

The University
of Tennessee
at Chattanooga

Proceedings of the

Conference

on

Communication

and our

Environment

FTC Revises the
Environmental and
Marketing Guides

Data reported in
1995 show significant
reductions in the
emissions of 188
toxic chemical and
pollutants, particu-
larly benzene. The agency

Air quality report says
we all breathe easier

Toxic Release

Creek cleanup funds stalled

3 companies
refuse payment

Wetland

EPA Propose

Ozone Standards

Proposed Cancer Risk
Guidelines

Violations related to
health hazards

March 30–April 1, 1995
Chattanooga, Tennessee

Edited by:
David B. Sachsman
Kandice Salomone
Susan Senecah

Proceedings of the
Conference
on
Communication
and our
Environment

**The University
of Tennessee
at Chattanooga**

**March 30–April 1, 1995
Chattanooga, Tennessee**

**Edited by:
David B. Sachsman
Kandice Salomone
Susan Senecah**

Introduction: Third Conference on Communication and Our Environment

editors David B. Sachsman, Kandice Salomone, and Susan Senecah

Following successful conferences in Alta, Utah (1991) and Big Sky, Montana (1993), the Conference on Communication and Our Environment moved east and south to Chattanooga, Tennessee in 1995.

Sponsored by the West Chair of Excellence in Communication and Public Affairs at the University of Tennessee at Chattanooga and other local donors, the meeting brought together scholars from a variety of disciplines. As a special feature of its sponsorship, the 1995 conference had no registration fees and all refereed paper sessions were free and open to the public.

There were speakers and panels from academia, government, industry, and non-governmental organizations. The format allowed opportunities for interchange among scholars, students, public figures, industry representatives, and activists. Highlights included a tour of the Tennessee Aquarium and reception sponsored by the *Chattanooga Times*, and a barbecue dinner provided by the *Chattanooga Free Press*.

At the core of the conference were more than forty refereed papers addressing questions about how speech, writing, visuals, and different media affect our understanding of the natural environment, environmental policy, education, or action. Scholars from journalism and communications, speech, English, environmental studies, education, ethics, history, health, and other fields dealing with communication submitted papers.

Robert Cox, president of the Sierra Club and Professor of Communication at the University of North Carolina at Chapel Hill, delivered the keynote address in the historic Read House hotel on March 30. Fresh from Washington, D.C., Cox's speech was a battle cry against possible changes in environmental legislation. His presentation was followed by a roundtable discussion on "Do You Want to Devote a Career to 'Communication and Our Environment'?" featuring more than a dozen students.

The luncheon panel on "Communicating the Environment, Professional Perspectives" on March 31 was moderated by JoAnn Valenti of Brigham Young University and featured David Crockett, a Chattanooga city council member, Jim Detjen of Michigan State University, Richard Long of Weyerhaeuser, and Teya Ryan of the CNN Environment Unit. The evening panel on "The Environmental Reporting of TBS and

CNN" at the Tennessee Aquarium featured Ms. Ryan and Peter Dykstra of CNN. *Chattanooga Times* publisher Paul Neely, chairman Ruth S. Holmberg, and president A. William Holmberg were on hand to greet some 90 conference participants who attended the *Times* reception at the aquarium.

Ramona Rush of the University of Kentucky opened a discussion on "Teaching Environmental Communication" at the April 1 luncheon at the University of Tennessee at Chattanooga, where the March 31 and April 1 paper sessions were held. The conference ended with a barbecue dinner personally hosted by *Chattanooga Free Press* chairman and president Frank McDonald, who together with his bluegrass band the Dismembered Tennesseans, provided the entertainment. Throughout the conference, electric bus service was provided by CARTA.

Here follow in order of presentation the conference's refereed papers: (Please note that not all papers presented at the conference were submitted for publication in these proceedings.)

Public Interactions and Interchanges

- "Accounting For Your Actions: How Stakeholders Respond to the Strategic Communication of Environmental Activist Organizations" - James Patterson, University of Kansas, and Myria Watkins Allen, University of Arkansas
- "Facilitating Mediation Through Interactive Environmental Ethics Education" - Tarla Rai Peterson, Susan J. Gilbertz, and Gary Varner, Texas A&M University

Media Coverage of Environmental Issues

- "Environmental Concern and Media Coverage: 1988-1994" - James Shanahan and Katherine McComas, Cornell University
- "Television News Coverage of the Environment: Polluted or Purified?" - Michael Nitz and Sharon Jarvis, University of Arizona
- "The Right to Remain Indian: A Content Analysis of Newspaper Coverage of the Isleta Pueblo Water Standards Case" - Patricia A. Curtin, University of Georgia

Ecological Communication: Theory and Criticism

- "Ecological Communications: Committed Business

Goes Beyond Green Marketing" - Janet Dooley, Marshall University

- "A Full Ecology of Communication" - Stephen Duplantier, Xavier University Of Louisiana
- "Creating an Environmental Conscience: Rhetorical Strategies in Rachel Carson's Silent Spring" - Perthenia Eilers, University of Utah
- "Resourcist Language: The Symbolic Enslavement of Nature" - Mark Meisner, York University

Issues and Research in Public Communication

- "The Great Lakes: Public Knowledge and Perceptions of Environmental Issues" - Elaine Falk Katz, Health Education Research, Inc. and DePaul University
- "Communication Issues for Gathering Environmental Data: An Example From Tampa, Florida" - Shelly Happel, Fredday Aranguren, and Kimberly Harper, University of South Florida
- "The Phantom Audience for Environmental Journalism" - Len Ackland and Michael Tracey, University of Colorado at Boulder

Historical Roots of Environmental Discourse

- "An Inventional Archeology of Rachel Carson's 'A Fable for Tomorrow'" - Christine Oravec, University of Utah
- "The Public Reception of Rachel Carson's Silent Spring: The Underdetermination of Meaning by the Text" - Craig Waddell, Michigan Technological University
- "Cultivating the Agrarian Myth in Hollywood Films" - Jean Retzinger, University of Virginia
- "Nature's Nation: The American Environment According to Perry Miller" - John Opie and Norbert Elliot, New Jersey Institute of Technology

Public Land, Public Discourse

- "The Creation of a National Monument: An Analysis of the Rhetorical Communication Leading to Walnut Canyon National Monument, 1915" - Bruce Weaver, Albion College
- "The Prestige Press and Environmental Communication: *The New York Times*' Coverage of the National Wetlands During the Bush Administration" - Diane Nicodemus, Penn State University

Cases in Question

- "Sociocultural Determinants of Grassroots Environmental Perception as Reflected in Discourse: The Case of the Beartooth Alliance" - James G. Cantrill and Michelle D. Masluk, Northern Michigan University
- "The National Park Concessionaire as Environmental Educator: An Exploratory Case Study" -

Nickieann Fleener and Edward J. Ruddell, University of Utah

- "Raising Awareness and Stimulating Local-Level Groundwater Protection: The Groundwater in Michigan (GEM) Program" - Ruth Kline-Robach, Michigan State University
- "Who Makes Environmental News?: A Case Study of Environmental Reporting at Four Alabama Newspapers" - Janice Pope, University of Alabama

Environmental Literature and Rhetoric

- "The Didactic Narratives of Barry Lopez" - Scott Slovic, Southwest Texas State University
- "Be Blown on by all the Winds: Henry David Thoreau and the Concept of Health" - Michael Branch, Florida International University
- "Cold War, *Silent Spring*: The Trope of War in Modern Environmentalism" - Cheryll Glotfelty, University of Nevada-Reno
- "Rhetoric of Disengagement: Interpretive Talks in the National Parks" - Zita Ingham, Arkansas State University

Communicating Risks to the Public

- "Superficial and Systematic Uses of Information About Environmental Risks" - Robert J. Griffin, Center for Mass Media Research, Marquette University, and Sharon Dunwoody, University of Wisconsin
- "Is News Content What it Appears to Be? Technical News Sources and Citizens Evaluate News Coverage of a Chemical-Contaminated Site" - Kandice Salomone, University of North Texas and Rutgers University, and Billie Jo Hance, Rutgers University
- "Reporting Hantavirus: A Study of Intercultural Environmental Journalism" - JoAnn M. Valenti, Brigham Young University
- "Improving Communication in a Climate of Uncertainty" - Heather Tosteson, Agency for Toxic Substances and Disease Registry

Communication and Social Conflict

- "Environmentalism's 'Evil Twin': The Ideological Challenge of the Wise Use Movement" - Harold P. Schlechtweg, University of Massachusetts at Amherst
- "A Closer Look at Wise Use: Logical Contradictions and Ideological Inconsistencies" - Kent Goshorn, Annenberg School
- "The Heavens and the Earth: Voices in the Movement for Environmental Justice" - Stephen P. Depoe, University of Cincinnati

Communication, Awareness, and Education

- "The Status of Natural Resource Management Rela-

ted Environmental Education and Communication in Africa" - Ben Tyson et al., University of Connecticut

- "Talking Trash: Using Applied Social Research to Inform a Communications Program for Maximum Recycling in Rhode Island" - Christina Zarcadoolas, Lori Hunter, and Erica Guttman, Brown University
- "From Government-as-Solution to Sounding the Alarm: Rising Consciousness in China's Environmental Press" - Jian Wang and Judy Polumbaum, University of Iowa
- "Increasing Environmental Literacy by Design" - Carolyn Harper and Nancy Haynie-Mooney, Agency for Toxic Substances and Disease Registry
- "Communication for Environmental Policy Making and Ecologically Sustainable Development: A Model for Stakeholder Participation" - Nicholas Smith-Sebasto, University of Illinois at Urbana-Champaign, and Will Focht, Oklahoma State University

Changing Attitudes and Behavior

- "Atomized Environmentalism: The Influence of Individualism on the American Environmental Movement" - Susan Weber Seybolt, Boston College
- "Media Usage and Attitudes Toward the Environment" - Mei-ling Shih and Michael W. Singletary, University of Tennessee, Knoxville
- "Puffery in 'Green' Advertising Claims: Its Effect on Consumer Behavior in a Focus Group Setting" - Tommy V. Smith, University of Southern Mississippi, and Patricia Mark
- "Making Less Garbage at the Supermarket: The Role of Attitudes, Values, and Persuasive Bro-chures" - Anita Kugler, University of Florida

Communication and Our Environment 1995: Proceedings Chattanooga, Tennessee

Table of Contents

Introduction	i
Historical Roots of Environmental Discourse	
An Inventional Archeology of Rachel Carson's "A Fable for Tomorrow" ** Christine Oravec **	vii
Cultivating the Agrarian Myth in Hollywood Films ** Jean Retzinger	1
Public Land, Public Discourse	
The Creation of a National Monument: An Analysis of the Rhetorical Communication Leading to the Establishment of Walnut Canyon National Monument, 1915 ** Bruce J. Weaver	8
The Prestige Press and Environmental Communication: <i>The New York Times</i> ' Coverage of the National Wetlands During the Bush Administration. ** Diane Nicodemus	20
Cases in Question	
Environmental Perception and the Beartooth Alliance: Socioeconomic Struggles at the Grassroots ** James G. Cantrill and Michelle D. Masluk	28
The National Park Concessionaire as Environmental Educator: A Case Study of Yosemite Park and Curry Company ** Nickieann Fleener and Edward J. Ruddell	34
Raising Awareness and Stimulating Local-Level Groundwater Protection: The Groundwater Education in Michigan (GEM) Program ** Ruth Kline-Robach	39
Recasting the News Net: A Case Study of Environmental and Technical News Reporting at Four Alabama Newspapers ** Janice T. Pope	43
Environmental Literature and Rhetoric	
<i>Be Blown on by All the Winds</i> : Henry David Thoreau and the Concept of Health ** Michael P. Branch	48
Cold War, <i>Silent Spring</i> : The Trope of War in Modern Environmentalism. ** Cheryll Glotfelty	53
Rhetoric of Disengagement: Interpretive Talks in the National Parks ** Zita Ingham	58
Communicating Risks to the Public	
Superficial and Systematic Uses of Information about Environmental Risks ** Robert J. Griffin and Sharon Dunwoody	63
Reporting Hantavirus: A Study of Intercultural Environmental Journalism ** JoAnn M. Valenti	72
Improving Communication in a Climate of Uncertainty ** Heather Tosteson	79
Communication and Social Conflict	
Environmentalism's 'Evil Twin': The Ideological Challenge of the Wise Use Movement ** Harold P. Schlechtweg	85
A Closer Look at Wise Use: Cognitive Dissonance, Logical Contradictions and Ideological Inconsistency ** Kent Goshorn	90
Environmental Justice for All: The Persuasive Campaign of Benjamin Chavis ** Stephen P. Depoe	97
Communication, Awareness, and Education	
The Status of Natural Resource Management Related Environmental Education and Communication in Africa ** Ben Tyson, Irma Allen, Ted Fields, Richard Grieser, and Martha Monroe	106
Talking Trash: Using Applied Social Research to Inform a Communications Program for Maximum Recycling in Rhode Island ** Christina Zarcadoolas, Lori M. Hunter, and Erica Guttman	112

From Government-as-Solution to Sounding the Alarm: Rising Consciousness in China's Environmental Press ** Jian Wang and Judy Polunbaum	120
Increasing Environmental Literacy by Design ** Carolyn C. Harper and Nancy Haynie-Mooney	126
Effective Communication to Facilitate Stakeholder Participation in Ecologically Sustainable Development Decision Making ** N. J. Smith-Sebasto and Will Focht	136

Changing Attitudes and Behavior

Atomized Environmentalism: The Influence of Individualism on the American Environmental Movement ** Susan Weber Seybolt	143
Puffery in 'Green' Advertising Claims: Its Effect on Consumer Behavior in a Focus Group Setting ** Tommy V. Smith and Patricia Mark	152
Making Less Garbage at the Supermarket: The Role of Attitudes, Values, and Persuasive Brochures ** Anita M. Kugler	156

Public Interactions and Interchanges

Accounting For Your Actions: How Stakeholders Respond to the Strategic Communication of Environmental Activist Organizations ** James Patterson and Myria Watkins Allen	165
Facilitating Identification Across Divergent Perspectives Through Environmental Ethics Education ** Tarla Rai Peterson, Susan J. Gilbert, and Gary E. Varner	170

Media Coverage of Environmental Issues

Environmental Concern and Media Coverage: 1988-1994 ** James Shanahan and Katherine McComas ...	181
Television News Coverage of the Environment: Polluted or Purified? ** Michael Nitz and Sharon Jarvis ...	190
Mass Media and Global Warming: A Public Arenas Model of the Greenhouse Effect's Scientific Roots ** Mark Neuzil	197
The Right to Remain Indian: A Content Analysis of Newspaper Coverage of the Isleta Pueblo Water Standards Case ** Patricia A. Curtin	204

Ecological Communication: Theory and Criticism

Ecological Communications: Committed Business Goes Beyond Green Marketing ** Janet Dooley	212
The Full Ecology of Communication ** Stephen Duplantier	218
Creating an Environmental Conscience: Form as a Rhetorical Strategy in Rachel Carson's <i>Silent Spring</i> ** Perthenia Eilers	230
Resourceist Language: The Symbolic Enslavement of Nature ** Mark S. Meisner	236

Issues and Research in Public Communication

The Great Lakes: Public Knowledge and Perceptions of Environmental Issues ** Elaine Falk Katz	244
A Phantom Audience for Environmental Journalism? ** Len Ackland	248

** Permission to use quotations from the Rachel Carson manuscript collection was granted *after* the proceedings went to press; therefore, page numbers for this article are in small roman numerals. The quotations are used by permission of the Trustee of the Rachel Carson Estate.

