfilled an important desire: the desire for productive activity. The articulation of wilderness preservation and primitive outdoor recreation served both the need for leisure display and the instinct of workmanship.

The Forest Service/Park Service competition in the 1920s, then, points to an important set of arguments about the meaning of preservation. These arguments and assumptions are still relevant, as disputes about park and wilderness management rage on today. As in the 1920s, economic conditions do not dictate the meaning of preservation; contemporary management disputes show all too clearly that what it means to preserve wilderness is still up for grabs on many public lands. Controversies about snowmobile use in wilderness areas of Denali National Park and competing forms of winter transportation in Yellowstone National Park reveal an ongoing concern about the appropriate mode of aesthetic appreciation on public lands. As in the 1920s, the aesthetic tastes of different segments of the population will continue to influence policies that come to signify "preservation" on these lands.

Conclusion

This essay has shown that the tacit relationship between economic standing and aesthetic appeal plays an important role in the articulation of preservation on public lands. In the case reviewed above, the economic interests of the automobile industry and the institutional pressures on the Forest Service appear to dictate the sorts of wilderness preservation policies that the Park Service and Forest Service adopted in the 1920s. But importantly, these preservation policies gained their persuasive power by aligning with citizens' aesthetic preferences. The Park Service and the Forest Service articulated preservation policies that aligned with two distinct modes of wilderness appreciation. One favored a leisurely mode of appreciation based in an aesthetic of automobile tourism, while the other favored a rugged mode of appreciation based in a utilitarian, pioneer aesthetic.

Using Veblen, I have demonstrated how economic factors influence each of these aesthetics. Thus, the relationship between economic factors and concern for the environment takes on a more complicated character than the sheer power of capital destroying the environment or the blanket acceptance of a unified preservationism in good economic times. When there is agreement on preserving the environment, those models of economic influence cannot help explain disagreements about modes of preservation or differences in aesthetic taste. Veblen's explanation of the economic influences on aesthetic appeal provides us with a potential vocabulary for explaining these differences. Although I have focused on a historical example in this essay, I believe that such a vocabulary can continue to help us in understanding contemporary arguments about preservation of the environment.

Works Cited

Allin, Craig W. *The Politics of Wilderness Preservation*. Westport, CT: Greenwood, 1982.

Leopold, Aldo. "Conserving the Covered Wagon." *Sunset Magazine* 54 (March 1925).

—. "Wilderness as a Form of Land Use." *Journal of Land and Public Utility Economics* 1 (1925): 398-404.

Luke, Timothy. "The Nature Conservancy or the Nature Cemetery: Buying and Selling 'Perpetual Care' as Environmental Resistance." In *Ecocritique: Contesting the Politics of Nature, Economy, and Culture*. Minneapolis: U of Minnesota P, 1997. 56-74.

Meister, Mark, and Japp, Phyllis M. "Sustainable Development and the Global Economy: Rhetorical Implications for Improving the Quality of Life." *Communication Research* 25 (1998): 399-421.

Nash, Roderick. *Wilderness and the American Mind*. New Haven, CT: Yale UP, 1967.

Rothman, Hal K. "'A Regular Ding-Dong Fight': The Dynamics of the Park Service-Forest Service Controversy During the 1920s and 1930s." In *American Forests: Nature, Culture, and Politics*, ed. Char Miller. Lawrence: U of Kansas P, 1997.

Rowell, Andrew. *Green Backlash: Global Subversion of the Environmental Movement*. London: Routledge, 1996.

Veblen, Thorstein. *The Theory of the Leisure Class*. Penguin Books, 1967 (1899).

Arguing a New Ecology: Marjory Stoneman Douglas, The Voice of The River of Grass

Bruce J. Weaver
Department of Speech Communication
Albion College—Albion, MI

Abstract

When Marjory Stoneman Douglas died in 1998 at the age of 108, we lost one of our great environmental communicators. This essay focuses on her landmark 1947 book The Everglades: River of Grass and discusses her ecological position in favor of national park designation, which is more consistent with contemporary environmental argument than reflective of mid-century rhetoric. Douglas's argument is persuasive for a new type of national park, while simultaneously transforming the communicator herself.

On May 14, 1998 the American environmental movement lost one of its most persuasive voices with the death of Marjory Stoneman Douglas. Her record as an environmental activist is impressive and extensive as many of her 108 years were spent writing and speaking in favor of a number of environmental issues, most noteworthy being the salvation and restoration of the Florida Everglades. Her best-selling social and environmental history *The Everglades: River of Grass*, first published in 1947, the year 1.6 million acres were designated a national park, established her as a major force in environmental communication and the most widely respected spokesperson for the Everglades and its flora and fauna. Later, she founded the Friends of the Everglades when it became obvious to her that national park designation did not guarantee south Florida's ecological integrity from agricultural, tourist, and land development encroachments.

Douglas's contributions to American environmentalism have been praised over the years, especially in the last decade as evidenced by a wide range of recognitions including the Medal of Freedom awarded her by President Clinton in 1993 and Lisa Simpson's designation of Douglas as one of the women who most influenced her views as a feminist and an environmentalist on the popular cartoon *The Simpsons*. Douglas has been described by Florida's governor as a "prophet who inspired us to save our environment for our children and our grandchildren." She was represented by a fellow environmentalist as "the giant on whose shoulders we all stand." And a U.S. president argued that "long before there was an Earth Day, Douglas was a passionate steward of our nation's natural resources, and particularly her Florida Everglades" (Lester, May 15, 1998, p. 4B).

Despite endless acknowledgments of her persuasive accomplishments, Douglas has not been discussed whatsoever by communication scholars. Her groundbreaking persuasive book on the Everglades and her numerous speeches arguing in favor of Everglades restoration and panther and alligator protection have evaded scrutiny by environmental communication scholars despite numerous references to her legendary ability to communicate both as a writer and as a speaker. In the introduction to her popular autobiography *Voice of the River* printed in 1987 in celebration of her 97th birthday, John Rothchild identified Douglas as an effective communicator:

> The first time I saw Marjory Stoneman Douglas was in the gymnasium of the Everglades City school. It was 1973, sometime late in the summer, known locally as the mosquito season. An incredible optimist in this town of 100 stone crabbers and a handful of odd Yankees, lost in the fog of mosquitoes at the edge of the Everglades National Park, had proposed to build a suburb. The optimist needed a bridge permit, which was the subject of this public hearing, sponsored by the U.S. Army Corps of Engineers.
>
> The suburb idea stirred up environmentalists from both sides of the state, and they were fighting the bridge permit. We townspeople, most of us opposed to the development ourselves, were delighted when Mrs. Douglas appeared in her famous floppy hat. We'd heard that this powerful woman, old enough to be prehistoric by Florida standards, would not allow any suburbs in the Everglades. In fact, it was rumored that she'd more or less created the Everglades and was as fiercely protective as a parent for a child. (Douglas, 1987, pp. 13-14).