An Inventional Archaeology of Rachel Carson's "A Fable for Tomorrow"

by Christine Oravec

The central significance of Rachel Carson's *Silent Spring* for the modern environmental movement is nearly undisputed (Brooks, 1972, p. 227; Graham, 1970, p. x, xii; Hynes, 1989, p. 9). Similarly, many would agree that the chapter of *Silent Spring* entitled "A Fable for Tomorrow," lies at the very core of that book. Because it combined the two incompatible genres of mythic narrative and scientific fact, this chapter contributed more than any other to Carson's being variously labeled an hysterical alarmist or a poetic amateur, one critic even calling it "science fiction" (Graham, 1970, pp. 64-65; Hynes, 1989, pp. 12-13). Yet it also considerably influenced the controversial genre of apocalyptic environmental writing by inspiring both admiring imitation and cynical parody (Brooks, 1972, pp. 294-295, 297; Hynes, 1989, pp. 115-118). And it is the part of the book that, if any, readers seem to remember most. In fact, "A Fable for Tomorrow" has gained a reputation as a rhetorical bombshell that landed in just the right place at just the right time.

In addition to determining their general effects, however, communication scholars tend to make more technical inquiries into famous discourses. Among those inquiries are questions about the origins of discourse, or what the ancient rhetoricians labeled the canon of invention. In the case of "A Fable for Tomorrow," those questions might proceed along the following lines. Specifically, how did Carson, with help from her editor Paul Brooks, construct this piece of effective discourse? How was the idea generated? What were the serious choices about strategy, technique and tone that had to be made before the final version saw print? What did she decide to eliminate from previous versions, and why? In other words, out of the resources available, how did Carson choose the most effective means of persuasion in this case? Each of these questions, I suggest, could be answered through an examination of the author's inventional processes.

But inventional processes are not easy to examine directly. The evidence is often elusive and immaterial. We are not often invited to sessions in which rhetoric is planned before there is any evidence of its possible effectiveness; we are seldom one of the inner circle that implements the selection of materials, the construction of arguments, or the tone; and infrequently do we overhear the endless stream of talk that articulates the

rationale behind the choice of particular words and phrases. Our only source of evidence for the processes of invention are the traces that are left in the documents associated with the process, including manuscript drafts, source materials, and written memoirs. The process of unearthing and reassembling these fragments is multilayered and inferential, and in the end we must construct a narrative to make sense of the material remains.

Of all of the human arts and sciences, the one that this process of unearthing and reconstruction most resembles is that of archaeology. And as everyone knows, archaeologists are particularly attracted to those who are collectors themselves. In the case of Rachel Carson, we have what amounts to an inventional archeologists's dream: an author self-conscious enough about her art that she collected all of her preliminary materials as they came to her, arranged her successive drafts in sequence, and never, it seems, threw a scrap of paper away. By examining the materials collected by Carson in the course of writing the first chapter of *Silent Spring*, we have an opportunity to recreate the persuasive directions taken by an early, leading environmental writer in the course of creating her most well-known product. In other words, we can do an inventional archaeology upon environmental discourse that really has made a difference.¹

This study is a reconstruction of the inventional processes involved in the writing of "A Fable For Tomorrow," from the first gathering of source materials to the last corrections made upon the galley proofs. To support the reconstruction I will be using the best source available, the folders of manuscripts located in the Rachel Carson collection of the Beinecke Library at Yale University.² By examining these folders in roughly chronological order, I aim to uncover the content, alternatives, and outcomes of Carson's rhetorical choices and to generate a narrative that reconstructs the process by which Carson invented this most important chapter. At the end of the paper I will suggest ways that this narrative can provide guidance for writers who wish to follow in Carson's footsteps. Thus an examination of Carson's manuscripts can help us recreate the roots of the recent past in the environmental movement and also make us more reflexive about our own rhetorical positions.

"A Fable for Tomorrow": A Story of Invention and Development

Inventive strategies are often stimulated and shaped by particular rhetorical problems. Digging around in Carson's preparatory materials highlights the kinds of problems she faced as well as exposing the characteristic and effective ways she responded. Carson's main problem was to make real and immediate a general threat to health and life from chemical pesticides that seemed very remote to her readers. To solve this problem, she fictionalized a body of factual evidence for the threat while at the same time retaining the credibility of those very facts. In particular, she chose to employ fictional device of mythic storytelling to engage her readers and heighten their concern. Looking at each folder in turn reveals how she came to this strategic decision.

Folder One: Source Materials.

As I have suggested, one important outcome of "A Fable for Tomorrow" was the determining of a relationship between the fictional and the factual. But nothing in this first folder of materials suggests that this first chapter of what will become *Silent Spring* will be literary or fictional in the least. The materials making up these early sources are varied, but all of them are factually based. Among them are clippings about pesticides from the *New York Times* (one entitled "Insect War Brooks No Truce"), articles from the *Saturday Review* and the *Defenders of Wilderness* newsletter, and magazine advertisements from industrial manufacturers. At this point, Carson had already collected several stories of the effects of pesticides on wildlife and people in particular places throughout the country, stories that would play an important part in the invention of "A Fable for Tomorrow."

This folder also contains some early outlines. Carson's original conception for the first chapter of a book tentatively titled "Man's War Against the Earth" (or "Man Turns Against the Earth"),³ is a straightforward summary presenting the book's thesis:

that in at least one major area of man's efforts to gain mastery over nature—the reduction of unwanted or 'pest' species—the control operations are themselves dangerously out of control, with the result that normal and necessary relations of living things to each other and to the earth have been destroyed.

Later in these materials the chapter is given a name, "The Rain of Death," and the summary is considered to "stand for the book in miniature." Finally, there is a guest editorial by Mark Van Doren for the *Saturday Review* entitled "A Motto for Today." This article seems to suggest that the title "A Fable for Tomorrow"

may have been conceived in the context of contemporary doubts about the claims for the supremacy of science, which was the theme of Van Doren's column.

Folder Two: Outline of the Book and Introductory Notes.

In the second folder, more complete outlines of the book appear. In one outline the first chapter appears to lose its character as a summary; it seems to retain its thematic character, however, focusing upon the dichotomy "Life vs. Environment." In another outline the phrase "Silent Spring" first emerges as the title of the first chapter in an eighteen-chapter book. (We know from Brooks that it was he who suggested that the book be titled "Silent Spring" rather than "Man Against the Earth," but it is unclear whether he originally suggested the phrase as the title of the first chapter as well [Brooks, 1972, p. 263].) Here too, the first chapter is not presented as a summary; rather, it is followed by another chapter heading entitled "Background of the problem" (possibly chapter two), which might serve as a summary instead.

What, then, will chapter one become? In subsequent notes, we get a first view of its emerging fictional nature. A sketchy plot is outlined:

Some might [?] spell had gradually, almost unnoticeably, crept over the community. But now quite suddenly it had become apparent that something was dreadfully wrong.

According to these notes, the chapter will consist of a contrast between "idyllic beauty" and a "nightmare landscape treated with pesticides." This depiction appears to be archetypal, containing pictures of the shore, the forest, orchards, crabs, and children both before and two weeks after a pesticide application. The chapter then would conclude with a series of factual events from around the country reflecting Carson's research—robins disappearing from the campus of a Midwestern university, for example. Carson here appears to be developing a composite picture of several communities in the U.S. already experiencing pesticide damage, but for now wishes to ground the composite by including specific factual events at the end of the chapter.

Folder Three: Various Drafts of Chapter 1.

Those familiar with "The Fable for Tomorrow" may be surprised to learn of the degree of fictionalization, indeed almost novelization, the chapter receives in these important drafts. The name of the town, for example, is Green Meadows; it is visited in 1965 (three years after the publication of the book itself) by a young man longing to see the fields, trees and animal life as he once knew them; he senses that something is subtly wrong; the farmers tell him stories of illness among children; he notices birds are dying. Many of the stories and episodes the young man witnesses are drawn in

detail from those events Carson had collected from the factual reports mentioned in the previous folder. (In one draft she underscores the point; every incident she descriptively narrates "*actually happened somewhere*" [italics hers].) Interestingly, Carson also inserts right from the start a fictional narrator, an "I" who "relates" or "writes" the "strange and nightmarish events" of what happened to the town of Green Meadows.

Eventually, however, throughout several drafts, the young man and even the personal narrative voice disappear, except in one crucial paragraph, the concluding one. ("As yet I know of no community that has experienced all the misfortunes that befell this imaginary town. Yet every one of these disasters has actually happened somewhere. . ."). The description tightens, becomes less detailed and didactic, and the manuscripts decrease in size by half. Green Meadows retains its name, but the title "A Fable for Tomorrow" is added to one draft in pencil, and the bulk of the language becomes essentially the same as the chapter we contemporary readers are familiar with. The process of making the town a composite has led first to the generalization of facts into fiction, then the expansion of that generalization into a detailed fictionalized framework, and finally the condensing of the essential elements of that framework into myth.

Folder Four: Revised Draft for the Book.

At this stage, the book receives its final editing. The illustrations have been completed, the epigraphs prepared, the typeface selected. A sample page has been run and attached to the front of this manuscript. Page numbers have been assigned and titles to chapters decided upon. Yet it is not until this point that an important—and probably crucial—decision about the fiction in chapter one is finally confronted; that is, whether to make any effort to particularize the town by retaining the name "Green Meadows," or finally to raise its status to the level of universal myth.⁴

Carson chooses the latter. Green Meadows becomes, not a name but a place, a "town in the heart of America." All the references to Green Meadows are subsequently changed: for example, to "the countryside" or to "this stricken world." Further, a scriptural, almost biblical quality is imparted to the language when the phrase "This was Green Meadows, from the days many years ago when the first settlers raised their houses, sunk their wells, and built their barns," is edited to "So it had been from the days many years ago. . ."

Finally, after all references to the name of the town are excised, Carson insists upon one last major alteration in format; a double space separating the famous line at the end of the mythic narrative, "the people had done it themselves," from the following and final paragraph, which now reads, "The town I am

writing about is imaginary, but it might easily have a thousand counterparts. . . ." With this move, Carson comes full circle, separating fiction and fact once again. But perhaps this is only because the fiction has become a myth, and this myth has become expanded beyond any possibility of grounding it in a collection of current events. The myth is spatially liberated to stand on its own; it is Carson's, and the readers' task, to note its application to particular daily lives.

I believe it is this striving toward the mythic, toward the most general form of narration, that finally so angered and entranced her readers. A simple story about a particular town, no matter how fictionalized, could be dismissed as irrelevant to anyone's own particular life; a mythic narrative about a town that could be anywhere and a blight that could hurt anyone cannot be ignored. The prospect in such a myth is frightening, awesome, and in its own way, sublime.

Folder Five: Printer's Typescript.

Corrections to the printer's typescript are minimal. "Green Meadows" is gone; the double space has been inserted. Carson (or someone) does not like the repetition of the word "yet" in two consecutive lines in the last paragraph, and this is noted. The manuscript goes to press.

Folder Six: Galley Proofs *Silent Spring*.

Corrections are expensive at this point, but Carson is a meticulous stylist, so they must be made. The offending "As yet" is removed, streamlining the sentence. Much more significantly, Carson makes two important changes; one clarifying and defining the amount of factuality her fiction can bear; the other, placing her personal voice firmly within a nonfiction framework so she can carry on with the rest of her book. Both moves help to reinforce the credibility of the scientific basis of fact that lies directly behind the myth.

In the first move, Carson must deal with a troubling word, "imaginary." The problem is that what she describes *is* imaginary, and factual at the same time. But the word itself connotes untruth to those who do not believe that myth can tell truths. Thus she changes "The town I am writing about is imaginary," to "This town does not actually exist," as if to clarify the precise nature of its mythical status. Of course the town is imaginary; we know this already, precisely because of its mythic literary form. But we might not know, and what Carson strives to maintain, is that the imaginary may also be factually true, despite its lack of "actual" existence. By making this change, Carson informs the reader of the degree to which she is willing to make claims for the factuality of her mythic construction, while she avoids the problems that using the word "imaginary" might evoke.

Later, in the phrase "imaginary tragedy," Carson replaces the word "imaginary" with the word

"imagined." She does this as if wishing to retain the idea that the imaginary is not necessarily the unreal. But once again, the unfortunate connotation of the word "imaginary" leads her to substitute a more neutral, though related, term. One gets the impression that she would still like to use the word "imaginary" both here and before (as she has through many drafts), but she would rather not be misread at such an important juncture.

The second move, her removal of the first person pronoun in the sentence "This town does not actually exist," further subordinates her viewpoint to that of the problem she is describing. This tragedy is not just her imagination; it is instead, a collective nightmare. The movement is toward the general, the collective, the mythic. It is significant to note, however, that she does not eliminate herself as narrator completely. Enough of her own viewpoint remains ("I know of no community that has experienced all the misfortunes I describe....") to give the myth a voice, and it is a factual voice, not that of a fictionalized narrator. This is the voice, of course, that must narrate the rest of the book, the nonfictional chapters of *Silent Spring*. Again, because the myth must not be misunderstood as idiosyncratic or untrue, Carson's personal voice is minimized and relegated to the factual domain. Perhaps just such a reformulation of the imaginary, and just such a deemphasis upon the creative intervention of the author, succeeded in making the mythification of Green Meadows both more acceptable, and more disturbing, to her readership.

Recommendations for Environmental Writers

As every rhetorical situation is a particular one, any prescriptions for practice derived from those situations must be qualified. Carson was writing in an era significantly different than our own. The environmental crisis was less perceptually apparent; there was a much greater faith in science as a benign enterprise; and almost no generic precedents existed, except perhaps that of the muckraking journalists of the turn of the century (Hynes, 1989, Ch. 3; Eilers, 1994). Perhaps these situational factors account for the urgency, even the stridency, of her chosen format and style.

But some general precepts can be derived from this excavation of her process. The first, perhaps most obvious, is that the relationship between fact and fiction is a complex one, and that this complexity should be acknowledged and inscribed in the final product. The story of Carson's developmental process underlines her careful weighing and balancing of factual and fictional nuances. Even then, many readers misinterpreted the status of her claims. Her defense was that she had used factual information to build her fictional representation, and that every detail in that fiction could be referenced

to an episode or event that had already occurred. Moreover, she tried to transmit this relationship of fiction and fact in the very form of her writing. Without overwhelming her story with qualifications and footnotes, she carefully selected words and phrases that spoke to a lifetime of research and experience. The lesson to be learned here is that the relationship between fact and fiction in any environmental writing is central to its nature, and must be made a part of the story.

Second, there is a danger in being too specific, especially in the realm of fiction. Carson's choice not to write a story about a male character touring a town called Green Meadows in 1964 was crucial for reaching a wider audience, both in her own time and today. This is not to say that real and particular locations, whether it be Walden Pond, Sand County, or Arches National Park, cannot be potent sites for focusing environmental concern. It is to say that for environmental writing to touch a wide public, some generalization of particular places is useful and may even be necessary. Further, the kind of generalization one chooses influences the way readers receive the message. Naming a town Green Meadows is an invitation to allegory, tending toward polemic; leaving it unnamed is an invitation to mythology, which inspires contemplation. The choice of a given genre may depend upon particular readers' readiness to receive an environmental message. In this case, it may have been too early to expect readers to identify with a particular location, even a fictional one.

Third, the voice of the author plays a key role in identifying the status of the fictionalized content. Often the presence of a first-person narrator disqualifies the content of writing as being truly "factual" or "objective," as in most scientific genres. But often the lack of an explicit authorial presence hides or subsumes personal responsibility for the facts and how they are rhetorically manipulated. Carson's solution was to objectify her fiction and personalize her facts. That is, by removing herself from her fiction Carson underscored the universal truths of the myth she had created, and by associating her voice with the nonfictional elements of her message she took responsibility for its factuality. The implication for practice is that environmental writing, which often draws upon the writer's experience as a source of information and judgment, must strike a balance between the "objective" and "subjective" modes without overwhelming one or the other.

As in every rhetorical situation, Carson's choices were constrained by generic, audience, and stylistic considerations. Whether these choices were the right ones--we know they were successful ones--seems at this stage in history almost beside the point. But in any

case, the examination of the invention of "A Fable for Tomorrow" outlines a remarkable story of the inventional processes involved in one of the most successful rhetorical accomplishments of our century, and perhaps the most significant one for environmental activism. The process of excavation, for whatever purpose, can only help us understand the working habits of an expert, a craftsperson well worth imitating. And perhaps understanding how these choices were made can even be of some help when, as students of communication and advocates of the environment, we confront the myriad inventional problems endemic to our own place and time.

Author Notes

Quotations from the Rachel Carson manuscript collection have been used by permission of the Trustee of the Rachel Carson Estate.

I wish to thank the Beinecke Library, Yale University, and Marie Rodell, Rachel Carson's literary executor, for access to the Carson collection. I also wish to thank the National Endowment for the Humanities and the University of Utah College of Humanities Development Committee for the grants that enabled this project.

Footnotes

¹By using the term "inventional archaeology" I wish both to associate and dissociate my method from Michel Foucault's famous concept. To the degree that my procedure engages the problem of the constitution of historical series based upon fragmentary and discontinuous traces of discourse, I wish to claim affinity with Foucault's methodological concerns. But I make no claims to be describing entire epistemes or discursive formations by virtue of this activity. My purpose is much more immediate; it is to focus upon Carson's rhetorical problem and its practical solution. To borrow Foucault's terms, I see my story of the various drafts of "A Fable for Tomorrow" neither as a document (a mere record of intention) nor as a monument (a text-in-itself, standing apart from its surrounding context) but as a powerful and functional rhetorical construct profoundly implicated in its historical place and time. Perhaps this particularity and situatedness indicates an episteme; perhaps not. In any case, this project does assume the importance of the origin and influence of a discourse, which is not necessarily Foucault's purpose in *The Archaeology of Knowledge* (1972, pp. 25-26).

²For the purposes of this paper I have confined my discussion to the collection of manuscripts in the Rachel Carson collection at Yale University that are catalogued as related to the drafting of the first chapter of *Silent Spring*. Out of this collection I have selected

the folders that I believe most clearly trace the story of the development of "A Fable for Tomorrow," and I have arbitrarily numbered them Folders 1 through 6. There are several more folders in this collection, however, including illustration placements and proofs of the excerpts of the book published in the *New Yorker*. In addition to these core materials, many more boxes of primary research for the book remain to be examined.

³In the contract with Houghton Mifflin the book was tentatively called *The Control of Nature*, but both Carson and Brooks felt this title was too broad. The manuscripts indicate that several titles were considered before *Silent Spring* was agreed upon, the most important of which was "Man's War Against the Earth" (Brooks, 1972, p. 239; Graham, 1970, p. 21). At least one other title, "The War Against Nature" or "At War with Nature," was considered, as indicated in a letter from Carson to her friend, Dorothy Freeman. The letter also includes the following thoughts about the beginning of the book: "I told you that a possible opening sentence had drifted to the surface of my mind recently. It was--'This is a book about man's war against nature, and because man is part of nature it is also and inevitably a book about man's war against himself'" (Carson, 1961, p. 380).

⁴Paul Brooks, for one, was against the idea of naming the town "Green Meadows." He felt that the name "suggests not an old town but a real estate development" (Graham, 1970, p. 64).

References

- Brooks, P. (1972). *The House of Life: Rachel Carson at Work*. Boston: Houghton Mifflin.
- Carson, R. (1961). Letter to Dorothy Freeman. In Freeman, M. (Ed.). (1995). *Always, Rachel: The Letters of Rachel Carson and Dorothy Freeman, 1952-1964* (pp. 380-381). Boston: Beacon Press.
- Eilers, P. (1994). Creating an Environmental Conscience: Revelation and Depiction as Rhetorical Strategies in Rachel Carson's *Silent Spring*. Unpublished master's thesis. University of Wisconsin, Madison WI.
- Foucault, M. (1972). *The Archaeology of Knowledge and the Discourse on Language*. (A.M. Sheridan Smith, trans.). New York: Pantheon.
- Graham, F., Jr. *Since Silent Spring*. (1979). Boston: Houghton Mifflin.
- Hynes, H. P. (1989). *The Recurring Silent Spring*. New York: Pergamon Press.
- Rachel Carson Collection. Beinecke Library, Yale University. YCAL Mss 46 Box 50, Folders 899-900; Box 53 Folder 967 and 974; Box 54 Folder 987; Box 55 Folder 1005 and 1014; and Box 56 Folder 1022.

Cultivating the Agrarian Myth in Hollywood Films

by Jean Retzinger

Those who labour in the earth are the chosen people of God, if ever he had a chosen people, whose breasts he has made his peculiar deposit for substantial and genuine virtue. . . . Corruption of morals . . . is the mark set on those, who not looking up to heaven, to their own soil and industry, as does the husbandman, for their subsistence, depend for it on the casualties and caprice of customers. Dependence begets subservience and venality, suffocates the germ of virtue, and prepares fit tools for the designs of ambition.... [G]enerally speaking, the proportion which the aggregate of the other classes of citizens bears in any state to that of its husbandmen, is the proportion of its unsound to its healthy parts, and is a good-enough barometer whereby to measure its degree of corruption. (Jefferson, 1787/1982, 164-65)

The agrarian society of Thomas Jefferson's America has disappeared. Jefferson described a nation whose farmers constituted fully ninety percent of its citizenry; currently only 1.9 percent of the US population is engaged in farm labor. Though 960 million acres remain in agricultural production, this number too has been shrinking (*Statistical Abstract*, 1993, 1092; 1099). Farm and fields currently constitute nearly 40% of all US land, yet they garner relatively little attention among either environmentalists or the public at large--though ample reason for concern exists. As agricultural lands are lost to urban spread and development, fewer acres are continuously asked to produce more. The results may be found in an ever-increasing dependence on chemical pesticides, herbicides, fertilizers, and antibiotics in food production; in rates of soil erosion exceeding those of the 1930s "dustbowls;" in a loss of genetic diversity in both crops and livestock; and in the contamination and depletion of the nation's groundwater.¹

Yet such problems are not readily visible. For the casual observer, the view from a car window of pastures dotted with cattle, fields ribboned with corn, or hills blanketed with wheat evokes tranquility (or boredom) more than alarm. Rural landscapes often look more beautiful than threatened, and increasingly looking seems to encompass the whole of our relationship to those lands.

Changing demographics alone (the fact that most of

us have not lived or worked on a farm) cannot account for an ever-widening gap between the country and the city. Nor can that gap be attributed to distinctive urban and rural psyches or a separate producer and consumer class. For farming practices increasingly emulate those of corporate America and farm families purchase the same consumer goods--including their groceries--as do their urban and suburban counterparts. Instead, intermediate and largely hidden stages of food production (from slaughterhouses to processing plants) have severed most direct links between farm fields and family tables. Global rather than regional markets further twist and stretch those links. In place of information about farm economies or the agricultural practices which feed us, our recognized links to rural lands and rural lives are primarily visual: Sunday drives, TV programs, and popular films.

This paper explores the ways in which one communication medium--Hollywood films--helps shape our understanding of the (not-so-) natural environment in rural America. Mediated and fictional versions of farm life slip into urban livingrooms through television sets or shimmer larger than life on a cinema screen, temporarily bridging the gap between the city and the country. Farmers and farming have provided story lines for films for more than seven decades, from the era of silent films to the present.² Though the majority of such films use farms as a setting rather than as a subject, in several instances films made during the most visible periods of crises in American agriculture have attempted to depict and address specific economic, political, or environmental problems affecting farmers. More often than not, rather than making either the roots or consequences of such agricultural problems more understandable, Hollywood films leave confused and contradictory messages in their wake.

For purposes of this essay, I will be drawing examples from three films made in the 1930s and 40s (*Our Daily Bread* [1934], *The Grapes of Wrath* [1940], and *The Southerner* [1945]) and three films all released in 1984 (*Country*, *Places in the Heart*, and *The River*). Additionally, *Summer Stock*, a 1950 musical starring Judy Garland and a precursor to the 1984 films which focus on farm women, is also included. These films (with the exception of *Summer Stock*) are somewhat unique in focusing directly on farmers and farming and the (largely economic) problems they faced. The agrarian myth plays a starring role in each, but in an

abridged version which concentrates on character--while ignoring the specific farming practices Jefferson believed engendered those character traits.

Though the agrarian myth is centuries old and, as Richard Hofstadter suggests, was already outdated early in the 19th century, it persists. Thomas Jefferson has left us more than one legacy. The yeoman-farmer according to Jefferson (1787/1982) was both the ideal person and the ideal citizen. The farmer's list of traits was long: virtue, independence, self-sufficiency, self-reliance, honesty, health, happiness, wholesomeness, simplicity, and morality.³ In describing those who "labour in the earth" as "the chosen people of God," Jefferson uses the land as the vital link between humans and God. Looking to the earth and to individual industry as much as to heaven constituted a farmer's virtue; cultivating the soil is synonymous with cultivating good works.

Yet it was not the labour alone which mattered. For Jefferson the virtues exemplified by farm families depended on direct links between production and consumption. Family farms and subsistence farming practices meant economic security, and thus, in Jefferson's view, a freedom from the "casualties and caprice of customers" (165). The belief in agriculture was a "belief in individual freedom and in private property as its means" (Griswold, 1948, 45) for clearly it mattered to Jefferson that farm labor was performed on one's own land. Only small landowners whose fields and farmyards directly supplied their needs could be independent, freed from subservience, from want, and from volatile markets.

Gender plays a role in this myth also, though it is mostly present in its absence, in being relegated to the margins. While the landowner/farmer was always a "he," women served to complete and reproduce the family farm across the American frontier. Perhaps, though, the most important role for the feminine was metaphorical. For if the farmer embodied virility and masculinity, the environment in which he labored was feminine. Within the agrarian myth the earth is both a virgin and a mother. Beyond the pastoral refuge, men and women alike are debased; the city is a seductress and trade a whore.⁴

The agrarian myth has been tempered somewhat with the passage of time. Of interest are not only its surviving features but the details which have changed, and the ways in which both constrain these films. Examining the agrarian myth as the machine begins to enter the garden brings these adaptations into sharp focus, for the reliance on tractors rather than horses facilitated important changes in farming practices and farm economics. The wide-scale introduction of these technologies roughly corresponds to the time-frame covered by these films, and the resulting Hollywood revisions to the agrarian myth alter our view of the garden and its residents.⁵

Hollywood's Garden

The farm settings depicted in King Vidor's *Our Daily Bread* (1934) and Jean Renoir's *The Southerner* (1945) represent an Eden in the midst of economic hardship. These films may, in fact, borrow as much from Genesis as from the agrarian myth. Though the first is conceived as a collectivist farm (pooling together the skills and labor of families displaced by the Depression) and the second a tribute to the independence and self-sufficiency of the nuclear family, both films advocate renewal distinctly outside the confines of the city.

Yet--in contrast with both the agrarian myth and with later films--the land serves as a proving ground, not property. While these farms offer a setting in which to demonstrate character, in both films it is a borrowed stage. Neither family owns the land they farm; they are temporary tenants only. Their presence results from someone else's generosity, a gift that once given is never mentioned again.

Farming offers the male protagonists an opportunity to prove themselves as men, testing their ideas and their skills alike. As Sam Tucker of *The Southerner* explains, "I can do it all in my own way, and don't have to answer to nobody." Farming offers the female protagonists an opportunity to prove themselves as wives and mothers, standing staunchly beside their husbands, holding the family (or a collectivist community) together. More interesting than the simple fact of their heroism is its texture. The virtues extolled in these films are depicted as inversely proportional to the technologies employed.

No tractors are ever shown in either *Our Daily Bread* or *The Southerner*--though an early scene in the former establishes that a tractor (of some sort) exists. In *The Southerner* the one character who mentions the possibility of Sam and Nona Tucker eventually getting a tractor has been clearly positioned throughout the film as the representative and defender of the city. While his ideas are treated with respect, the Tuckers clearly occupy the moral high ground.

Though the new Eden of Vidor's *Our Daily Bread* admits some sin, including temptation in the form of Pepper--a "slovenly, slatternly city girl"--who briefly lures John Sims away from both his wife and the farm (Nash, 1985, 2295), it is heroism and the work ethic in the form of hard physical labor that the film celebrates.

A scene meant to illustrate the promise of communal effort gathers men and plows together at the edge of the field as John urges, "Well, boys, it's up to us." A single horse pulls the first plow out into the field. Next, six men in harness drag a second plow and the camera lingers on the image. A motorcycle pulls a third plow; two cars line up to tow the next two plows. Finally, men armed only with shovels and axes march out across the field.

In the film's climactic ending, men wielding shovels and pick axes labor together in "some of the most dramatic and dynamic scenes ever put on celluloid" (Nash, 1985, 2295) to dig an irrigation ditch. For nine full minutes the audience watches bare-chested men with sweat glistening on their shoulders swinging pick axes and shovels, felling shrubs and trees with machetes, axes, and saws, hefting boulders by brute force (and with the help of the horse). Day turns to night and back to day again before the trench is completed, the signal given, and the water allowed to rush downstream toward the parched cornfield. For three more minutes the camera follows the water's path as men shore up the channel with boulders and boards and their own bodies. The message throughout is clear: sheer will and muscle have harnessed nature to battle nature. Brawn and brain have saved the crop. This is the work of men.

Women and children cheer on the men and some few grab a shovel to help dig the irrigation ditch's final feet. But their true role throughout has been to offer comfort and encouragement to the men, and to model purity and fidelity to the dream. If men are measured by their actions, women's value lies in their spiritual and metaphorical relationship to the land.

In *Our Daily Bread*, Mary Sims sits alone at the field's edge, gazing at the newly sprouted corn. Her husband John, the transplanted city dweller, joins her and remarks in awe,

It really works, doesn't it?

Of course, didn't you think it would?

It makes you feel safe, confident. Well, like somebody was kinda watching over you.

... There's nothing for people to worry about. Not when they've got the earth. It's like, like a mother. It's wonderful.

To make this point even more explicit, the other members of the commune gather behind John and Mary. One man leads the rest in prayer; another announces the birth of a child.

In Jean Renoir's 1945 film *The Southerner*, the earth is gendered both masculine and feminine in instructive analogies. When the Tucker family first arrives on the farm, Sam assures Nona that the land which has lain fallow for years is good. "With dirt like this a fellow could raise the best crop in the country. . . . The earth's kinda like men, you know. It needs a rest every once in a while. Maybe that's the reason the Lord invented Sundays." It's safe to presume that "men" is not used generically (for humans) in this scene. The work week described is one reserved for paid laborers not performing childcare or housework double duties.