Rothchild continued with a description of Douglas's ability to mesmerize an audience through public speaking:

> Mrs. Douglas was half the size of her fellow speakers and she wore huge dark glasses, which

> along with the huge floppy hat made her look like Scarlet O'Hara as played by Igor Stravinsky. When she spoke, everybody stopped slapping the mosquitoes and more or less came to order. She reminded us all of our responsibility to nature and I don't remember what else. Her voice had the sobering effect of a one-room schoolmarm's. The tone itself seemed to tame the rowdiest of lawyers on both sides. I wonder if it didn't also intimidate the mosquitoes. . . . The request for a Corps of Engineers permit was eventually turned down. This was no surprise to those of us who'd heard her speak. (Douglas, 1987, p. 14)

This essay will initiate the overdue exploration of Marjory Stoneman Douglas as an environmental communicator by describing two interconnected rhetorical phenomena: first, the rhetorical constraints which existed in 1947 will be described, constraints which dominated environmental discourse as Douglas argued for a new type of national park in the Everglades. Second, Douglas's articulation of an environmental position which breaks from these constraints will be described. Her persuasive position was ultimately more rhetorically appropriate to the cause of the Everglades even though it broke away from the dominant environmental rhetorical position of the time. This study will argue that Douglas's *The Everglades: River of Grass* represents a coalescence of an emerging environmental viewpoint and an application of this viewpoint to a preservation issue that, in fact, provided the catalyst for its finalizing realization. Douglas's discovery of the Everglades and her involvement in its preservation was a "defining" moment in her life, one which forced her to articulate publicly a view of humanity and nature that had been evolving from her earliest years. As such, Douglas was an important early environmental persuader who used arguments that eventually were reflected in what became known as "deep ecology." As will be discussed, Douglas's arguments had direct application to Everglades protection certainly, but were simultaneously early expressions of what would eventually become a part of all environmental controversies. Her arguments are based on viewing nature as an ecological system, where "everything is connected to everything else" (Commoner, 1971, p. 33). This position, which sounds obvious and even fundamental to us now, had received little attention by 1947 and conflicted in significant ways with utilitarian conservation, the most widely accepted view of mainstream environmental groups and policymakers of the time.

Douglas Develops An Environmental Position

In a speech given in celebration of the 40th anniversary of *The Everglades: River of Grass*, Marjory Stoneman Douglas recognized that her early life in a domestic and educational environment peopled mostly by women shaped her view of the relationship between humans and nature:

> I think women instinctively understand how the cycles of the world and universe work much more then men do. When I was growing up in a world of women, we all knew without speaking that everything that happened to one of us, happened to us all, that there is not a beginning or an end, but just a changing process. I understood that all life is interconnected and interdependent. . . . So when I discovered the Everglades, it was not a matter of having some sort of profound revelation, it was a reaffirmation of what I already understood, and what I had understood for a very long time. My childhood, my days at college, my entire life reinforced that we are all part of nature. What the Everglades forced me to see was that I needed to do something about my principles. It was time for thoughts to turn into actions. (Winston, April 20, 1987, p. B1).

Douglas was born in Minneapolis in 1890, the daughter of a soon-to-be-separated couple, who encouraged independent thought and curiosity in their only child. At an early age, she returned with her musician mother to New England to live with her grandparents and a highly protective aunt, while her father eventually landed in Florida where he founded the *Miami Herald* in a remote backwater Everglades town. According to her autobiography, Douglas had very little contact with men throughout her youth due to both her family situation and to historic circumstances including the westward migration which drained New England towns of their men. Her high school graduation class had more girls than boys, a fact consistent with much of New England at the time when many communities had predominately female populations. She flourished in her female-centered environment, and as a result, she consciously selected to attend Wellesley College because both its student body and its administration were female:

> For my kind of person—undeveloped in many ways and perhaps too mature in others—a woman's college was the answer. It freed me of the pressure of the boy's presence, which made

> me very self-conscious. Since I was still unattractive to them, at least at Wellesley they weren't around to remind me of it. . . . I could be myself as an individual, as opposed to a young girl. There were no men to take over. And men do take over, bless their hearts, they've always had to take over, they're out there in front, in the cold as it were, sticking their necks out. When men are in an institution, they tend to dominate it. It's their nature. I don't object to it, it's just they can't help it (Douglas, 1987, p. 72).

This female-oriented environment encouraged Douglas to develop a number of skills as an oral communicator, the most important being what Wellesley called "expression" or what was commonly referred to as elocution. In Miss Bennett's rigorous class, the future public speaker learned to use her voice to great effect.

> I always thought it was important for women to have voice work. Even now, it seems to me I hear many sharp and uncomfortable voices for which there is little excuse. . . . If Miss Bennett had a chance at some of the women I know, it would have done them all a great deal of good. . . . In her class. . . we had to throw our voices out, holler so loud we could hit the back of the auditorium. Then we had to be whispery and still be heard across the room. It was all valuable to me. It prepared me for all my later public speaking. (Douglas, 1987, pp. 77-78).

As she was helped by Miss Bennett to develop her oratorical skills, Douglas was also becoming more convinced of her and every woman's right to use them:

> Suffrage was scorned by many people, but I was always for it. My grandmother was for it as well. Miss Hamer, my wonderful high school Latin teacher, had said it was intolerable that some stupid little boy in her class who couldn't learn the first conjugation would soon grow up and have the vote while she did not. She was so right. It became more and more obvious to me that women had to speak out about things that were important to them because no one else was going to do it for them. (Douglas, 1987, p. 78).

Following graduation, Marjory Stoneman married Kenneth Douglas, a man many years her senior whom she had met at her first job. He was a man of little ambition and dubious character; and while she found her first and only encounters with sex extremely interesting, Douglas soon left her husband after learning how easily she gave up her independence to another. She was even more determined as a result of her brief marriage to fight such a weakness in her character. "I realized," she wrote,

> that the tendency to give over everything to another person—usually a man—is something of a female characteristic. Certainly it was a characteristic of mine. It alarmed me. There are many women, even in these so-called emancipated days, who easily succumb to a man's domination. It's easy to do. A man says something so positively and with such authority, that unless and until a woman looks at it carefully, she takes it for granted that he's right. (Douglas, 1987, p. 89)

In 1915 without regrets, Douglas traveled to Florida to be reunited with her newspaper editor father whom she had not seen since she was a child. She was exhilarated by the exotic frontier environment of south Florida before the building boom of the 1920s. Soon her increasing prominence as a newspaper and short story writer gave her the independence of mind and purse to tackle increasingly complex environmental and social issues. Douglas's initial interest in the Everglades, an area unknown and mysterious even to Floridians at the time, was nurtured by her father, who in his position as editor, opposed any attempts to drain the area, arguing that such irresponsible action spelled environmental and economic disaster, although there was little scientific information available to back up his editorial opinions.

After serving with the Red Cross in Europe during the Great War, Douglas returned to Florida and became increasingly interested in regional studies through the friendship of Mrs. Robert Morris Seymour who focused on the Irish Revival and was partially responsible for the rediscovery of Irish writers and encouraging many people to reappraise their Irish heritages. Following Seymour's lead, Douglas began in earnest to research the regional history of south Florida and the accompanying natural history of the most prominent feature of the area, the vast Everglades.

Through her understanding of regional studies, Douglas initiated her lengthy discovery of the intricate web of relationships among people, history, environment, and natural forces which co-created the Everglades region. As she gained more prominence as a regional communicator, she met Ernest F. Coe, a landscape architect who with his wife had moved to Miami, and who became the most important leader for national park designation. He encouraged Douglas to use her increasingly powerful position to write and speak about the historical and natural wealth of the

area as well as enticing her to the committee which successfully financed the campaign for national park recognition.

Constraints on National Park Discourse

At the end of the nineteenth century, Americans attempted to define a new national character for themselves by claiming a unique antiquity based on "green old age" through ancient natural sites such as the California redwoods and the geysers of Yellowstone. As Alfred Runte argues in *National Parks: The American Experience*, "Although Europe's castles, ruins, and abbeys would never be eclipsed, the United States had 'earth monuments' and giant redwoods that had stood long before the birth of Christ" (1987, p. 32). For the first time in almost a century Americans argued with confidence that the United States had something of value in its own right to contribute to world culture. This appreciation of America's unique natural heritage found expression in movements to preserve some of the country's most spectacular examples of wild grandeur through the establishment of the world's first national parks. The dominant theme in national park discourse well into the second half of this century was national pride, a motive which clearly put a premium on monumentalism. Preservation of biologically intact environments or even representative American landscapes was never the impetus behind the national park movement.

All the early parks fulfilled the requirements established initially for national park designation: they were far from population centers; their lands were undeveloped and mostly government owned, therefore inexpensive to convert to parkland; and most important they had magnificent views, superlative in some way by containing the highest mountains, the deepest valleys, the grandest geysers, or the largest and oldest trees.