In a later scene in *The Southerner*, Sam offers a second personified description of the land (now planted in cotton but flooded by a violent storm). Though he

first draws a parallel between himself and the land, he then genders it feminine.

For a while I didn't seem to believe in nothing no more. But now my clothes are starting to dry. I'm beginning to believe again. I guess that's the way the earth feels when she's wet. But the sun will start drying her out and she'll start calling to me again, just the way Nona does sometimes.

The earth here is neither a virgin nor a whore, but a loving wife (and presumably, by extension, a mother).

Finally, it is worth noting that this film ends with a flood. No technological "solution" is offered. Instead viewers are left to believe that this family will simply persevere, plant a new crop, hope for a better year. For the director Jean Renoir (1974), "What I saw was a story in which all the characters were heroic, in which every element would brilliantly play its part, in which things and men, animals and Nature, all would come together in an immense act of homage to the divinity" (234). Nash (1985) elaborates, "In *The Southerner*, man is just another part which makes up the whole of this land, he is not in control of the divine elements but subject to their wrath" (3053). *The Southerner's* garden remains distinctly anti-technological. Though death and temptation have entered Eden, the machine has not yet slipped through its gates.

While these films convey the agrarian myth in its most pristine form, they leave a rather significant hole at its center: agriculture itself. A physician in *The Southerner* encourages the Tuckers to raise vegetables for their child. They plant the fields in cotton. No garden at all is shown in *Our Daily Bread*, though dozens of families needing to eat populate the collectivist farm. Their fields are planted in corn, a crop grown not for (direct) human consumption, but to feed cattle. (It is doubtful they could grow and sell enough corn to buy enough beef to feed them all.)

Technology's Harvest

When the machine enters the garden, it redefines both the garden and its inhabitants. John Ford's *The Grapes of Wrath* (1940) serves as a pivotal film in this transformation, greeting the entrance of the machine with profound distrust, yet foreshadowing the myth's later reworkings. A decade later, as the 1950 musical *Summer Stock* illustrates, Hollywood's revised version of the agrarian myth was firmly established. Its formula re-appears in the 1980s farm films--no matter the decade they depict. Virtually every relationship explored by these later farm films changes: the characters' connection to the land, to each other, to technology. Throughout, the agrarian myth is stretched and pulled--but not relinquished.

The land is no longer a gift, a temporary refuge and opportunity to start anew, but an inheritance fraught with economic and emotional weight. The films repeatedly emphasize the significance of deep-rooted family ties to a particular tract of land. Muley, the Joad's Oklahoma neighbor in *Grapes*, confronts the government agent serving his eviction notice with the words,

Well, I'm right here to tell you, Mister. There ain't nobody going to push me off my land. My grandpa took up this land 70 years ago. My Pa was born here. We was all born on it. And some of us was killed on it. And some of us died on it. That's what makes it our'n. Being born on it. And working on it. And dying. Dying on it. And not no piece of paper with writing on it.

Muley stays, forced to hide out and to draw sustenance from his gun rather than his plow. The Joads and the rest of their neighbors are forcibly evicted from the garden, however. Pieces of paper do triumph, even when no individual appears to stand behind them. Muley's attempts to discover those responsible for his eviction results in a nearly infinite regression of denial. The final message seems to blame only the tenant system, not the capitalist practices which support it.⁶

Later films fail to question private property at all, but rather celebrate it. Jewell Ivy in *Country* states emphatically, "We're not going to sell this land. This land's been in my family for over 100 years." When a banker tells Tom Garvey in *The River* that he owes the bank "more than your place is worth," Tom's response is "I'm not looking to sell; I'm looking to stay." Later he reminds his wife, "This is our home place, Mae. My people are buried here." Severing these long-established ties is tantamount to severing family bonds. Dissolving family farms means destroying the families who reside on them.

Yet once the land is cast as property, agriculture itself is reduced to an economic enterprise. Ownership provides crucial motivation to fight the good fight. And that fight becomes two-fold: against nature cast in the form of violent storms (dusters, floods, tornadoes) and against a vague (unnamed) enemy who would pull these families from their farms.⁷ In both cases, however, the solutions offered are primarily individual; the battles themselves become tests of character, not opportunities to question the very agricultural practices from which (most of) these crises arise.⁸

Hollywood farm families prove their mettle not so much by their actions (as stewards), but by their perseverance. Faced with adversity, their task is to shore up their claims of rightful ownership. Technology enters in multiple ways, yet the machine's presence in the garden is surprisingly consistent in its re-

definitions of gender.

Tractors and bulldozers entered the garden of John Ford's *Grapes of Wrath* with harrowing effects. There is no mistaking the sinister qualities attributed to machinery here. In an early flashback scene, Muley tells Tom what has transpired in his absence. While he speaks, the screen fills with low-angle shots of a solid phalanx of tractors rolling across a field.

They come. They come and pushed me off. They come with the cats. What?

The cats. The Caterpillar tractors. And for every one of them, there was 10 to 15 families throwed right out of their homes. A hundred folks. And no place to live but on the road. Lots of folks you and me know. Throwed right out on the road.

In case viewers are left with any doubt about the ominous consequences of mechanization for these farm families, we are made witness (again in flashback) to the destruction of Muley's home. One of the "cats," driven by a neighbor desperate for money to support his own family, crashes through the house and continues on its way as the family stands helplessly outside. Muley cannot bring himself to fire his rifle at a man he knows, and is left impotent in the face of technological change and the destruction of a way of life. For all its phallic symbolism, the gun is clearly out-sized by a Caterpillar tractor, a far more powerful phallus.⁹

In later films the tractor continues to play an important role in constructing both masculinity and femininity. By 1984, as machines replaced muscles in performing the bulk of farm labor, depicting men's virtue required a strategy other than simply equating character with sweat and toil. At the same time, the resulting de-emphasis on physical strength offered women more prominent roles. The revised agrarian myth found a means of incorporating technology (with tractors representing a deep entrenchment in a capitalist economy) while still emphasizing independence and self-sufficiency. Yet the strategy employed often undercuts and impedes the films' strivings for realism.

Both *The River* and *Country* (1984) contain long and detailed scenes of farmers repairing their old and well-worn farming equipment. This combination of thrift and skill becomes part of a larger lesson in manhood as a father instructs his teenaged son in the art of welding or auto mechanics. Yet the stripped down and older model farm implements and vehicles shown jar with the information we receive that these same families have somehow amassed (in the case of the Garveys in *The River*) a \$214,000 debt in farm equipment alone. The Garveys sell the one new piece

of farming equipment they own—a planter with a retail value of \$6,000 (for which they receive \$1,100). We are left to our own devices to complete the calculations required to make the remaining battered equipment add up to \$208,000 even when it was new. Offered only scenes of their fiscal conservatism, we are hard pressed to understand how they could have fallen so deeply into debt.¹⁰ The implication that these farm men have somehow failed gains expression through the women's newly expanded presence.

Farm women move increasingly from the shadows (as partners and hidden wells of strength) to the foreground. This shift at times demands an absence (sometimes only temporary) of "equal" male counterparts (*Summer Stock*, *Places in the Heart*, *The River*) or the outright emasculation of those men who remain present (*Grapes*, *Country*). While women still assume the heroic mantle specifically as mothers with their own fecundity paralleling that found in the land, they are also empowered (and masculinized) by their adoption of technology. Tractors provide a specifically gendered solution women seize as a means of engaging in farm labor and saving their family/farm.

The 1950 musical *Summer Stock* provides the first and most explicit instance of this shift. Judy Garland, playing the part of Jane Falbury, is faced with a debt-ridden family farm and hired hands who have abandoned her to look for work in the city. Her housekeeper is certain the women will lose the farm, unable to perform the requisite labor. "How about the field work, heavy work?" she asks. "Women can't do that." But Jane has spotted a photograph of a tractor on the wall calendar. "Yes, they can," she answers. "We could do the heavy work if we had a tractor." Jane goes to town, is given a tractor by her (presumed) future father-in-law (as a means of saving her farm from outstanding debts!), and drives it back home past men with horses and wagons. As she waves cheerily to her neighbors, she sings a particularly upbeat song whose chorus reminds us that "If you work for Mother Nature, you get paid by Father Time." The father in this case, however, is less likely to be time than the patriarchal system of capitalism.

After a successful harvesting of her first cotton crop, Sally Field as Edna Spaulding in *Places in the Heart* (1984) begins to get grandiose dreams of expansion and economic prosperity—despite the film's 1930s setting. With her first check safely pocketed, she tells Mose, her black laborer,

All we need is one good crop of cotton.

Miz Spaulding—

Just one good crop and we could afford to buy us a tractor.

A tractor. Always wanted to have me a

tractor. Always felt that if I had me a tractor ain't no telling what I could do.

Mose is also swept up in this dream of (phallic) empowerment, for the tractor represents if not manhood itself, then the next best thing, the ability to compete with (white) men on their terms. (Mose, however, soon afterwards is attacked by KKK members, reduced to tears, and chased off the farm. Black men would have to wait a bit longer than white women in the South for the tools of empowerment.)

In a less obvious, but equally significant way, *The River* makes it clear that the ability of Mae Garvey (played by Sissy Spacek) to run the family farm in her husband's absence depends on her mastery of farming technologies. Much of the film emphasizes the pastoral (with machinery making only occasional forays into the "garden") through scenes of children fishing, running among free range chickens, and milking cows by hand.

When Tom Garvey leaves—to work in a factory—Mae moves outside of the kitchen (where she has been baking bread, making pies, and teaching these same skills to her daughter) and outside of the barn (where she tended to a sick cow) to the cornfield (where she assumes all of the mechanized farming chores). (The fact that she is pinned by and wounded by a tractor may be intended to serve, if not as a mixed message on machinery *per se*, then as a warning to women who stray too far into the male province. The family farm, this film implies, does need a father to keep it functioning properly.)

Technology, presumably, empowers women to farm with the same self-sufficiency deemed a virtue for men. Yet placing women in the role of field laborers neither challenges nor changes the dominant agricultural practices. In the only scene depicting pesticide application in any of these films, in fact, a woman drives the tractor (*The River*). Thus feminism is invoked (more or less explicitly), appropriated as a justification for farmers to further exploit the land—and to become even more deeply entangled within a capitalist (patriarchal) economic system. Again, agricultural practices are left unexamined. Instead we are asked to marvel at feminine spunk, while ignoring that it is yoked to the machinery of environmental degradation.

Conclusion

The agrarian myth plays an essential role in these Hollywood films, but in a way which obscures rather than clarifies our view. For Jefferson the virtues exemplified by farm families depended on direct links between production and consumption. In Hollywood films employing only a partial version of the myth, those virtues still exist, but independent of any larger

context, making them (at once and ironically) individual, universal, and inscrutable. The myth's presence in its partial form excludes from even the widest cinema screen a great deal of agriculture. These films set us down on the farm, introduce us to a family (and perhaps a few of their neighbors), allow us occasional (and always frustrating) forays into town, and gesture only vaguely at a still larger world. We learn (in sometimes intimate detail) all about the family, but little about the farm.

Rather than bridging the gap between urban and rural citizens, then, again and again these films construct a different gap, one which lies between an agrarian and pastoral myth and the commercialized, corporate forms of agriculture practiced in the United States (and exported abroad). What these films never ask—perhaps what they cannot ask—is why these farmers are growing only corn or only cotton. Why are they tied to producing a cash crop, reproducing a capitalist manufacturing and market system?

My purpose in examining the agrarian myth and its presence in Hollywood films is not with the goal of abolishing it once and for all in order to further pave the way in agriculture for the "inevitable results of the industrial revolution" (Griswold, 1948, 8). Instead my interest lies in whether the myth, by illustrating the direction and distance of our drift, might perform the opposite task, leading us toward an agriculture both local and sustainable. "Myths," as Robert Reich (1988) has noted, "are no more 'truth' than an architect's sketches are buildings. Their function is to explain events and to guide decisions" (40). The agrarian myth as currently played serves neither function, but the fact that it still speaks at all suggests we would be wise to listen. Myths can serve as useful cultural tools, but only to extent they bridge gaps rather than further erode them. And film may represent the most effective medium with which to cross a cultural divide, drawing audiences willing both to look and to learn. The agrarian myth (examined in full, updated, and made responsive to local contexts) might yet serve as a blueprint for refashioning a healthier agriculture, a guide for reconnecting urban and rural lives, farm fields and family tables. Only with those connections in place will our vision match the myths we cherish.

Notes

¹ This represents only a very partial listing of ecological problems confronting agriculture. For further information see Lester Brown, ed. (1989), *State of the World, 1989*; Wes Jackson (1980), *New Roots for Agriculture*; Ronald Poincelot (1986), *Toward a More Sustainable Agriculture*; and Judith D. Soule (1992), *Farming in Nature's Image*.

² While the films discussed in this essay (and the additional films listed in the bibliography) do not represent an exhaustive list of all farm films, they represent my best efforts to include those major studio (and three independent) films which directly concern farming or farmers' lives or in which a farm setting plays a significant role. They range in date from D.W. Griffith's 1920 *Way Down East* to two films made in 1991: *Sarah, Plain and Tall* and *The Man in the Moon*.

³ This lists of characteristics provides a marked contrast to those traits depicted among non-farming rural people in other major films. As Carol Clover (1992) argues convincingly in *Men, Women, and Chain Saws*, horror films often demonize the country, making "red-necks" a contemporary replacement for the Westerns' "redskins," and paving the way for a modern annihilation of the offending "other."

⁴ For a fuller treatment of the agrarian myth, see Thomas Jefferson (1787/1982), *Notes on the State of Virginia*; Richard Hofstadter (1969), *The Age of Reform*; and A. Whitney Griswold (1948), *Farming and Democracy*. For further discussion of the gendered construction of nature see Henry Nash Smith (1978), *Virgin Land*; Annette Kolodny (1975 and 1984), *The Lay of the Land* and *The Land Before Her*.

⁵ Gasoline-powered tractors were first available in about 1910. Ownership grew fairly steadily, though with distinct spurts corresponding to WWI and following WWII. According to *The Historical Statistics of the United States* (1975), even following the WWI spurt, under 1 million gasoline tractors were in use in 1930 and their numbers had increased to only 1.5 million in 1940. Tractor ownership almost doubled in the first decade following WWII, from 2.3 million in 1945 to 4.3 million in 1955. The figures have remained fairly constant since then, indicating that by the mid- to late-1950s nearly all US farms had converted from using horses to tractors (469).

⁶ More surprisingly, Muley seems to conclude that nature is responsible for what befalls the Okies. "Listen. That's the one that done it," he tells Tom. "Dusters, they started it anyways. Blowing like this year after year. Blowing the land away. Blowing the crops away. Blowing us away now." His words echo the government agent's view, "The fact of the matter, Muley, after what them dusters done to the land, the tenant system don't work no more."

⁷ Both of these issues deserve much greater attention. Of particular interest is the opposition suggested in these films between farming and nature. These films depict a landscape in which nature is contained and ordered. When nature escapes from that constrained role, it is frequently cast as a direct threat to the family's well-being. Floods, droughts, winds/dustbowl, an

invasion of grasshoppers all function literally and metaphorically in these films to alter both the physical and mental landscape. Nature represents a formidable, but usually only temporary, opponent. The second enemy becomes the focus of the film, though it is never clearly drawn. At times the two enemies are joined, as when a natural disaster leaves a family vulnerable to an economic challenge.