Because monumentalism dominated the discourse concerning national parks, initially only those landscapes that could be represented as monumental had a chance for designation. Even scientific arguments were less persuasive than appeals to grandeur. While more park proponents used science to support the preservation of biologically unique areas as ecological awareness increased, their arguments were marginalized, and therefore, entire ecosystems were not preserved or, in most cases, even considered. As Runte states, "rarely would national parks be large or inclusive. Indeed, this was to become the great paradox of the national park idea. Granted, the United States sought out and protected the 'earth monuments' of the West as replacements for the landmarks of human achievement still absent in the New World. Yet in few instances did the credibility of preservation for cultural ends require more than protection of a wonder by itself" (1987, p. 47). Finally, because all landscapes were perceived as commodities, economic evaluations were essential with mandatory discussions of resource gains and losses resulting from park designation.

By the 1930s, however, the superlative landscapes of the West had either already been named national parks or had been compromised by exploiters, so the federal government decided a few national parks were needed in the East near population centers. Even though Shenandoah and the Great Smoky Mountains, depression-era national parks, failed to live up to some of the "monumental" requirements of earlier parks, those arguing in favor of park designation continued to rely on the same rhetorical trope of monumentalism to talk about these more modest landscapes.

The Smokies, for instance, were described inappropriately in monumental terms, and what emerged from these descriptions were huge, awesome, and rugged mountains, even though such descriptions conflicted with most people's experience with the landscape (Weaver, 1996). Likewise, park promoters emphasized the economic benefits that would be gained from park designation, not only for the local people who would work in tourist facilities, but also for the large urban populations of the East who would now be able to afford exotic and revitalizing vacations in the mountains less than a day's drive from their city homes.

Consistent with earlier park discourse, any sustained discussion of environmental systems or the long term needs of flora and fauna were marginalized in promotional hyperbole of monumentalism and money, although there were numerous references to the area's biological riches. Consequently, the total number of acres preserved in both Shenandoah and the Great Smokies National Parks were significantly less than originally planned; and in both cases, ecosystems were subdivided. Although the landscapes discussed were no longer characterized by the grandeur of earlier parks, and strong arguments could be made on environmental grounds, persons favoring park designation still felt obliged to argue for designation in ways that had proved persuasive in the past. Perhaps the Appalachian national parks are best seen as transitional parks. While both anticipated the ecological standards of the later twentieth century, Congress first required each region to approximate the visual standards of the national park idea.

The rhetorical tropes of monumentalism and economic development continued to dominate national park discourse up to the time when the Everglades was being looked at seriously as a potential park. However, the Everglades landscape would force persuaders like Marjory Stoneman Douglas to reassess past rhe-

torical successes and define a different national park rhetoric based on a newly emerging ecological perspective rather than relying on the traditional rhetorical tropes of monumentalism and tourist development. Likewise, the Everglades would force persons in favor of its preservation to challenge utilitarian conservation, a view that dominated national park policy for most of the first half of the century.

The Dominance of Utilitarian Conservation

Polly Welts Kaufman, in her *National Parks and the Woman's Voice*, acknowledges the unique contributions of women to the history of our national parks. Kaufman argues persuasively in her book that many women, including Douglas, who were working to establish national parks in the earlier part of the last century, became disillusioned with utilitarian conservation, which is based on a homocentric environmental view, and deserted it for ecological conservation which is based on a biocentric environmental view.

With President Theodore Roosevelt's encouragement, Gifford Pinchot and the U.S. Forest Service endorsed a policy that privileged management of natural resources for human use, rather than preservation for nature's own sake or even for aesthetic reasons. Utilitarian conservationists argued that the failure to seek out natural resources, wherever located, was as wasteful as traditional abuses of the environment such as overgrazing and indiscriminate lumbering. "The first duty of the human race is to control the earth it lives upon," stated Pinchot (1910, p. 45). Therefore, strict conservation, he argued, helped no one, and nature should not be protected for its beauty alone but rather managed as a crop. Consistent with this view, Pinchot assured cattlemen, lumbermen, and miners that the government had no intention of "locking up" the bounty of the public domain, but wished instead to insure its long-term productivity through "efficient" and "proper" management (Pinchot, 1947, pp. 263-276).

This dominant utilitarian conservation view influenced preservation arguments favoring park designation right from the beginning by reinforcing the tropes of monumentalism and economic development and by adding a third important requirement essential to a landscape before it would be considered for national park designation: worthlessness. Runte argues that monumentalism and economic development were more persuasive rhetorically while worthlessness was more significant for policy decisions. That is, arguments heard in speeches and other forms of persuasive communication often focused on the grandeur of the proposed park and tourist development, while frequently the most important consideration behind closed doors was whether the land had any possible resource value. Runte argues that a policy evolved in Congress that only "worthless" lands would be set aside as national parks. Runte asks:

> How indeed could anyone refer to such inspiring landscapes as 'worthless?' But although Americans as a whole admit to the 'beauty' of the national parks, rarely have perceptions based on emotion overcome the urge to acquire wealth. . . . A surplus of rugged marginal land enabled the country to 'afford' scenic protection; national parks, however, spectacular from the stand point of their topography, actually encompassed only those features considered valueless for lumbering, mining, grazing, or agriculture. Indeed, throughout the history of the national park idea, the concept of useless scenery has virtually determined which landmarks the nation would protect as well as how it would protect them. (1987, pp. 48-9)

Contrary to many men in the national park movement who continued to articulate Pinchot's argument that human use of the land was the paramount value, many women reached a different conclusion in favor of preservation for nature's own sake and for aesthetic and even spiritual values. This change was a result of a number of events including the disastrous damming of Hetch Hetchy in Yosemite National Park (Oravec, 1984); the widespread publications of John Muir which argued passionately for the value of nature separate from human use; new scientific discoveries and theories; and the experiences that women shared as outsiders from major decision-making on environmental issues. As Kaufman notes,

> [a]fter helping to develop a constituency to support the establishment of the National Park Service, women advocates worked as outsiders to preserve national parks through their own women-run organizations. Whether this vehicle was the Garden Club of America or a grassroots movement apart from existing male-directed conservation organizations, women environmentalists chose a separatist approach to their present campaigns. (1996, pp. xiii-xiv)

Marjory Stoneman Douglas recognized from the beginning of her involvement in the national park movement that while the Everglades was unique and certainly deserving of preservation, it was fundamentally different than all other areas that had received park recognition up to that point. And while this difference was the very essence of the Everglades wilderness, it created a formidable persuasive problem for those proposing inclusion in the pantheon of spe-

cial places. The Everglades was certainly unique as a natural habitat, but hardly monumental in its beauty. While the Everglades was clearly deemed "worthless" by those interested in resource extraction, it was perceived by the general public as a diseased mysterious landscape which stood in the way of progress and development. While certainly one could argue that the seemingly endless landscape of sawgrass was interesting and supported biological riches found nowhere else in the country, one would also have a very difficult time persuading most people that it was awe-inspiring or even attractive during certain times of the year.

In her own private musings, Douglas was conscious of grandeur absent from the proposed park. "Let me say right away," she wrote, "that knowing the Everglades does not necessarily mean spending long periods of time walking around out there. Unlike other wilderness areas, where the naturalist is a hiker, camper, and explorer, the naturalist in the Everglades must usually appreciate it from a distance" (1987, p. 135).

She acknowledged that she rarely visited the Everglades; it did not beckon her or many others for that matter as did the grand views of Yosemite Valley or the charming peaks of the Great Smokies with their cascading waterfalls. She was content knowing that the Everglades just existed. "I know it's out there and I know its importance," she explained. "I suppose you could say the Everglades and I have the kind of friendship that doesn't depend on constant physical contact" (1987, p. 233).

While certainly such a position is consistent with an ecological perspective and probably reflects the views of many environmentalists today, in 1947 such a position might run into persuasive difficulties. Arguing that an area with minor attractiveness should be named a national park so people can appreciate it from a distance without even using revenue-generating tourist facilities, would be a rhetorically challenging task; and Marjory Stoneman Douglas was fully aware of this challenge as she began writing her hymn to ecology, *The Everglades: River of Grass*.

The River of Grass as Persuasion

The rhetorical problems posed by the Everglades' physical qualities became obvious when a number of prominent preservationists expressed strong reservations about the suitability of Everglades inclusion. Some suggested that if the area warranted protection, a state park would be more than adequate. Still others, understanding its biological assets and its monumental shortcomings, advocated a botanical reserve of some sort, but not necessarily under federal jurisdiction. Few rumblings of dissent, however, were more disconcerting than the opposition of William T. Hornaday, long praised as one of America's leaders in wildlife conservation. He said, "I found mighty little that was of special interest, and absolutely nothing that was picturesque or beautiful" in the Everglades. "A swamp is a swamp; although the sawgrass Everglades Swamp is not as ugly and repulsive as some other swamps that I have seen;" he concluded, "it is yet a *long ways* from being fit to elevate into a national park, to put alongside the magnificent array of scenic wonderlands that the American people have elevated into that glorious class" (in Runte, 1987, p. 131).

Marjory Stoneman Douglas responded to this position by asserting that the most important reasons for Everglades preservation were certainly not its beauty or its tourism potential, but rather its unique ecosystem, one which even in 1947 incorporated a natural integrity with all parts still intact, an ecosystem rich with animal and human interaction, and one which guaranteed the larger economic and spiritual well-being of the entire area. While its beauty was subtle, preservation of the entire environment offered a "sense of remoteness" and "pristine wilderness" that was fast disappearing elsewhere in the country. Her argument incorporated the newly emerging environmental ethic that eventually would be representative of "deep ecology."

The actual term "deep ecology" was first used by Arne Naess in 1973 to describe a deeper, more spiritual approach to nature exemplified in the writings of Aldo Leopold and Rachel Carson, which were published well after *The Everglades: River of Grass*. Deep ecology was developed in contrast to the "shallow" anthropocentric approach to environmental management exemplified by utilitarian conservation which did not demand any fundamental change in thinking or "ecological consciousness." Rather, "shallow" ecology reinforces the view that humans are the center of the universe, and is primarily concerned with improving methods of environmental management. As a deep ecologist states, "[s]hallow ecology considers the values of nature to be instrumental, and thus said to be strongly anthropocentric" (Lemons, 1985-1986, p. 104). Leopold claims, "one group regards the land as soil and its function as commodity-production; and the other group regards the land as biota, and its function something broader" (1966, pp. 236-237). The ultimate goal of deep ecologists is to supplant the old world-view based on dominance where humans are isolated and fundamentally separate from the rest of Nature, superior to and in charge of the rest of creation, to a view where humans live in harmony with Nature. Naess sketched eight tenets of deep ecology which function as a series of premises:

1. The well-being of nonhuman life on Earth has value in itself. This value is independent of any instrumental usefulness for limited human purposes.
2. Richness and diversity in life contribute to this value and is a further value in itself.
3. Humans have no right to interfere destructively with nonhuman life except for purposes of satisfying vital needs.
4. Present interference is excessive and detrimental.
5. Present policies must therefore be changed.
6. The necessary policy changes affect basic economic and ideological structures.
7. The ideological change is mainly that of appreciating life quality rather than enjoying a high standard of life.
8. Those who subscribe to the foregoing points will be fundamentally changed and have an obligation directly or indirectly to try to implement the necessary changes. (from Naess, 1984, pp. 265-270).

Although like principles had not yet received popular attention by 1947, Douglas independently had developed a view of the environment that reflects the same basic understanding of the world articulated years later by deep ecologists; and her experiences with the potential destruction of the Everglades and its calamitous impact on the entire area, obligated her to implement necessary changes. As she stated in an autobiographical speech, "I looked about me and it was obvious that I had to speak. The issue of the land and my own personal views created a new necessity. I really had no choice but to engage in change" (Winston, April 20, 1987, p. B1).

She uses ecological principles as "good reasons" for preservation in *The Everglades: River of Grass* by weaving a detailed and fascinating narrative of interconnected scientific information and traditional lore that initially describes the complex ecosystem of the Everglades and is followed with a history of human interaction and the land.

Throughout her book, Douglas mirrors the position articulated by later deep ecologists as she argues that the Everglades is a vast interconnected ecosystem. All parts of the system are equally important and interdependent, and the diversity of life in the Everglades, both human and nonhuman, is to be celebrated. Human beings are an integral part of this ecosystem, but have brought the system to the brink of destruction through the application of a wrongheaded view of superiority based on ignorance of the interdependence of life. As long as this distorted view persists, Douglas asserts, the destruction will continue. The system will be saved only through fundamental changes in attitudes, beliefs and values, and because humans are part of the ecosystem, our own well-being is dependent on the conservation of the complete ecosystem.

Much of the persuasive power of Douglas's position relies on the establishment of the metaphor of the Everglades as a river of grass, a metaphor that provides the framework for the entire book and also influences the style of the writing. At the time when she was researching the book, most people—even those who lived in the region—did not understand how the Everglades functioned as a system. Douglas believes people tried to react to an entire system with old concepts of plumbing. A government report created in the 1920s and stored away for years which Douglas found in her research, explained to her that the Everglades was not really a wetlands in the traditional sense, but that it relied on rainwater and the overflow from Lake Okeechobee. As Douglas contemplated how to explain the intricate interrelationships between water, geology, and the environment, she concluded that the simplest way to describe it was to call it "a river." This river had many of the characteristics of a "normal" river: continuous change, rich life, and beauty, while it also had characteristics which made it unique. Just as a river flows constantly, so do the waters of the Everglades, but since the terrain is so flat, the fact that water is continuously moving often eludes us and confuses our comprehension of the landscape. "Down that almost invisible slope the water moves. The grass stands. Where the grass and the water are there is the heart, the current, the meaning of the Everglades" (Douglas, 1947, p. 5).

It was Douglas's concept of a flowing "river of grass" that allowed the public to understand the essence of the Everglades as a fragile ecosystem of rare tropical plant, bird, animal and fish life. In her autobiography, Douglas discusses a conversation she had with Gerry Parker, a local expert who helped her develop the metaphor:

> For starters I asked him what the Everglades were, and he [Parker] explained they weren't swamps but rather a subtle flow of water. Wherever fresh water runs and the sawgrass starts up, that's where you have the Everglades. . . . I asked if the Everglades could be called a river. He gave the official description: 'A river is a body of fresh water moving more in one direction than the other.' I thought: If it's running water and it comes curving down from Lake Okeechobee toward the Ten Thousand Islands, and if there are ridges on either side, maybe the ridges are an east bank and a west bank, and maybe the Ten Thousand Islands are a delta, and maybe this really is a river. . . . 'Do you

> think I could get away with calling it the river of grass?' I asked. He said he thought I could. Some years later my colleague Art Marshall said that with those three words I changed everybody's knowledge and educated the world as to what the Everglades meant. (Douglas, 1987, p. 191)

Since most people in the United States had never visited the Everglades and probably had a view of the area as a fetid swamp filled with threatening bugs and alligators, Douglas's metaphor allowed her to change the environment from a negative one to one that was easily understood and life affirming. Equally important, by using the positive image of the river of grass, Douglas developed the story of a complex ecosystem. "The whole system was like a set of scales on which the forces of the seasons, of the sun and the rains, the winds, the hurricanes and the dewfall, were balanced so that the life of the vast grass and all its encompassed and neighbor forms were kept secure" (Douglas, 1947, p. 17). Her concern with representing the complete ecosystem even includes a discussion of the complex life under the river of grass and the granite upon which the entire system depends.