⁸ Though self-sufficiency is celebrated, it is colored also by nods to community. Even so, dependence extends only to a small circle of like-minded individuals. If a farm family can't save their farm alone (from bankers or from nature), they may look temporarily to an intimate community of neighbors for assistance. Asking for such help is viewed as a difficult and significant break from tradition, albeit a necessary one. (Seeking help from others, significantly, is nearly always initiated by the female lead.)

These films explore the question of dependency only within a narrowly circumscribed realm and only at moments of crisis. They offer no larger framework for understanding how the very practices depicted on these farms are completely dependent on national policies or international markets.

⁹ It is not only Muley whose masculinity is challenged in this film. The Joad men relinquish their patriarchal prerogative one by one. Grandpa dies, Tom is forced to leave. In Ma's farewell speech to Tom, she makes this point explicit. "Noah, he's a hankering to be off on his own. Uncle John's just drag-ging around. And Pa's lost his place; he ain't the head no more." Even the youngest son, Winfield, is growing up wild, "just like [an] animal."

¹⁰ The scripts ask to believe this is the fault of others. Villainy repeatedly is reduced to an individual level in the form of heartless local bankers and loan officers, seed company officials, and government agents. Confronted with mounting debts, Tom Garvey in *The River* reminds the unsympathetic banker, "Ten years ago you people was tripping over yourselves trying to get me to borrow the money." Farmers may be virtuous, but that doesn't necessarily prevent them from being victimized by outsiders with slick speeches.

Film Bibliography

Country (1984, Touchstone). Dir: Richard Pearce.
Days of Heaven (1980, Paramount). Dir: Terrence Malick.
The Farmer's Daughter (1947, David O. Selznick). Dir: H.C. Potter.
The Grapes of Wrath (1940, Fox). Director: John Ford.
Heartland (1980, Wilderness Women Productions). Dir: Richard Pearce.
The Man in the Moon (1991, MGM/United Artists).

Dir: Robert Mulligan.

The Milagro Beanfield War (1988, MCA). Dir: Robert Redford.

Northern Lights (1978, Cine Manifest). Dir: John Hanson and Rob Nilsson.

Our Daily Bread (1934, Viking). Dir: King Vidor.

Places in the Heart (1984, Tri-Star). Dir: Robert Benton.

Rebecca of Sunnybrook Farm (1921, Fox). Dir: Alfred Santell.

The River (1984, Universal). Dir: Mark Rydell.

Sarah, Plain and Tall (1991, Hallmark Hall of Fame). Dir: Glenn Jordan.

The Southerner (1945, United Artists). Dir: Jean Renoir.

Summer Heat (1987, Paramount). Dir: Michie Gleason.

Summer Stock (1950, MGM). Dir: Charles Walters.

Tomorrow (1971, Filmgroup). Dir: Joseph Anthony.

Way Down East (1920, D.W. Griffith). Dir: D.W. Griffith.

Witness (1985, Paramount). Dir: Peter Weir.

Works Cited

Brown, L. (Ed.). (1987). *State of the world, 1989*. New York: Norton.
 Clover, C. (1992). *Men, women, and chain saws*. Princeton: Princeton U.P.
 Griswold, A. W. (1948). *Farming and democracy*. New Haven: Yale U.P.
Historical statistics of the United States: Colonial times to 1970. (1975). Washington, DC: U.S. Dept. of Commerce, Bureau of the Census.
 Hofstadter, R. (1969). *The age of reform*. New York: Knopf.
 Jackson, W. (1980). *New roots for agriculture*. Lincoln: U. of Nebraska P.
 Jefferson, T. (1787/1982). *Notes on the state of Virginia*. Ed., W. Peden. New York: Norton.
 Nash, J. R. (1985). *The motion picture guide*. Chicago: Cinebooks.
 Poincelot, R. P. (1986). *Toward a more sustainable agriculture*. Westport, CT: AVI.
 Reich, R. (1988). *Tales of a new America: The anxious liberal's guide to the future*. New York: Random House.
 Renoir, J. (1974). *My life and my films*. London: Collins.
 Soule, J. D. and J. K. Piper. (1992). *Farming in nature's image: An ecological approach to agriculture*. Washington, DC: Island P.
Statistical abstract of the United States: 1993. (113th Ed.). Washington DC: U.S. Dept. of Commerce, Bureau of the Census.

The Creation of a National Monument: An Analysis of the Rhetorical Communication Leading to the Establishment of Walnut Canyon National Monument, 1915

by Bruce J. Weaver

Nearing the end of the last century, Americans attempted to define a new national character for themselves by claiming a unique antiquity based on "green old age" through such ancient natural sites as the California redwoods and the geysers of Yellowstone. As Alfred Runte argues, "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. 22). The opening of the Far West converged with a national search for an American identity, and gave form and meaning to the myriad emotions historians have defined as "nature appreciation" (Runte, p. 32). Therefore, 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 monumental examples of wild grandeur through the establishment of the world's first national parks.

America's need for cultural identity found another outlet distinct from its ancient natural history with the discovery of prehistoric ruins in the Southwest. The absence of reminders of the human past so evident in Europe had alienated American intellectuals from a cultural identity for decades (see Nash, 1967; Shepard, 1967). However, the massive, picturesque ruins in places such as Mesa Verde and Chaco Canyon, provided Americans hungry for an identity with an opportunity to point with pride to the nation's glorious human past in the same way they had associated with its natural heritage a decade earlier. Although Southwestern prehistoric sites served as a point of pride for many Americans, they simultaneously caused considerable problems. People were not sure where to place or how to judge attempts to make prehistoric sites known to a larger audience. Some writers and speakers, for instance, these ruins historically or aesthetically as is apparent from the conflicting views expressed in early described the ruins as extensions of the natural landscape, emphasizing their wild qualities rather than their human history; others, however, focused on their historical significance arguing the ruins were bound to the country's heritage as were

structures like Independence Hall. Still others saw the ruins as high art comparable to the cathedrals of Europe; while at the same time others described them as crude expressions of a primitive people. The confusing images of prehistoric cliff dwellings was summed up by the famous travel writer George Wharton James in 1917. He wrote:

These piles of rough stones are compared with the ruins of Babylon and Nineveh, Baalbeck and Palmyra, Ipsamboul and Philae, which, to put it mildly, is the veriest bosh. They are no more to be compared than are the yelps, howls, barks and shrieks of a hungry coyote to the mellifluous strains of Melba, Schumann-Heink, Tetrassini, Caruso or McCormack. Interesting? Wonderful? Certainly! but architectural to a point of comparison with the temples of the old world, most decidedly they are not. And yet I would scarcely say, as one depreciating writer recently did, that: "in fact they were and are mere hovels, as are the houses of the Zunis, Hopis and other pueblos of today." This is a little too strong in the other direction (James, 1917, 54).

The ruins of the Southwest constituted a whole new category of phenomena, different certainly from the monumental wilderness environments praised earlier in the century, and simultaneously other than the remnants of Europe's proud history. The new sites were part natural/part human; historically interesting, but having no real link with the past of the dominant culture; aesthetically arresting, but crude and nonrepresentative of a high culture. They were not expressive of the great moments in human history and art as were many European landscapes which had been consciously saved to preserve a proud past and a rich cultural heritage. Likewise, unlike the redwoods of California, which had no human connection, and therefore could be claimed rhetorically by their new "discoverers," the ruins of Mesa Verde and Chaco Canyon already belonged to others, and these others were often perceived negatively by the very people who hoped to be uplifted through a rhetorical connection. These new phenomena, no matter how

beautiful or impressive, were preserved totally by accident, and were separate historically, aesthetically, and culturally from the majority of Americans who were so desperate to use them to define a national identity.

Despite the initial difficulties some writers and public speakers had ascribing meaning to these ancient sites, they were highly successful in stimulating interest. As more people heard about the ruins, the more fascinated they seemed to become. In fact, by the final decade of the nineteenth century, a convergence of several factors led to a vast increase in the interest in these ruins and a desire to protect them as well as the natural environments in which they were located. These factors included a growing sense of respect for the past based on the need for a distinct cultural identity as already discussed, the development of archeology as an educational discipline, and an increase in pothunting and vandalism.

The development of archeology spawned scientific explorations into the American Southwest, the reporting of which became the material for both academic and popular publications and speaking tours. Sponsored by museums and archeological societies mostly in the East and Europe, these expeditions brought back reports of splendidly preserved antiquities scattered throughout the Southwest. In the early 1880's, Adolph Bandelier investigated cliff dwellings of what is today Bandelier National Monument in New Mexico. Following the discovery of Mesa Verde in Colorado by the Wetherills, Gustaf Eric Adolf Nordenskiöld of Sweden excavated the famed Cliff Palace in 1891. Also during the 1890's, Edgar L. Hewett explored several ruins in New Mexico territory, and following all these came J.W. Fewkes' expedition of the Wupatki area in Arizona at the turn of the century. Through these excavations, vast amounts of Indian pottery, mummified bodies and early forms of tools were collected and transported back to eastern museums.

All of this archeological activity was enthusiastically reported in the popular press of the time. The excitement these reports generated, combined with the anniversary of Columbus's "discovery" of the New World and the Columbian Exposition in Chicago, ignited an archeological frenzy with particularly strong interest in southwestern relics. Sadly, however, this interest encouraged the business of scavenging through ruins for ancient valuables that would appeal to museums or an enlarging number of private collectors. Most plundered materials consisted of ancient ceramic pots, thus giving the name "pothunting" to these scavenging practices. In the final years of the nineteenth century, pothunters swept through the Southwest, digging up valuable treasures of this

continent's past and offering history to the highest bidder (Ise, 1961, 144-145).

The results were devastating. Not only were valuable artifacts taken, but often the ruins themselves were destroyed in attempts to retrieve the artifacts. This problem was brought to public attention through reports and speeches, the vandalism at Cliff Palace being the most frequently discussed:

Probably no cliff dwelling in the Southwest has been more thoroughly dug over in search of pottery and other objects for commercial purposes than Cliff Palace. Some of these objects are now in museums, but many are forever lost to science. In order to secure this valuable archeological material, walls were broken down with giant powder often simply to let light into the darker rooms; floors were invariably opened and buried kivas mutilated (Ise, pp. 145-146. quoted from Hans Randolph, Superintendent of Mesa Verde Park in 1909).

Despite the obvious need to protect sites from pothunters, the government was slow to act. In fact, in contrast to a centralized movement in Europe, most preservation efforts in the United States were not initiated by the federal government at all, but were funded and organized through the private sector. These efforts, however, tended to focus on the homes or buildings connected to historical figures or events, not on ancient ruins (Ainslie, 1986, p. 163).

Because of very little attempt to stop it, pothunting accelerated. Finally, vandalism by pothunters became so great in 1889 at the collection of ruins called Casa Grande near Collidge, Arizona that Congress was persuaded that special legislation was required. This legislation appropriated 2,000 dollars for the protection of the pueblo ruins. Three years later, President Harrison preserved the site by prohibiting vandalizing or unauthorized digs. Although this legislation protected only one ruin, it was the first time that a piece of land was preserved for archeological reasons rather than for scenic significance.

Eventually, due to increasing vandalism to sites and its subsequent negative reflection of our national pride, the government passed the Antiquities Act of 1906 which authorized the President "in his [sic] discretion, to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government to be national monuments."

The Antiquities Act of 1906 became one of the most valuable legislations for the conservation of this nation's historic and scenic areas. For instance within

six months of its passage, President Roosevelt had set aside four areas: Devil's Tower, El Morro, Montezuma Castle, and Petrified Forest, as national monuments.

However, even with the passage of the Antiquities Act, the many problems concerning the protection of America's prehistory did not disappear. No systematic survey of natural areas, historic sites, or prehistoric ruins had been conducted by any government agency on any public lands; and the Antiquities Act made no provision for such surveys. Therefore, the Interior Department was forced to rely largely for national monument proposals upon an improvised combination of sources: recommendations from individual scientists or government officials exploring the West; accidental discoveries by cowboys or prospectors; offers by private citizens of donations of land suitable for preservation as monuments; projects conceived by local citizens and sponsored by members of Congress, some of which had been pending before Congress years before the Antiquities Act became law.

This confusion of recommendations was exacerbated by other related considerations such as the remote and inhospitable location of many of the sites, the frequency of sites located on Indian-controlled lands, the disturbance of ancient burial grounds and sacred areas, the continued vandalism and the inability of the government to police vast areas, and the interference of mining, lumbering, and other resource extractors.

Many archaeologists, scientists, and historians had hoped the Antiquities Act would accomplish two broad goals: to force the government to halt the ravaging of ancient sites, and to motivate the government to systematically investigate what sites existed and establish reasonable criteria for evaluating which of these sites were worthy of protection. This second goal was never accomplished, the evidence of which is obvious when one looks even briefly at a few examples from the history of America's national monuments. Even a cursory glance provides sufficient evidence that frequently there existed no genuine relationship between monument designation and site significance. For instance, internationally recognized sites such as Wupatki, Canyon de Chelly, and Pecos were only included in the pantheon of monuments as late as 1924, 1931, and 1965 respectively, while lesser sites such as Montezuma Castle, Walnut Canyon, and Bandelier received recognition and protection relatively early in 1906, 1915, and 1916. Of course, much of this confusion resulted from the fact that vast areas of the rugged Southwest remained unexplored well into this century. Naturally those sites closer to settled areas would be recommended for monument status earlier.

The chaos resulting from the government's failure to survey sites did, on occasion, yield favorable results.

For instance, Navajo, Arizona was designated a national monument in 1909 based primarily on secondhand reports of two large well preserved cliff dwellings, Keet Seel and Inscription House. So little was known of the isolated area that for three years after designation, the government did not realize that a third impressive cliff village, Betatakin, even existed on monument grounds. This site subsequently has become the most frequently visited in the park. Likewise, Atsinna was protected purely by accident when, unknown to the government, it was included in El Morro National Monument preserved in 1906 for its hundreds of inscriptions of ancient peoples, Spanish explorers, and early American pioneers.

So haphazard is the system of recognition that even today, many of the nation's most archaeologically significant and largest sites are unprotected, although their importance is well known. For instance, Awatovi and Jedetto, two enormous pre-Columbian pueblos, currently stand totally unprotected and unrecognized by the public on the Navajo reservation. Likewise, Homolovi, a site larger than many preserved as monuments, has finally received some protection as an Arizona state park after almost a century of illegal vandalism. The largest collection of prehistoric mounds in the country still receives little protection and much abuse as a state historic site in an overused suburban St. Louis, Missouri park.

While certainly the Antiquities Act of 1906 was highly successful in preserving irreplaceable natural and historic sites particularly in the West, it did so in a haphazard way. In the early years especially, there were no agreed-upon criteria and processes for careful selection. Consequently, we find a situation ripe with rhetorical possibilities. As Kenneth Burke, among others, asserts, the role of rhetoric is to clarify and define a controversy where disorientation and confusion exist. Rhetoric makes order out of chaos; and in the case of national monument designation, rhetorical activity, rather than decisions based on objective scientific study, frequently played the major role in the establishment of "special" places worthy of preservation. This rhetorical activity became especially feverish when isolated fledgling communities jumped on the regional promotion bandwagon and seized the opportunity for tourist dollars and community identification through their proximity to remnants of American history or natural oddities.