In the first part of the book, she establishes that the Everglades is a large interconnected understandable system where life abounds. It is robust but fragile. By shifting the discussion from grandeur to ecosystem, Douglas forces the reader to focus on the small rather than the monumental, arguing that the beauty is truly in the eyes of beholder. In doing so, Douglas takes on the role of teacher who helps the beholder to understand how to look as well as where to look for astonishing sights. According to Douglas, the viewer must approach the landscape with a newly developed sense of sight based on an enlightened understanding of the interrelatedness of all its component parts. The monumental is replaced by the miniature, and in the process, Douglas writes a primer on developing new ecological awareness. After weaving an intricate tale of the Everglades starting with descriptions of the soil and the water and moving to the flora and fauna that rely upon them, Douglas proclaims, "Look and see. Life is everywhere here. . . , infinite and divisible" (Douglas, 1947, p. 33).

Clearly understanding that people are an integral part of the ecosystem, Douglas then focuses on the human side of the Everglades, a saga as complex and varied as the biological story. She begins the discussion of human interaction with the Everglades by describing the prehistoric peoples who exploited the land but lived in relative harmony with it. They are followed by "the discoverers," "the adventurers," and the cast of thousands who interacted with the land and its nonhuman inhabitants through the time of publication. The book has its heroes and its villains, its visionaries and its scoundrels, but because Douglas's themes are not blame and ridicule, but understanding ecological relationships and ultimately revelation, her style throughout the book is non-threatening and non-accusatory. Consequently, she avoids the polarized "doomsday" rhetoric that came to dominate later environmental communication, as seen, for instance, in Carson's *Silent Spring* (Killingsworth, 1995).

Douglas's interpretation of this fascinating parade of humanity is that people are more foolish than evil because we often act with little understanding of what we do. Because we see ourselves as separate from nature and are convinced of our own superiority, we continuously see nature as a foreign entity that needs to be controlled or conquered. Consequently, we are often fooled by stupid ideas or the words of others and destroy the means to our own happiness or even jeopardize our own survival. This theme is as old as myth itself and the basis for both tragedy and comedy. In her anthology of the many schemes local politicians developed for draining the Everglades, Douglas explores how men encourage financial and ecological disaster because they have little understanding of how the Everglades works as an ecosystem. For instance, Napoleon Bonaparte Broward based his entire successful campaign for governor earlier this century on the promise to build what he called "The Empire of the Everglades." This scheme relied on a system of canals that, had they been built, would have flooded Miami, caused major environmental damage, but barely lowered the flow of the Everglades.

With humor and pathos, *The Everglades: River of Grass* concludes with a description of the fires of the nineteen forties, a time similar to our own, when "the Everglades were burning." Despite this clear evidence that man continues to misuse and violate the integrity of the ecosystem, Douglas sustains hope for both humans and the Everglades, although she acknowledges that "unless the people act, the fires will come again. Overdrainage will go on. The soil will shrink and burn and be wasted and destroyed, in a continuing ruin. The salt will lie in wait" (Douglas, 1947, p. 298). Despite this horrible prediction, Douglas does see hope because she has evidence that the balance of the ecosystem has not been destroyed despite the cavalcade of exploiters and foolish schemes:

> Yet the springs of fine water had flowed again. The balance still existed between the forces of life and of death. There is a balance in man also, one which has set against his greed and his inertia and his foolishness; his courage, his will, his ability slowly and painfully to learn, and to

> work together. Perhaps even in this last hour, in a new awareness, in a new relation of usefulness and beauty, the vast, magnificent, subtle and unique region of the Everglades may not be utterly lost. (Douglas, 1947, pp. 298-99)

Conclusion

There is certainly much more to explore in *The Everglades: River of Grass* and the numerous speeches which Marjory Stoneman Douglas delivered on environmental issues and the Everglades ecosystem until her death at age 108. Despite its limitations, however, this study has argued that Douglas was ahead of her time in using persuasive arguments that represent an ecological position characteristic of contemporary times. Nowhere in her work do we find appeals to utilitarian conservation which dominated environmental discourse at the time of her most famous publication. I agree with P. W. Kaufman who argues persuasively that Douglas's early realization of a more life altering view of environmentalism was a direct result of her experiences as a woman, experiences that encouraged her to understand the interrelationship of nature and human beings. Likewise, as evidenced by her final affirmation of hope, we see a clear articulation of the relationship between her developed ecological sensibility and the felt need to change one's life and the perceptions of others. While this study did not explore the idea in any depth it is certainly of interest that while Douglas espouses modern environmental views, her rhetoric serves as a striking contrast to the often strident, accusatory rhetoric which has come to dominate much of contemporary environmental discourse. Clearly, such polarized rhetoric of environmental discourse speaks only to the already converted, and often diminishes both understanding and possibilities for compromise or internal revelation that precedes action. Perhaps modern environmental communicators should look to Douglas not just as an interesting figure in the history of our national parks but as an effective communicator who actually put into practice a more integrated view of humanity and the environment.

References

Commoner, B. (1971). *The closing circle: Nature, man and technology*. New York: Knopf.

Douglas, M. S. (1947). *The Everglades: River of grass*. Marietta, GA: Mockingbird Books.

Douglas, M. S. (1987). *Voice of the river*. Sarasota, FL: Pineapple Press.

Kaufman, P. W. (1996). *National parks and the woman's voice: A history*. Albuquerque: U of New Mexico P.

Killingsworth, M. J. & Palmer, J. S. (1995). The discourse of 'environmental hysteria.' *Quarterly Journal of Speech, 81*, 1-19.

Lemons, J. (1985-86). Can stress ecology adequately inform environmental ethics? *Journal of Environmental Systems,15*, 103-125.

Leopold, A. (1966). *A Sand County Almanac*. New York: Oxford UP.

Lester, W. (1998, May 15). Marjory Stoneman Douglas: Longtime Everglades champion. *The Detroit Free Press*, p. 4B.

Naess, A. (1984). A defense of the deep ecology movement. *Environmental Ethics, 6*, 265-270.

Oravec, C. (1984). Conservationism vs. preservationism: The 'public interest' in the Hetch Hetchy controversy. *Quarterly Journal of Speech, 70*, 444-458.

Pinchot, G. (1947). *Breaking new ground*. New York: Harcourt, Brace, Jovanovich.

Pinchot, G. (1910). *The Fight for Conservation*. New York: Doubleday.

Runte, A. (1987). *National parks: The American experience*. Lincoln: U of Nebraska P.

Weaver, B. J. (1996). What to do with the mountain people? The darker side of the successful campaign to establish the Great Smoky Mountains national park. In Cantrill, J. & Oravec, C. (Eds.), *The Symbolic Earth: Discourse and our creation of the environment*. Lexington: U of Kentucky P, 151-175.

Winston, B. (1987, April 20). Marjory Stoneman Douglas talks about her life. *Miami Herald*, p. B1.

Fifth Biennial Conference on Communication and Environment
July 24–27, 1999
Northern Arizona University
University Union Building

PROGRAM

SATURDAY, JULY 24

1:30 - 3:00 p.m., Opening Presentation, Walnut Canyon National Monument Picnic Area
"Rhetorical Appeals Leading to the Creation of Walnut Canyon National Monument, 1915"
Bruce Weaver, Department of Communication, Albion College

3:30 - 6:30 p.m., Conference Registration, Cline Library Auditorium, Northern Arizona U

7:00 p.m., Keynote Lecture, Cline Library Auditorium
"Preserving Credibility, Seeking the Truth"
Mr. Rocky Barker, *Idaho Statesman* and *High Country News* environmental writer, author of *Saving All the Parts* (Island Press)
Reception immediately following lecture, Old Main Gallery, NAU campus

SUNDAY, JULY 25 Continental Breakfast, 7:30 to 8:30 a.m., The Atrium (University Union)

Session One, 8:30 to 10:00 a.m.