The remainder of this paper investigates a case study where rhetorical activity played a major role in persuading both the community with a pre-Columbian site to safeguard its local treasure, and the President of the United States to concur national monument status. This case study continues my exploration of the complex question of how environmental rhetors deal

with the troublesome issue of human beings, who often are associated physically and/or historically with a special area which environmentalists hope to preserve. This paper specifically expands upon my earlier discussion of the relationship between the natural environment and human involvement in two papers where I discuss the campaign leading to the establishment of Great Smoky Mountains National Park (Weaver, 1992; Weaver, 1996). In these papers, I discuss how the promoters of the national park rhetorically demonized the mountain people who had lived in the area for decades and who were being forced to leave their homes. Park promoters used this rhetorical strategy in order to justify expulsion of the mountaineers while they preserved a natural area close to eastern cities with potential for large scale recreation. In an attempt to justify their vision of a friendly wilderness park, promoters painted the mountaineers as destroyers of their own land, a land the promoters and the majority of Americans hoped to preserve in a primitive, but visitor friendly state.

Although the study of the Great Smokies campaign and the current discussion of Walnut Canyon are both concerned with the broad issue of the relationship between people and the land, and therefore explore some of the same basic questions, there is an important difference between the situations facing each group of environmental rhetors which forces the critic to expand upon findings from the earlier studies. The difference, of course, is the central role played by human beings in the designation of "special" status. Because the goal of the founders of the Great Smoky Mountains National Park, as is the goal of most national parks, is to preserve a natural environment, one that is devoid of people, it made rhetorical sense for them to downplay the importance of the mountain inhabitants and emphasize, instead, the area's natural grandeur. They did this in a rather ruthless way by rhetorically separating the users of the land from the land itself. In doing so, promoters could justify actual physical elimination. However in the case of many national monuments, the goal is very different from that of national parks because the very reason for designation is human-centered. That is, the evidence of human interaction with the land, whether that evidence is a cliff dwelling, petroglyphs, or ancient graffiti, is the reason people wish preservation. With the Antiquities Act, new landscapes where human impact was viewed positively, become central in American environmental discourse, and these unique landscapes forced rhetors to rethink how they talked about the environment and its human history.

The prehistoric site under discussion is Walnut Canyon, fifteen miles from frontier town, Flagstaff, Arizona. Walnut Canyon is a scenic 800 feet deep

abyss with an extensive collection of ancient Sinaguan Indian ruins lining its ledges. It was designated a national monument in 1915. While the site is certainly of historic interest and aesthetically rewarding for the visitor, its architectural, archeological, and natural importance are somewhat limited when compared to other sites that awaited national monument designation. Its significance is lessened even more when one considers the extensive damage inflicted on the site prior to designation from pothunters and vandals. However, what Walnut Canyon lacked in historic importance or natural grandeur, it made up for in rhetorical expertise.

Walnut Canyon was closely bonded with the life of the frontier town of Flagstaff from its founding in 1876 as both a point of local pride and as a recreational spot. All promotional materials from the growing community emphasized the town's closeness to Grand Canyon, its pleasant weather, and the Cliff Dwellers, as the local people referred to the Walnut Canyon ruins (see, for instance, Flagstaff Board of Trade, 1891). The Canyon became a favorite picnicking spot for townspeople as well as a location to show visitors and relatives (for example, see *The Arizona Champion*, N/24/83 3/3; Mr/15/84 1/1; Ap/24/84 3/4; My/17/84 3/2; My/24/84 3/1; My/24/84 3/1; My/31/84 3/1; My/31/84 3/3; J/7/84 3/2; J/14/84 3/1; J/21/84 3/1; J/21/84 3/2; J/21/84 3/3).

Increased popularity, unfortunately, had its disadvantages as looting and destruction followed. For instance, a newspaper reporter points out the tendency of many local folks to leave trash at the Canyon after spending an enjoyable afternoon stealing artifacts:

"Jack Bidwell, Ben Chester and J.W. Spafford made a trip to the Cave Dwellers on Thursday. The gentlemen report that they had a good time. When we saw the party 'loading up' at rather an early hour in the morning, we thought, from the quantity of 'merchandise' on the wagon, that our friend Berry was sending Jack out to start a branch house. Ben says they brought a great deal of material back with them, under their vest! Jes so! Visitors to the caves will find some relics that did not belong to any prehistoric race. Not much" (*Champion*, Ap/26/84 3/5).

The richness of Walnut Canyon deposits and the relative ease of digging them were similarly described by a California woman in an 1884 article in the *San Francisco Call*:

The floors of most of the rooms are covered with a deep layer of dust, ashes and debris. As they are protected from the rain and snow it is very dusty work to dig for relics, especially if the room has only a slight opening. If it were not for this

dryness, however the relics would not have been so well preserved. In one of the first dwellings that we visited we struck a bonanza. We know that the ruins least visited by tourists were on the opposite side of the canyon, as most visitors would not take the pains to descend to the bottom of the canyon and then ascend the other side. . . We dug for an hour or more, and found, among other things, an old stone mill (metate and mano). . . cornstalks, corncobs in abundance, beans, gourds, uncracked nuts, reeds, arrows, bowstrings, other strings of different sizes, coarse cloth, a child's sandal, a measuring stick with notches at regular intervals, smoothly-worn sticks of hard wood, bone needles, a fish line, soapweed needles, broken pottery, etc. In visiting other dwellings we added to these relics, and came away heavily laden (cited in Cross, 1954, p. 20).

Walnut Canyon visitors sometimes resorted to extreme measures in digging the ruins. Dynamite was used on occasion to blast the front walls of cliff dwellings so that pothunters would have more light and room in which to work (Marburger, 1947, p. 420). As proof of this practice, when archeologist Raymond Rixey stabilized rooms in 1948, he found dynamite fuses in the walls (*Monthly Narrative Reports*, November 1948). Unfortunately by 1915, when Walnut Canyon was protected as a national monument, little remained worth stealing.

Despite its deteriorating condition, Walnut Canyon found many important boosters, the most persuasive being two prominent citizens of Flagstaff, Michael J. Riordan and Father Cyprian Vabre. These men knew each other well, both being devout Catholics and frequent traveling companions; and while they expressed similar concerns for Walnut Canyon preservation, they perceived the Canyon differently, and this difference found expression in their arguments justifying national monument designation.

One of the most avid and frequent local visitors to Walnut Canyon was Michael J. Riordan. Born in Chicago in 1865, Riordan was highly religious and aspired to be a priest, but was forced to change career plans when he contracted tuberculosis. Seeking a dry climate, he joined his brother Dennis Matthew (Matt) Riordan in 1885, who was then managing Flagstaff's first sawmill. Michael recuperated from his illness by taking leisurely day trips to local points of interest, of which Walnut Canyon became his favorite. In a letter to a friend, Riordan expressed his joy at viewing Walnut Canyon and other sights, and his belief that

such places were redemptive for both the body and the soul. "I often wish that some of my old Chicago friends were here to visit the wonderful ruins scattered all over this country, and to admire the beautiful scenery which is certainly unsurpassed by anything in America. I delight in viewing such things, and I do believe they make me a stronger person, but my pleasure would be doubled had I some kindred spirit to admire them with me" (1885, p. 59). Through copious articles and correspondence, Riordan perhaps did more to publicize and promote the ruins of Walnut Canyon than any other person in the 19th century. With brothers Matt and Timothy, Michael eventually became a lumber magnate and one of Flagstaff's leading and wealthiest citizens. He never, however, lost interest in the cliff dwellings.

Despite his apparent concern for the prehistoric site, Riordan, like so many others, used the ruins to satisfy his Victorian quest for adventure through private digging and collecting. As he states in one of his essays on the Canyon: "I brought back some of the pieces of pottery made by these people hundreds of years ago. Innumerable pieces of this pottery are scattered around the dwellings, but it is fast being carried off by scientists and curiosity hunters. However, I think I have the largest and finest collection of it to be found." (1885, p. 58).

Riordan's reaction to the cliff dwellings was a mixed bag, somewhat similar to the conflicting views expressed by other writers of the period. His reactions were a curious mixture of admiration, awe, and mild repulsion based on an assumption of cultural superiority. While he proclaimed Walnut Canyon "a scene which, if once looked upon, will not easily be forgotten" (*Chicago Times*, 1885) because of its formidable walls and numerous cliff dwellings; at the same time, he argued that the ruins were the work of an inferior, albeit skillful, people. "These walls, although rude when compared with those constructed by civilized races, yet present a passably even surface," he commented, "and I doubt very much whether men of the present day, unskilled in the trade of a mason, could construct walls of equal merit" (*Chicago Times*, 1885). In much of his writing and speaking, Riordan consistently expressed admiration for both Walnut Canyon and the ancient peoples who built the dwellings. However while his admiration for the natural environment was aesthetic and spiritual, his admiration for the ancients was actually condescending. Riordan admired the Canyon's beauty and the redemptive lessons it offered those willing to communicate with the primitives of the past; at the same time he destroyed the ruins physically through pothunting while he tainted the people who built the dwellings through his own modern perspective.

Father Vabre, on the other hand, being a less religious man than Riordan despite the former's successful career choice, viewed the Canyon in highly practical and nonspiritual terms. He saw the Canyon as another opportunity to promote the area, the city of Flagstaff, and his own individual importance. The value of the cliff dwellings as a tourist attraction was the core of Father Vabre's rhetoric. In one of his sermons he preached that "to vandalize Walnut Canyon is to desecrate a Holy Place" (Stein, 1986, p. 61), but followed immediately with a discussion of the necessity to preserve the site for future economic development. Likewise, although he argued that "Northern Arizona is one of the most beautiful creations of God and to commercialize it would be to have money changers in the Temple," he saw the future tourist business as one of the most important financial assets of Flagstaff. The French-born priest came to Arizona in 1896 and to Flagstaff in 1900, where he hoped to minister to native Americans. He never worked as a missionary, but during his long tenure in Arizona, he built the Roman Catholic churches in Seligman, Ash Fork, and Kingman.

Vabre continually focused attention on Walnut Canyon and other scenic wonders of the Southwest, arguing that roads through the country should connect not only urban areas but important historic and scenic sites as well. "Wherever good roads go, Christianity follows as a matter of course" he argued at the national Good Road Association meeting (*The Coconino Sun*, Oct/10/13 1/6). Through his friendship with President Theodore Roosevelt and other national leaders and his persistence as vice president of the Good Roads Association and the Parks-to-Parks Association, he was influential in persuading the government to build the Ocean-to-Ocean Highway along the approximate route of the old Beal Wagon Road, thus making Walnut Canyon only a short detour from a major transcontinental route. This decision probably did more than any other to guarantee that Walnut Canyon would be preserved as a national monument.

Both Riordan and Vabre, through a series of essays and speeches spanning approximately thirty years, glorified Walnut Canyon and the town of Flagstaff by appealing to different, but frequently, complementary rhetorical representations of the ruins and their individual reactions to the prehistoric site. As early as 1885, Riordan appealed to Victorian values of adventure, redemption, and cultural superiority. Riordan argued that Walnut Canyon was important and worth saving because of its ability to enrich the viewer both spiritually and intellectually. Walnut Canyon is important, he argued, because of its beauty and its primitive treasures that clearly prove the march of human improvement and development.

Fifteen years later, Father Vabre argued for preservation based on the emerging concept of progress founded on utilitarian conservation. He based his case for Walnut Canyon preservation on the practical value Flagstaff and the area will receive from protecting a nationally recognized site so close to the city. Walnut Canyon was beautiful, surely, and valuable for its historic significance; however its real importance, according to Vabre, lay in the tourists and potential settlers it would help to entice to the area and its addition to a list of attractions such as Grand Canyon that would guarantee prosperity and growth for the area through development.

Thus, we find two differing views of Walnut Canyon and two argumentative positions expressed for preservation. However, this paper asserts that both positions were extremely effective in reaching their intended audiences because they were expressive of the times and represented diverse cultural perspectives that were especially persuasive to Arizona citizens at a time when the frontier was fast coming to an end and they were on the verge of a new civilized identity.

In order to accomplish such a high level of success, Riordan and Vabre had a significant number of rhetorical problems to deal with, the most formidable being how to describe in a consistent and rhetorically persuasive way the early Americans who built the ruins which the two rhetors now praised as spiritually uplifting and conducive to economic and social development. This paper argues that both speakers used descriptive rhetoric based on a dissociative argument to substantiate national monument designation, a strategy which allowed them to eliminate much of the troublesome rhetorical problems surrounding white culture's ambivalent view of the ancient peoples who created Walnut Canyon, and therefore, their conflicting views of the Canyon itself.

Argumentation by the process of dissociation occurs when one idea is split into two in order to avoid an incompatibility. Foss et. al describe this process through example in their discussion of Chaim Perelman's concept of dissociation:

Argumentation by the process of dissociation occurs when one idea is split into two to avoid an incompatibility. When one is faced with an incompatibility caused by the belief that to take the life of another human is wrong and the simultaneous belief that abortion is acceptable, one uses argumentation to dissociate the concept of "life" into two concepts; "life in general" and "human life." In such an instance, "life in general" may be defined to include all organismic growth ranging from an amoeba

to plant life to the life of an appendix, while "human life" is defined as consisting only of those life forms that possess certain qualities of humanity such as free will. With such a dissociation, the incompatibility described above can be avoided because abortion can be viewed as destroying "life in general" . . . rather than as destroying "human life." (1991, p. 137)

Making an argument based on the process of dissociation relies on the presentation of pairs in the form of what Perelman describes as "term I" and "term II." Term II is understood only in comparison to term I and aims at "getting rid of the incompatibilities that may appear between different aspects of term I." (1982, p. 137)

As mentioned earlier, the architects of the ancient communities were troublesome rhetorically as were the ruins themselves, because the sites were disconnected from the history of the dominant culture, while at the same time white America hoped to glorify a distinctive cultural past through ruin preservation. This rhetorical ambiguity was increased, of course, by the genuinely negative view most white Americans and especially western settlers had of Indians who they saw everyday living in squalor, drunk and disorderly, representing for Victorian America the very opposite of the mythical noble savage. If the ancient architects of Walnut Canyon were merely primitives and the ancestors of degenerate contemporary native Americans, then one could argue that the site had some historic significance surely, but it would be difficult to justify its preservation being of national prominence on the same level as obvious sites such as Mt. Vernon and Monticello. However if the ancients were seen as creators of significance, and perhaps separate from the Indians of today, a rhetorical position for national preservation is certainly improved. However even this improved position did not answer the perplexing issue of the relationship between the white culture which was using the ruins to create a unique American identity and the ancient sites. It still failed to explain adequately how the white man could now legitimately incorporate the ruins that he has come to admire into his own history and his own vision of the destiny of the West.

Riordan and Vabre in a carefully constructed argument, based on dissociation, actually managed to accomplish what appears to be impossible: they separated the ancient builders of Walnut Canyon from modern native Americans and, in turn, connected the ancients with contemporary white society, not through genetics or history, but through Victorian and American values, such as hard work, family,

perseverance, and creativity. By engaging in this rhetorical juggling act, they increased both the historic and aesthetic importance of the site for white America.

To better evaluate the significance of this argument, it is important to understand the extreme negative view that permeated white America concerning modern Indians at the time Riordan and Vabre were justifying national monument status for Walnut Canyon, a negative view long established in the American experience.

When the English first came to this continent they were faced with a dual problem: first, what to do with the wilderness, and second, what to do with those who inhabited the wilderness. Not only did they inherit what they believed to be an uncivilized environment, but uncivilized people as well. Their task was to subdue the wilderness and to bring order to this newly-found chaos. They wanted to create a civilized Anglo-Saxon society much like the one they had just left, because they felt that in such a society people could achieve their highest potential. One of the impediments to this progress was the Indian; so these early settlers set about civilizing the "savage." This perception built on cultural superiority that governed early colonial relationships between white America and its native inhabitants was continued with Western expansion. However, with this expansion, Americans came to believe more and more that assimilation or "civilizing" was impossible; and by mid nineteenth century, there was public recognition of both the failure in theory and in practice of the earlier white attitude toward the Indian. Since the Indian would not conform to the way of life of the new society, and since he could not or would not be civilized, then he must be destroyed or separated from the larger society. As Roy Harvey Pearce writes, the whites would pity the Indian and still censure him for his failure to adapt, and in the end this pity and censure would be the "price Americans would have to pay for destroying the Indian. . . the price of the progress of civilization over savagism." (1965, p. 53)

Despite the wanton destruction of the native environment and of the native cultures, Americans remained fascinated by what they regarded as savagism, however. The Native American was a diminishing threat to white expansionism, certainly by the end of the nineteenth century, and they then became a curious object for study. The new society of Americans craved the assurances of progress and superiority--the Indian became the obvious point of comparison. The Native American's "history less antiquity," as Leslie Fielder calls it, was beyond their comprehension. The Indians had no past and no future in Western terms and thereby fell out of society and out of history.

American proclivity for comparison with Western

"savages" was one of the major motivations for Victorians visiting the Southwest, as described by Trennert in his analysis of Victorian travelers in Arizona.

Almost every visitor commented upon Arizona's Indian population. For many, they were the most interesting sight, and just about every outsider managed to experience at least a few samples of native life. To their dismay, few Indians resembled James Fenimore Cooper's noble savages. In some ways, the Victorians expressed love/hate feelings toward the Arizona tribes. Victorians also tended to distort what they witnessed and report things that seem outrageous today (1988, p. 362).

Further observation from Victorian travelers concerning specific southwestern tribes elaborates their natural tendency to view the Indians as inferior to themselves. For instance, Victorians incorrectly believed the Pima Indians descended directly from the Aztecs. Although this historic connection with a "superior" civilization elevated the Pimas somewhat in the eyes of whites, it failed to stop the continuous criticism of these peoples because the Victorians believed modern Indians had abandoned the most important qualities of their ancestors, qualities which curiously coincided with those held by good Victorians: hard work and productive family life. A Victorian chronicler Josephine Clifford observed, "If either the Pimas, Maricopas, or Yumas are descendants of the Aztecs, they are most woefully degenerated." They are "lank, dirty, half-nude creatures, with faces exhibiting no more intelligence than (perhaps not so much as) the faces of their lean dogs, or shaggy horses" (1870, p. 543).

Victorians applied just about every derogatory stereotype to the Pima, and were especially critical of Pima men for their lack of a proper work ethic. When Stephen Powers described his experience for *Overland Monthly* in 1871, he filled the pages with unfavorable descriptions of Pima men, who had obviously abandoned traditional family roles as in their sloth, they forced women to perform duties in both the household and the field. He depicted the Pima male as "a man who never labors, rather round-shouldered, with very long arms and ape-like hands, and a face once broadly round but now shaped much like a bow-kit." Indolence, he believed, caused the Pima men to be flat-chested (pp. 82-83). Trennert concludes that most Victorian travelers were convinced that the Pima were destined to succumb to disease and alcohol (1988, p. 365).

Likewise, although white travelers of the nine-teenth

century looked more favorably towards the Navajos and Hopi, they praised these native peoples only for displaying values similar to their own, such as an industrial lifestyle and excellent craftsmanship. These few points of praise aside, Victorian travelers continued to be troubled by "barbaric" tribal customs which allowed woman "to be traded off as a wife for ponies by her father or husband" and Navajo taboos against living in dwellings where another had died. One missionary in 1894 speculated that these beliefs prevented the tribe from building permanent homes and "thus they live on the same brute-level as their dogs and sheep" (Trennert, 1988, p. 366).

While the mysterious and spiritual Hopi, the Victorians' favorite, were criticized for low mental development (Moffet, 1889, pp. 243-56) they were described as the finest-looking Indians in North America because of their "Teutonic" features. "Their faces were so bright and intelligent that I fancied they only required to be clothed in an American dress, and shorn of their long locks of coarse black hair to enable them to easily pass for people of our own race," wrote one Victorian observer (Cozzens, 1875, pp. 215-216). Despite this rather perverse admiration, even the Hopi did not meet Victorian standards. E.O. Beaman, who praised Hopi women for their beauty, concluded: "Yet they still have certain peculiarities that are disgustingly filthy" (1874, p. 643). White visitors were never completely satisfied with their experiences with the Indians because they saw them as an anachronism in the modern world, destined to vanish.

It is clear from Victorian accounts of the period what was to take the place of the vanishing Indian--the white man in his recently civilized communities. Phoenix, a new town at the time like Flagstaff, was contrasted positively with old Arizona. As one traveler explained in 1896, "verily, this is the land of cactus, the horned toad, and the Gila monster, but where these have dwelt years and years, there. . . exits at the present day the most beautiful paradise that man can cultivate" (Trennert, 1988, p. 358).

Victorians viewed Phoenix, and eventually Flagstaff, as the future of Arizona, while the rest of the territory represented the past. Travelers and promoters in the territory stressed that "society has greatly improved during the past few years, and families need no longer hesitate to come to Arizona in the fear that the essentials of good society and educational facilities are wanting" (Sorin, 1880, p. 39).

Promoters of the period in numerous brochures appealing to potential white settlers, praised Arizona and Flagstaff specifically, arguing that the West was no longer wilderness and provided all the amenities of the settled East. "What would most excite the surprise of the newcomer from the East?" asked a hypothetical

settler. "Not the roughness of Western life and manners," the Arizona Improvement Company responded, "but the likeness of society here to that of the East" (Sokol, 1993, p. 374-375). Schools and other indicators of a settled gentile life filled pages of materials. *The Denver Daily News* claimed in 1893 that "Arizona possesses, as a whole, the finest, the most commodious and the best furnished school houses of any government on the face of the earth." In fact, the paper noted, Arizona's school system surpassed those of eastern states, including Pennsylvania and New York (May 14, 1893). Southwestern traveler T.E. Farish wrote, "The people of Arizona have laid broad and deep foundations of public school, that is credible to their intelligence, liberality, and patriotism". Arizonians made and enforced good laws; and because of their emphasis on education, they "cannot fail to sustain order and promote the culture of high moral virtues" (1889, p. 40).

Thus, we find at the time when Riordan and Vabre were promoting the designation of Walnut Canyon, sentiments that clearly were critical of native Americans and strongly in favor of progress, development, and "civilizing." It is obvious that white America saw the Southwest at a turning point between wilderness and civilization, chaos and order, and that modern Indians were a picturesque, yet grotesque remainder of the fast disappearing past. The dissociative argument used by both rhetors to describe the builders of Walnut Canyon cliff dwellings develops from and reinforces these sentiments.

In Riordan's two most widely circulated articles concerning the Cliff Dwellers, he argues that the landscape of Walnut Canyon is clearly from another time, similar to environments such as Yellowstone and the California Redwoods rhetorically praised a decade earlier. It is "other worldly," a remnant of a distant past that precedes even the world of the modern Indian. In describing Walnut Canyon in such a way, Riordan establishes the basis for arguing later that the ancients who built the ruins are a totally different race of people, dissociated from contemporary native Americans.

As Riordan and his group of visitors near the "mysterious" Canyon, the environment takes on characteristics of a prehistoric ancient landscape. "Upon passing the last unpretentious cottage of the little village (Flagstaff), we entered a grove of sparsely scattered pine-trees; and so solemn and weird did the stately trees appear that Longfellow's comparison of them to 'Druids of eld,' involuntarily presented itself to our minds." "We felt," he continued "the same as persons do who enter some grand cathedral, and are awed into silence, I may say even of spirit, by the vast and harmonious proportions, and the sense of sacredness that seems to pervade the very atmosphere.

'Truly,' said one of my companions, quoting the words of Bryant, 'the groves are God's first temples'" (*Chicago Current*, Nov. 21, 1885).

The pilgrims from the modern world are even more awe-struck once they actually encounter the Canyon itself because it represents for them a prehistoric world, that existed before and is distinct from anything modern. "None cared to speak as he gazed from the brink into the frightful chasm, so overwhelming was the feeling of awe inspired by the grandeur and sublimity of the scene. We remained in this state of silent admiration for some moments, and then proceeded to discuss the different features of the magnificent scene" (*Chicago Current*, Nov. 21, 1885).

Riordan, thus, establishes an environment in which a people so old, so distant, so different from modern times could exist and flourish. In fact, in his emphatic descriptions of the ancient builders of Walnut Canyon, Riordan argues that they are a race who clearly have no progeny: "The peoples who built them have been entirely obliterated from the face of the earth, and have left no records, save these few rude objects, by which we may learn their history. That they existed before any of the known tribes of American Indians is undoubted. For among no tribe has any tradition, however slight, been found regarding them" (*Chicago Times*, Oct. 10, 1885).

To justify the idea that a clean break between the ancient builders and modern Indians makes sense, Riordan argues that a cataclysmic event disallows any connection between the old and the new peoples. "The most natural supposition is that they were a race who became, in some inexplicable manner, isolated from their fellow-beings, and that a great calamity, such as a flood or an epidemic, wiped them out, leaving not so much as one to tell the mournful tale" (*Chicago Times*, October 10, 1885).

In arguing such, Riordan has taken the concept of "Indian" and divided it into two clear and distinct categories: the prehistoric Indian and the modern Indian, the first step in eliminating the ambiguities that plagued his larger argument justifying national monument designation. However, his dissociation does not stop here. As mentioned earlier, Perelman states that dissociative categories are only understood comparatively. That is, term II, in this case the newly defined category: the ancient Indian, is understood and enriched only in relationship to term I, the already understood category: the modern Indian.

Although Riordan believes the ancient Indians are inferior and primitive compared to modern whites, he implies that they are certainly superior to modern Indians because their ruins express the values of hard work, family, perseverance, and creativity, the very values that are responsible for bringing civilization to

the frontier, and whose absence have brought the modern Indian to his sad state. Although Riordan never directly compares the ancients to modern Indians in his rhetoric, the comparison is implicit once he has established a clear dissociation between the old and new Indian.

Throughout his descriptions of Walnut Canyon, Riordan emphasizes the skill and hard work needed to build such enduring monuments. "Some of them are in a state of perfect preservation, and were it not for the smoke-encrusted appearance of the roof one might be led to suppose that they were comparatively modern structures" (*Chicago Times*, October 10, 1885). Likewise, he emphasizes the ancients' building abilities by noting that "centuries of storms and adverse circumstances" have, "in many instances, failed to make any appreciable impression of decay on their exposed fronts." He continues his praise of ancient abilities: "The skillful manner in which the large stones composing these walls were adjusted to each other shows the builders had a practical knowledge of the mason's craft, and their ingenious substitute for the mortar of the present day tells us that they possessed a faculty for invention not to be expected" (*Chicago Current*, November 21, 1885).

Besides their work ethic and skill, the ancient builders were praised for their family values as seen in Riordan's descriptions of everyday artifacts and the domestic life, he imagined, that took place during the occupation of the sites. Riordan relished the discovery of needles, pots, grinding stones, primitive tools, dolls, and children's sandals, not just for the sake of collection, but as proof of a solid, interrelated social life based on hard work and a productive family structure, unifying concepts absent from modern Indian society.

Also, Riordan emphasizes the ancients' ability to withstand great hardships while encouraging creativity and lively social interaction. He describes frequently the steepness of the Canyon walls, thereby reiterating the difficulty inherent in building structures in such locations; while at the same time, he emphasizes how the ancients ingeniously incorporated the cliff walls and ceilings into their structures so as to minimize work. They were good craftsmen, hardworking, steadfast, and creative, characteristics absent from contemporary American Indians who were used in contrast.

By the end of the nineteenth century, Riordan had clearly established the argumentative framework for justifying national park designation by eliminating some of the rhetorical problems attached to the ancient builders of sites such as Walnut Canyon. By arguing that the ancients were other than, in fact distinct from, modern Indians, he argued that the ruins were

expressive of a people, who although primitive, represented values that modern white America could associate with. Modern Indians, in turn, became the implicit point of comparison. While the ancients were hardworking, industrious, family-oriented, creative and steadfast, all one needed to do was observe modern Indians, as did many Victorian travelers, to see that they represented the opposite concepts: sloth, decadence, greed, and self indulgence. What we find with Riordan is a complex comparison between two social systems: one, albeit ancient and simple, expressive of those values that are leading to the settling of the West, the other, while contemporary, expressive of those values which must be destroyed or controlled if the West is to turn from frontier to civilization.

Riordan's dissociative argument is further elaborated a number of years later by Father Vabre, who does not engage in similar fanciful musings about the ancient environment or its peoples, but nevertheless, consistently argues the view that the ancient builders, being separate and distinct from modern native Americans, more clearly represent the values and lives of white America. Therefore, he justifies the argument that sites such as Walnut Canyon deserve preservation because they are connected to modern life as clearly as are more obvious representatives of American values such as Mt. Vernon. Through a dissociative argument, he further eliminates inherent rhetorical problems in national monument designation.

Vabre, contrary to Riordan, acknowledges that most likely the prehistorics of Walnut Canyon are the ancestors of modern Hopi Indians. Archeologist in the intervening years had reached such a conclusion, and so it would be counterproductive to argue otherwise. However, despite this new understanding of historic lineage, Vabre's rhetorical description of the Canyon and its prehistoric inhabitants reflects Riordan's rhetoric, extending the earlier rhetor's position to make a genuine connection between white America and the Indians of Walnut Canyon.

Like Riordan, Vabre emphasizes the ancient Indians' work ethic, family commitment, perseverance, and creativity, while he clearly establishes a comparative relationship with modern life to provide a moral lesson for modern America. "Spoiled by modern ways of living. . . we can hardly credit human nature with the tremendous endurance and wonderfully steady nerves necessitated for the laborious and slow construction of these eyrie-like dwellings" (1906, p. 13). By stating that the ancient ruins should be evaluated in the context of modern life, Vabre reasserts the moral lessons that can be learned from looking at the ancient ruins. While certainly Riordan earlier focuses much of his argument on the redemptive power of the ruins in reinforcing the

values that are necessary for civilizing the West, Vabre clearly uses this idea to argue later that tourism, roads, and development is the end of the inevitable chain of events resultant from the values seen in the ancient ruins. The opposing results are equally clear if one looks at the decadent life of the modern Indian.

The ancients are hardworking and skilled: "The masonry in its minutest details bespeaks the skill of the builders; the dizzy height of the cliffs as the narrow and difficult path leading in and out of the dwellings must have proved fatal to any one less favored by nature with steadiness of nerves than the cliff dwellers" (1906, p. 12). Also the ancients endured tremendous hardships, while establishing a peaceful family-oriented life in the wilderness: "The amount of work and time necessary for the aborigines to carry stones and earth in packs on their shoulders to those dizzy heights bespeaks a numerous tribe at peace with the outside world" (1912, p. 28). "The closeness of the dwellings and the common, but lovely relics left behind, show a society imbued with a family structure based on equality, love and kinship" (1912, p. 28). Finally, Vabre reinforces the ancients' creativity and abilities to cope in difficult situations: "The early inhabitants of this country, ignorant of the art of working iron and manufacturing trenchant tools, were wonderfully ingenious in turning the result of the natural weathering of the rocks to account" (1912, p. 28).