Nuclear Communication and the Environment ***Havasupai A***
Moderator: Brant Short, Northern Arizona U.

"Memories of Fernald: Defining a 'Sense of Place' Through Personal Narrative." Rhonda Barnes-Kloth, Stephen Depoe, Jennifer J. Hamilton, and Amy J. Lombardo, Center for Environmental Communication Studies, U of Cincinnati.

"Theorizing Nuclear Communication: Moral Conflict, Institutional Power, and Social/Cultural Text." William J. Kinsella, Department of Communication, Lewis and Clark College.

"The Mystification of Radiation: The Rhetorical Construction of Radioactive Waste by Anti-WIPP (Waste Isolation Pilot Plants) Activists." Judith Hendry, Department of Communication and Journalism, U of New Mexico.

"Nuke Journalism." Piyush Mathur, Virginia Tech U.

Popular Discourse and Environmental Communication ***Havasupai C***
Moderator: Alan Razee, California Polytechnic—San Luis Obispo.

"Preaching 'Corn Evangelism': Hybrid Seeds and the Transformation of American Agriculture." Jean Retzinger, Department of Mass Communication, U of California, Berkeley.

"Nature, Film, and Culture: The Importance of Landscape Images in *Pride and Prejudice*." Kathi Lynn Pauley, Department of Communication Arts and Sciences, Calvin College.

"Tuning in to Environment on Prime-Time Network Television." Katherine A. McComas, James Shanahan, and Jessica S. Butler, Department of Communication, Cornell U.

"Popular Culture as Ecofeminist Pedagogy: Using 'Lisa the Vegetarian' in the Classroom." Lincoln J. Houde and Connie Bullis, Department of Communication, U of Utah.

SUNDAY, JULY 25

Session Two, 10:30 a.m. to 12 noon

Activism, Definition, and Justice: Critical Issues in Environmental Communication ***Havasupai A***

Moderator: Sue Senecah, State U. of New York, Syracuse

"A Space for Government in a Hinterland Place: The Environmental Self at the End of the Road." James G. Cantrill, Department of Communication and Performance Studies, Northern Michigan U.

"Strategic Rhetoric and the Control of Environmental Ethics from Philosophy to Theory: An Exploration of a Post-Modern Ontology of Wilderness." Pete Bsumek, School of Speech Communication, James Madison U.

"'Indecorous' Rhetoric and Structures of Public Participation by Low Incomes Communities in Environmental Decision-Making." Robert Cox, Department of Communication Studies, U of North Carolina.

"The Role of the Activist Scholar: At Work in the Field(s) Of Environmental Communication." John W. Delicath, Department of Communication, Allegheny College.

The "Public" and Environmental Communication ***Havasupai C***

Moderator: Patricia Paystrup, Southern Utah U.

"The Environment, Myth and Marketing." Richard Jones, Department of Marketing, USD-Odense University, Campusvej, Denmark.

"Corporate Environmental Discourse: An Epideictic Undertaking." Sharon M. Livesey, Graduate School of Business Management, Fordham U.

"The Challenges of Environmental Public Information and Action Programs." Garrett J. O'Keefe and Robin L. Shepard, Department of Agricultural Journalism, U of Wisconsin.

"The Uninformed Public: Government Regulations and the Codes of Responsible Care." Ann D. Jabro, School of Communication and Information Systems, and Jalal D. Jabro, School of Natural and Quantitative Sciences, Robert Morris College.

Lunch, The Atrium, University Union, 12:00 to 1:30 p.m.

Christine Oravec and James Cantrill will discuss the history and direction of the biennial COCE meeting

Session Three, 1:30 to 3:00 p.m.

Culture, Meaning, and Environmental Communication ***Havasupai A***

Moderator: James Cantrill, Northern Michigan U.

"The Variety of Environmental News Topics: A Preliminary Conceptual Map." Dennis Jaehne, Department of Communication Studies, San Jose State U.

"The Everyday Talk of Strip Mining Inspectors: Organizational Learning and Regulatory Posture." James P. LaLumia, Department of Communication, Youngstown State U.

"Talking Water: A Cultural Analysis of Talk About Water in the Mill River Watershed." Eric Morgan, Department of Communication, U of Massachusetts.

SUNDAY, JULY 25

Session Three, 1:30 to 3:00 p.m.

Rhetorical Studies of Environmental Communication ***Havasupai C***

Moderator: Richard Rogers, Northern Arizona U

"Ethos and Effective Environmental Advocacy: Oprah Winfrey to Edward Wilson." Michael S. Bruner, Department of Communication, U of North Texas.

"Hot Air in Arguments and the Atmosphere: Clinton's Campaign on Global Warming and the Senate Response." Terence C. Check, Communication Department, St. John's U.

"Ecofeminism: Creating Meaning." Tina Kiewit, Department of Communication, San Jose State U.

"Are there 'Wild' Spaces and Places within Cultural Studies? Exploring the Limits of David Chaney's *The Cultural Turn* from an Ecofeminist Perspective." Lincoln J. Houde, Department of Communication, U of Utah.

Session Four, 3:30 to 5:00 p.m.

Historical Studies of Environmental Communication ***Havasupai A***

Moderator: Dennis Jaehne, San Jose State U

"Arguing a New Ecology: Marjory Stoneman Douglas, the Voice of the River of Grass." Bruce Weaver, Department of Communication, Albion College.

"Trains in the Wilderness: The Corporate Roots of Environmentalism." Kevin DeLuca, Department of Speech Communication, Pennsylvania State U.

"Yosemite's Early Transition from Space to Place: Press Construction of Yosemite Prior to the Yosemite Act of 1864." Nickieann Fleener, Department of Communication, and Edward Ruddell, Department of Parks, Recreation and Tourism, U of Utah.

"Appreciating the Wilderness: Competing Visions of Wilderness Preservation in the Forest Service/Park Service Controversy of the 1920s and 1930s." Steve Schwarze, Department of Speech Communication, Augustana College.

Journalism and Environmental Communication ***Havasupai C***

Moderator: Lea Parker, Northern Arizona U

"German Media Coverage of Environmental Issues: A Comparative Analysis." Michael E. Nitz, School of Communication, U of Idaho.

"Heat and Hot Air: Influence of Actual Temperature on Journalists' Coverage of Global Warming." James Shanahan and Jennifer Good, Department of Communication, Cornell U.

"Bringing Muhammad to the Mountain: Evaluating an Environmental Journalism Outreach Program." Erika Archibald, North Georgia College and State U, and William J. Griswold, College of Journalism and Mass Communication, U of Georgia.

"Levels of Influence on Environmental Reporting in India: Hegemony and Constraints on the Press." Elizabeth Burch, Department of Communication Studies, Sonoma State U.

SUNDAY, JULY 25

Dinner, The Atrium, 6:15 to 7:45 p.m.

Session Five, 8:00 p.m. to 9:30 p.m. Cline Library Auditorium

What Makes Environmental Communication Unique in the Field of Communication? A Facilitated Discussion.
Moderator/Facilitator: Mark Meister, North Dakota State U.

The roundtable discussion will involve brief presentations by four members of the National Communication Association's "Commission on Environmental Communication." This will be followed by a moderated discussion about the types of Environmental Communication scholarship that will benefit our applied community outreach activities and the nature of these benefits.

Participants: James Cantrill, Northern Michigan U
Robert Cox, U of North Carolina
Susan Senecah, State U of New York, Syracuse
Ben Tyson, Central Connecticut U

MONDAY JULY 26 7:30 to 8:30 a.m., The Atrium

Session Six, 8:30 to 10:00 a.m.

Attitude Studies and Environmental Communication ***Havasupai A***
Moderator: Gregg Walker, Oregon State U.

"Listening for Voices: The Role of Attitude and Belief in Environmental Communication." Nancy Coppola, Department of Humanities, New Jersey Institute of Technology.

"Attitudinal-Communities for Water Conservation." Craig W. Trumbo, Garrett J. O'Keefe, and Cindy Christen, Department of Agricultural Journalism, U of Wisconsin.

"Using an Ecological Index to Explain Environmental Attitudes about Idaho's Department of Energy Site." Donny Roush, Idaho Museum of History/Idaho State U, and Joanna Burger, Environmental and Occupational Health Sciences Institute, Rutgers U.

"The Farmers' Dialogue: Guidelines for a Sustainable Agriculture." Magnus Ljung, Department of Landscape Planning, Swedish University of Agricultural Sciences.

Thinking About the Environment: Four Case Studies ***Havasupai C***
Moderator: Mark Meister, North Dakota State U.

"Getting Back to the 'Right' Nature, or Wilderness as Sacrificial Lamb? Strange Bedfellows Challenge Preservation and Biocentrism." Kent Goshorn, Annenberg School for Communication, U of Pennsylvania.

"Mountain Bicycling and Wilderness: Navigating Unknown and Dangerous Rhetorical Terrain." Jim Hasenauer, Department of Communication Studies, California State U, Northridge.

"Re-Invigorating the Public Sphere, Reviving Democratic Praxis: Environmental Justice and the Demand for Public Participation." John W. Delicath, Department of Communication, U of Cincinnati.

"A New Way of Thinking About the Environment." Gary Vear, School of Australian and International Studies, Deakin University, Waurn Ponds, Victoria, Australia.

MONDAY JULY 26 ***Break, 10:00 to 10:30 a.m.***

Session Seven, 10:30 a.m. to 12:00

Communication and the Nuclear Weapons Industry: Towards the Development of a National Consortium of Collaborative Research and Support (roundtable discussion) ***Havasupai A***

Moderator/Facilitator: Judith Hendry, Department of Communication and Journalism, U of New Mexico
Discussion Leaders: Stephen Depoe, Department of Communication, U of Cincinnati
Bryan C. Taylor, Department of Communication, U of Colorado

Technology and Environmental Communication ***Havasupai C***

Moderator: Michael Salvador, Washington State U

"The Biosphere: A New Meaning in Environmental Communication." Alain Gaudreault; Department of Public Affairs, Communication, and Marketing, Environment; Canada's Biosphere, Montreal, Quebec.

"Incorporating Technology into the Creation of a Regional Land Ethic: The Possibilities of Group Decision Support Systems (GDSS)." Mark Meister, Department of Communication, North Dakota State U.

"Visual Design and Environmental Claims: A Visual Framing Analysis of the Greening Earth Society Web Site." Jean Trumbo, Department of Agricultural Journalism, U of Wisconsin.

Lunch, 12:00 to 1:30 p.m., The Atrium Book giveaways

MONDAY, JULY 26

Session Eight, 1:30 to 3:00 p.m.

Native American Perspectives on the Environment ***Havasupai A***

Moderator: Richard Rogers, Northern Arizona U.

"The Wyakin Principle: A Dialogic of Culture and the Environment." Michael Salvador, Murrow School of Communication, Washington State U.

"A Blackfeet Way of Connecting Communication and Environment." Donal Carbaugh, Department of Communication, U of Massachusetts.

"Beyond the Human/Nature Dualism: Nez Perce Environmental Discourse." Tracylee Clarke and Michael Salvador, Murrow School of Communication, Washington State U.

Science, Risk and Environmental Communication ***Havasupai C***

Moderator: Alan Razee, California Polytechnic—San Luis Obispo

"Risk Communication: Greenwashing, Environmental Advocacy, or Either?" Craig Waddell, Department of Humanities, Michigan Technological U.

"Risk Infrastructures and Risk Management Plans: A Double-Edged Sword." Ann D. Jabro, School of Communications and Information Systems, Robert Morris College.

"Negotiating Messages and Building on Experience: Wildland Fire in Florida's Interface." Martha C. Monroe, School of Forest Resources and Conservation, and Susan K. Jacobson, Department of Wildlife Ecology and Conservation, U of Florida.

"An Ecologist's Perspective on Communicating Sustainability." John T. Fitch, Department of Environmental Studies, Florida Gulf Coast U.

MONDAY, JULY 26

Session Nine, 3:30 to 5:00 p.m.

Scientific Advocacy and Environmental Communication ***Havasupai A***

Moderator: Patricia Paystrup, Southern Utah U.

"Women Scientists Sounding the Alarm: Rachel Carson and 'the Modern Day-Rachel Carson,' Theo Colborn." Julia B. Corbett, Department of Communication, U of Utah.

"The Wet, the Wild and the Weird: Imagining Pfiesteria." Renee Lertzman, Department of Communication Studies, U of North Carolina.

"What's Rhetoric Got to Do with It? Public Deliberation and the AEC Construction Licensing Hearings in Midland, Michigan, 1970-1971." M. Rene Johnson, Department of Humanities, Michigan Technological U.

Defining Nature: A Roundtable Discussion ***Havasupai C***

Discussion Facilitator: Michael Salvador, Murrow School of Communication, Washington State U
Participants: Lincoln Houde, Department of Communication, U of Utah
Richard Rogers, School of Communication, Northern Arizona U

This discussion will focus on the public construction(s) of nature and the natural world. Using Richard Rogers' 1998 essay as a springboard, the panelists will present brief statements and then open a facilitated discussion with the audience. See Richard Rogers, "Overcoming the Objectification of Nature in Constitutive Theories: Toward a Transhuman, Materialist Theory of Communication," *Western Journal of Communication* 62 (1998): 244-272.

Dinner, 6:15 to 7:45 p.m., The Atrium

Session Ten, 8:00 p.m. Cline Library Auditorium

Learning from the Past, Dealing with the Present, and Planning for the Future: Historic and Contemporary Disputes over Tourist Access to the Grand Canyon

Moderator: Sue Senecah, State U. of New York, Syracuse

This roundtable presentation/discussion will examine the characteristics, themes, rhetorical dimensions, and lessons of historical and contemporary disputes over access to the Grand Canyon in order to gain insight into the present struggle.

"Early Tourist Impressions of the Grand Canyon Experience." Dennis Jaehne, Department of Communication Studies, San Jose State U.

"Historic and Contemporary Disputes Over Access to the Grand Canyon." Sue Senecah, Department of Environmental Sciences, State U of New York, Syracuse.

"Accommodating Mountain Biking Recreation on the North Rim of the Grand Canyon." Jim Hasenauer, Department of Communication Studies, California State U, Northridge.

"Gateway to the Grand Canyon: Preserving Flagstaff's 'Sense of Place.'" Lea Parker, School of Communication, Northern Arizona U.

"Saving the Grand Canyon." Brad Ack, Grand Canyon Trust, Flagstaff, AZ.

TUESDAY, JULY 27

Session Eleven, 9:00 to 10:30 a.m.

Conflict, Communication, and Environmental Discourse ***Havasupai A***

Moderator: Marsha Yowell, Northern Arizona U.

"Working Through Environmental Conflicts: Citizens' Views on Collaboration." Gregg Walker, Department of Communication Studies, Oregon State U.

"Corporatism and the Ecosystem Approach: More of the Same? Or a New Departure?" Max Oleschlaeger, Elizabeth Taylor, and Dean Bavington, Northern Arizona U.

"An Analysis of Marine Resource Conflicts in Two North Central Chilean Fishing Villages." Susan Qashu, College of Oceanic and Marine Sciences, Oregon State U.

Constructing a Rain Forest ***Havasupai C***

Moderator: Brant Short, Northern Arizona U.

"Constructing a Rain Forest/Creating a CD-ROM: Pedagogical Design Issues" and Presentation. David W. Shapiro, Roy H. Park School of Communication, Ithaca College.

The presentation will discuss the pedagogical issues that a small team of plant scientists, multimedia programmers, two graduate students, and the author encountered in creating an educational, interactive CD-ROM program on tropical re-forestation in Costa Rica. The author will also present the CD-ROM product as part of the presentation.

Conference Participants

Brad Ack, Grand Canyon Trust; Flagstaff, AZ

Erika Archibald, North Georgia College; Atlanta, GA

Rocky Barker, *Idaho Statesman*; Boise, ID

Rhonda Barnes-Kloth, Center for Environmental Communication Studies, U of Cincinnati; Cincinnati, OH

Dean Bavington, Northern Arizona U; Flagstaff, AZ

Michael S. Bruner, Department of Communication, U of North Texas; Denton, TX

Pete Bsumek, School of Speech Communication, James Madison U; Harrisonburg, VA

Connie Bullis, Department of Communication, U of Utah; Salt Lake City, UT

Elizabeth Burch, Department of Communication Studies, Sonoma State U; Rohnert Park, CA

Joanna Burger, Environmental and Occupational Health Sciences Institute, Rutgers U; New Brunswick, NJ

Jessica S. Butler, Department of Communication, Cornell U; Ithaca, NY

James G. Cantrill, Department of Communication and Performance Studies, Northern Michigan U; Marquette, MI

Blair Carbaugh, Professor Emeritus, Lock Haven University; Danville, PA

Donal Carbaugh, Department of Communication, U of Massachusetts; Amherst, MA

Terence C. Check, Communication Department, St. John's U; Collegeville, MN

Cindy Christen, Department of Agricultural Journalism, U of Wisconsin; Madison, WI

Tracylee Clarke, Murrow School of Communication, Washington State U; Pullman, WA

Nancy Coppola, Department of Humanities, New Jersey Institute of Technology; University Heights, NJ

Julia B. Corbett, Department of Communication, U of Utah; Salt Lake City, UT

Robert Cox, Department of Communication Studies, U of North Carolina; Chapel Hill, NC

Shannon Davis, Department of Communication, University of Colorado; Boulder, CO

Desdra Dawning, Institute for Tribal Environmental Professionals, Northern Arizona U; Flagstaff, AZ

John W. Delicath, Center for Environmental Communication Studies, U of Cincinnati; Cincinnati, OH

Kevin DeLuca, Department of Speech Communication, Pennsylvania State U; State College, PA

Stephen Depoe, Center for Environmental Communication Studies, U of Cincinnati; Cincinnati, OH

Margaret FalerSweany, Department of Humanities, Michigan Technological U; Houghton, MI

John T. Fitch, Department of Environmental Studies, Florida Gulf Coast U; Fort Myers, FL

Nickieann Fleener, Department of Communication, U of Utah; Salt Lake City, UT

Alain Gaudreault; Department of Public Affairs, Communication, and Marketing, Environment; Canada's Biosphere; Montreal, Quebec

Jennifer Good, Department of Communication, Cornell U; Ithaca, NY

Kent Goshorn, Annenberg School for Communication, U of Pennsylvania; Philadelphia, PA

William J. Griswold, College of Journalism and Mass Communication, U of Georgia; Athens, GA

Jennifer J. Hamilton, Center for Environmental Communication Studies, U of Cincinnati; Cincinnati, OH

Dayle C. Hardy-Short, School of Communication, Northern Arizona U; Flagstaff, AZ

Jim Hasenauer, Department of Communication Studies, California State U; Northridge, CA

Judith Hendry, Department of Communication and Journalism, U of New Mexico; Albuquerque, NM

Lincoln J. Houde, Department of Communication, U of Utah; Salt Lake City, UT

Ann D. Jabro, School of Communication and Information Systems, Robert Morris College; Moon Township, PA

Jalal D. Jabro, School of Natural and Quantitative Sciences, Robert Morris College; Moon Township, PA

Susan K. Jacobson, Department of Wildlife Ecology and Conservation, U of Florida; Gainesville, FL

Dennis Jaehne, Department of Communication Studies, San Jose State; San Jose, CA

M. Rene Johnson, Department of Humanities, Michigan Technological U; Houghton, MI

Richard Jones, Department of Marketing, USD-Odense University; Campusvej, Denmark

Tina Kiewit, Department of Communication, San Jose State U; San Jose, CA

William J. Kinsella, Department of Communication, Lewis and Clark College; Portland, OR

James P. LaLumia, Department of Communication, Youngstown State U; Youngstown, OH

Renee Lertzman, Department of Communication Studies, U of North Carolina; Chapel Hill, NC

Sharon M. Livesey, Graduate School of Business Management, Fordham U; Bronx, NY

Magnus Ljung, Department of Landscape Planning, Swedish University of Agricultural Sciences, SLU; Uppsala, Sweden

Amy J. Lombardo, Center for Environmental Communication Studies, U of Cincinnati; Cincinnati, OH

Shannon Lotthammer, Minnesota Control Agency, Environmental Outcomes Division; St. Paul, MN

Piyush Mathur, Communication Studies Department, Virginia Tech U; Blacksburg, VA

Katherine A. McComas, Department of Communication, Cornell U; Ithaca, NY

Richard McGrath, Central College; Pella, IA

Mark Meister, Department of Communication, North Dakota State U; Fargo, ND

Martha C. Monroe, School of Forest Resources and Conservation, U of Florida; Gainesville, FL

Eric Morgan, Department of Communication, U of Massachusetts; Amherst, MA

Michael E. Nitz, School of Communication, U of Idaho; Moscow, ID

Garrett J. O'Keefe, Department of Agricultural Journalism, U of Wisconsin; Madison, WI

Max Oleschlaeger, Department of Humanities, Northern Arizona U; Flagstaff, AZ

Christine Oravec, Department of Communication, U of Utah; Salt Lake City, UT

Lea Parker, School of Communication, Northern Arizona U; Flagstaff, AZ

Kathi Lynn Pauley, Department of Communication Arts and Sciences, Calvin College; Grand Rapids, MI

Patricia Paystrup, Communication Department, Southern Utah U; Cedar City, UT

Susan Qashu, College of Oceanic and Marine Sciences, Oregon State U; Corvallis, OR

Alan Razee, Speech Communication Department, California Polytechnic State U; San Luis Obispo, CA

Jean Retzinger, Department of Mass Communication, U of California; Berkeley, CA

Richard Rogers, School of Communication, Northern Arizona U; Flagstaff, AZ

Donny Roush, Idaho Museum of History, Idaho State U; Pocatello, ID

Edward Ruddell, Department of Parks, Recreation and Tourism, U of Utah; Salt Lake City, UT

Michael Salvador, Murrow School of Communication, Washington State U; Pullman, WA

Steve Schwarze, Department of Speech Communication, Augustana College; Augustana, IL

Sue Senecah, Department of Environmental Sciences, State U of New York; Syracuse, NY

James Shanahan, Department of Communication, Cornell U; Ithaca, NY

David W. Shapiro, Roy H. Park School of Communication, Ithaca College; Ithaca, NY

Robin L. Shepard, Department of Agricultural Journalism, U of Wisconsin; Madison, WI

Brant Short, School of Communication, Northern Arizona U; Flagstaff, AZ

Bryan C. Taylor, Department of Communication, U of Colorado; Boulder, CO

Elizabeth Taylor, College of Ecosystem Science and Management, Northern Arizona U; Flagstaff, AZ

Craig W. Trumbo, Department of Agricultural Journalism, U of Wisconsin; Madison, WI

Jean Trumbo, Department of Agricultural Journalism, U of Wisconsin; Madison, WI

Ben Tyson, Communication Department, Central Connecticut State U; New Britain, CT

Gary Vear, School of Australian and International Studies, Deakin University, Waurn Ponds; Victoria, Australia

Craig Waddell, Department of Humanities, Michigan Technological U; Houghton, MI

Gregg Walker, Department of Communication Studies, Oregon State U; Corvallis, OR

Bruce Weaver, Department of Communication, Albion College; Albion, MI

Marsha Yowell, School of Communication, Northern Arizona U; Flagstaff, AZ