Conclusion

Certainly, there were many practical reasons why a site such as Walnut Canyon, one with a moderate amount of historic and aesthetic value, became a national monument. Its proximity to Flagstaff and road construction, its pothunting history, combined with the fact that there did not appear to be any practical reasons such as mining and timbering interests to stop its designation, all worked in its favor. However, in arguing for designation, promoters had some genuine difficulties which plagued all persons in favor of preserving newly discovered ancient ruins, one of the most perplexing being the relationship between the ancient builders and modern American life. In order to reconcile some of these problems, rhetors used a dissociative argument that asserted a clear distinction between ancient and modern Indians, and an unbroken connection between the values of the cliff dwellers and modern whites who were civilizing the West. Michael Riordan could, as a result of this rhetorical argument, state that Walnut Canyon was spiritually uplifting because the values inherent in the ruins have ancient origins long practiced on the American continent, values that have a continuous history, not through a genetic bond with native Americans, but through white America's experience on the continent. And Father

Cyprian Vabre could actually argue that the ruins at Walnut Canyon should be preserved, even though they were built by ancient peoples who have no apparent historic connection with the dominant culture, because they encompass the destiny of the West towards civilization and development.

This study further elaborates upon the complex problems facing environmental rhetors when they must deal with people and human impact upon the environment. Like the rhetors who villainized the mountaineers in the Smoky Mountains in order to justify national park status, the rhetors favoring national monument status for Walnut Canyon used a more subtle, but nevertheless equally negative form of demonizing even when the reason for "special" status was based on human interaction with the environment. An important question emerges from these two studies: Is it always necessary when arguing for the preservation of environments where human beings have played an important role, to represent some group of humans in a negative way? Is there something inherent in the rhetorical situation or in our way of thinking about the environment and people that forces even those individuals who are proposing actions which are environmentally sound, to lessen the purity of their position by using negative stereotypes? Environmentalists like to believe they are on the side of the angels when arguing in favor of preservation of nature against the evil forces of development and exploitation. An investigation of both the campaign in the Smoky Mountains and at Walnut Canyon, leads to a more ambiguous, less reassuring view.

References

- Ainslie, M. L. (1986). Historic preservation in the United States: A historical perspective. In Y. Isar (Ed.), *Why preserve the past? The challenge to our cultural heritage*. Washington D.C.: Smithsonian Institution Press.
- Bataille, G. & Silet, C.L.P. (1980). The entertaining anachronism: Indians in American film. In R. M. Miller (Ed.), *The kaleidoscopic lens: How Hollywood views ethnic groups* (pp. 36-53). Englewood: Jerome S. Ozer.
- Beaman, E. O. (1874). The canyon of the Colorado, and the Moquis pueblos. *Appleton's Journal*, 11.
- Clifford, J. (1870). Arizona desert. *Overland Monthly*, 4.
- Cozzens, S. W. (1875). A thousand years old. *Companion*, 48.
- Cross, R. T. (1954). Arizona's cliff dwellings. *Plateau*, 27, 18-20.
- Farish, T. E. (1889). *Central and Southwestern Arizona: The garden of America*. Tucson: Citizen

Press.

Fielder, L. (1969). *The return of the vanishing American*.

Flagstaff Board of Trade (1891). Untitled brochure of the Flagstaff Board of Trade. Copy on file, Colton Library, Museum of Northern Arizona, Flagstaff.

Foss, S. K., & Foss, K. A., & Trapp, R. (1991). *Contemporary perspectives on rhetoric*. Prospect Heights: Waveland Press.

Ise, J. (1961). *Our national park policy: A critical history*. Baltimore: John Hopkins University Press.

James, G. W. (1917). *Arizona, The wonderland*. Boston: The Page Company.

Marburger, N. (1947). The cliff city of Walnut Canyon. *Natural History*, 56, 418-420.

Moffet, C. R. (1889). In the Moqui country. *Overland Monthly*, 14.

Monthly Narrative Reports (1938-1951). Copies on file, Walnut Canyon National Monument, National Parks Service, Flagstaff.

Nash, R. (1967). *Wilderness and the American mind*. New Haven: Yale University Press.

Pearce, R. H. (1965). *Savagism and civilization: A study of the Indian and the American mind*.

Perelman, C. (1982). *The realm of rhetoric*. Notre Dame: University of Notre Dame Press.

Powers, S. (1871). Adventures in Arizona. *Overland Monthly*, 6.

Riordan, M. J. (1885). Miscellaneous articles, newspaper clippings, and correspondence dating 1885, Box 1; Box 4, Book 1; Blanche Riordan Chambers Collection, Northern Arizona Pioneers Historical Society Collection 4. Special Collections Library, Northern Arizona University, Flagstaff.

Runte, A. (1987). *National parks: The American experience*. Lincoln: University of Nebraska Press.

Shepard, P. (1967). *Man in the landscape*. New York: Alfred A. Knopf.

Sokol, M. J. (1993). From wasteland to oasis: Promotional images of Arizona, 1870-1912.

The Journal of Arizona History, 34, 357-390.

Sorin, T. R. (1880). *Handbook of Tucson: Embracing statistics of the mineral fields of Southern Arizona*. Tucson: Citizen Print.

Stein, Pat H. (1986). Historical resources. In A. Baldwin & J. M. Bremer, *Walnut Canyon National Monument: An archeological survey*. Tucson: Western Archeological and Conservation Center.

Trennert, R. A. (1988). A different perspective: Victorian travelers in Arizona, 1869-1900. *The Journal of Arizona History*, 24, 349-370.

Vabre, C. (Padre Cipriano). (1906). The cliff dwellings of Walnut Canyon. *The Catholic Pioneer*, 1, 12-14.

Vabre, C. (1912). *The Old Sante Fe Trail across Arizona*. Los Angeles: Press of the West Coast Magazine.

Weaver, B. (1992). The creation of a national park: An analysis of communication campaign leading to the creation of the Great Smoky Mountains National Park. In C. Oravec & J. Cantrill (Eds.), *The Conference on the Discourse of Environmental Advocacy* (127-144). Salt Lake City: University of Utah Humanities Center.

Weaver, B. (1996) "What to do with the mountain people?": The darker side of the successful campaign to establish the Great Smoky Mountains National Park. In C. Oravec and J. Cantrill (Eds.) *Environmental Discourse* (454-509). Lexington: The University Kentucky Press.

The Prestige Press and Environmental Communication: A Case Study of the *New York Times* and the National Wetland Policy During the Bush Administration

by Diane Nicodemus

*Greater familiarity with marshes on the part of more people could give man [sic] a truer sense of himself in relation to Nature. In marshes, Life's undercurrents and unknowns and evolutionary changes are exemplified with a high degree of independence from human dominance as long as the marshes remain in marshy condition. They have their own life-rich genuineness and reflect forces that are much older, much more permanent, and much more mightier than man. (Paul L. Errington, *Of Men and Marshes*)*

"I am an environmentalist" George Bush announced during the 1988 Presidential campaign. This announcement took many people by surprise, including Bush's rival in the presidential race, Governor Michael Dukakis of Massachusetts. On August 31, in a speech at Detroit Metropark, Bush declared himself an environmentalist and the next day started an attack on Dukakis's environmental record. Bush's position on the environment was unexpected and considered inconsistent with his previous record on environmental issues (Vig and Kraft 1991, p. 33).

This study examines one environmental issue which candidate Bush brought to the political agenda--the "no net loss" wetlands policy, a controversial requirement that a property owner who fills a wetland, convert an equal amount of land into wetland. Candidate Bush advocated the no net loss policy but after taking office the Bush administration took another position. The Bush administration argued that the current wetland policy was too restrictive and proposed a change in the Federal wetland regulations to lessen the number of areas qualifying for federal protection.¹ Two members of the Bush administration, John Sununu and Dan Quayle, led the fight to narrow the definition of wetlands. The debate evolved around the definition and classification of wetlands.

The study tracks the *New York Times*' newspaper coverage over a five-year period, January 1, 1988 to December 31, 1992, during which the wetlands controversy evolved. Concentrating on the media's role in the wetland policy debate, this study seeks to explain how the *New York Times* defined the debate and the issues surrounding it.²

Although variations in the interpretation and acceptance of the messages are possible and often evident among the audiences, the prestige press holds great power in setting the context for debate and defining environmental issues. Word choices and their organization into news stories are not trivial matters. News discourse influences public opinion.

This paper proposes framing theory to explain how the *Times* drove the controversy into an adversarial, rhetorical context from which it was impossible to separate ecological community values from the traditional, political, hierarchical, and adversarial expectations of Western rhetoric.

Goffman (1972) was one of the first scholars to use frame as a construct for how individuals make sense of the world. Goffman maintained that frames help individuals to organize and explain events. Like a picture frame, some things are included while others are excluded. Building on Goffman's work, Tuchman (1978) applies framing in media analysis. Tuchman maintains that reporters create meaning by imposing frames. Tuchman writes:

[L]ike any frame that delineates a world, the news frame may be considered problematic. The view through a window depends upon whether the window is large or small, has many panes or few, whether the glass is opaque or clear, whether the window faces a street or a backyard. The unfolding scene also depends upon where one stands, far or near, craning one's neck to the side, or gazing straight ahead, eyes parallel to the wall in which the window is encased (p. 1)

Applying similar concepts, Robert Entman (1993) points to selection, salience, and omission as important framing devices. A media text may omit important sources of problems or fail to suggest potential solutions to controversies. For example, many environmental stories are framed in terms of jobs versus the environment. The jobs argument ignores the subject of ecological economics (for example, see Cairncross, 1991). Ecological economists do not necessarily perceive jobs and the environment as conflicting; instead, many see the two as compatible. Framing news reports as the environment against the economy ignores

more creative solutions to environmental problems and discourages any hope for the future.

Methods

Richard Barton's (1990) method of analysis provided a framework to analyze news voices and news appeals. News appeals fall on a continuum which range from the least invitational news form (appeals to authority) to the most invitational (appeals to the ideal social order). Invitational news language encourages political discourse among members of an active audience. News appeals are not mutually exclusive and can be used in combination with each other. Appeals can also be combined with other rhetorical devices such as syntax and imagery, word choice, form and structure and argument.

This study undertakes a focused look at the framing of news voices to:

- (1) determine who is representing the environment, in particular wetlands;
- (2) determine the kinds of claims made on behalf of the speakers and their institutional interests;
- (3) determine who is defined as the opponent or challenger of those claims;
- (4) assess the extent to which the news stories reflected the broader ecological and economic issues discussed by the opinion leaders of wetlands.

By understanding the framing of the prestige press, it is possible to understand the emerging wetlands controversy as a political struggle.

A quantitative analysis was also undertaken with a general focus on story format and a more in-depth analysis of source characteristics. Adopting Liebler and Bendix's (1994) model, I examined section and page, news story length, headline width, news type, number of sources, and tone of news story. Source characteristics were examined for identification of source, number of sentences attributed to the source, tone, and perspective.

All articles were coded by the writer. Six articles, however, were chosen at random and coded by a colleague to test intercoder reliability. Complete coder reliability was attained on the manifest of content (e.g. date, page, source name). In all, we achieved a 90% intercoder reliability using Scott's method of measuring intercoder reliability (1955).

Results and Discussion

During the five year period, there were a total of twenty-four articles in the *New York Times*: fourteen news articles, eight editorials and commentary, and two science articles. Three of the stories were located on Section A, page 1; the majority were in Section A of the paper (75%). The mean number of column inches per story headline was 30.19 and the headline width averaged 45.42 inches.

Event stories accounted for 38% of the twenty-four,

followed by analysis stories 33%, consequence stories 17%, science stories 8%, and why/how stories only 4% of the time. The tone of the stories was split evenly between positive and neutral (44% each); 13% of the stories were coded as negative. The median number of sources used per story was 6.5. The minimum number of sources per story was two while the maximum number was fourteen (found in a science news story).

Initially, news coverage of the wetlands policy debate (1/16/88 - 4/24/90) encouraged readers to form a positive attitude towards wetlands and support environmental action. The earliest press coverage encouraged audiences to understand and recognize the importance of wetlands. They answered the questions, "what is a wetland and what is it worth?" These are important questions to help get citizens interested in protecting wetlands. The articles emphasize wetlands values, functions, increasing loss, and identifies a consensus among diverse interest groups and stakeholders. The articles suggest that wetlands protection makes good economic sense and environmental sense for society and not just for the individual owning the land, which is central to much of the conflict over wetland protection policies. An example of the typical article during this period:

Wetlands, which include marshes, swamps, estuaries, prairie potholes and other watery areas, were long considered undesirable wastelands, useful only when they were drained or dredged. But these lands have come to be recognized as an extremely valuable ecological system...Coastal wetlands serve as spawning grounds for 60 to 90% of the nation's commercial fisheries catch. They also serve as important habitat and breeding ground for a wide variety of other wildlife...major nesting grounds and migratory stops for vast number of ducks and geese... important natural flood control areas... an important source of timber, provide barriers to erosion and remove pollutants from surface water (11/16/88).

Following President Bush's announcement to delineate wetlands (August 1991), news coverage peaked. The following graph illustrates how the coverage looked over the five year period. The vertical line represents the number of news articles and the horizontal line represents the year.

As figure 1 illustrates, most news articles appeared in 1991. Similarly, most of the Congressional hearings and bills on wetlands were introduced in 1991. As Congressional activity increased, the news coverage also increased. This finding suggests that the media did not determine the agenda; instead, political leaders may

have initiated it.

The earliest news reports were written by Philip Shabecoff. When asked about his role as an environmental reporter, Shabecoff replied:

The state of the environment is precarious. We've made some temporary gains, but the biggest problems lie ahead. Not only reporters, but news institutions ought to treat these problems very seriously. They ought to devote more coverage to the issue than they presently do, to continue to educate the American public about what is at stake—a habitable earth for our children and grandchildren (Stocking and Leonard 1990, p. 44)

Shabecoff no longer works for the *Times*; instead, he formed an electronic news service called "Green Wire." Except for the initial wetland articles, Shabecoff did not write any of the remaining articles in this analysis.³ Whether or not one reporter makes a difference, the remaining news articles represent a major shift in the media coverage.

Briefly following President Bush's announcement, media coverage not only increased but the content changed. The news coverage no longer advanced environmental objectives but sought to moderate and restrain them. Much of the coverage following Bush's announcement focused on the political actors rather than on wetlands as natural resources. Table 1 indicates that government sources accounted for 39% of the total sources.

The news media shifted to authoritative appeals by reporting on the government's activities without critical inquiry. This kind of reporting typically represents an attempt to report the facts. "Official" sources are deemed by the media to be most credible. Consequently, government policies go unquestioned and alternatives to government policies go unexamined. In looking for an authority, the media create public opinion. An appeal to authority is best illustrated on 10 Aug. 1991, with the *Times* announcing Bush's proposal for wetland delineation:

President Bush today announced a new proposal for managing [emphasis added] the nation's wetlands...The first outlines of the program were disclosed last week when the White House made public its new definition of a wetland saying it would mean millions of acres of such ground would be open to development while the most sensitive areas would still be protected. In a statement issued today, the White House said adopting the new policy was vital to "slow and eventually stop the no net loss of wetlands,"

thus fulfilling promises Mr. Bush made in the 1988 campaign.

Critics argued that Bush meant to stop the loss of wetlands by defining out what the wetland developers wanted to fill. The Bush administration, however, was portrayed as an arbitrator and neutral player in the policy debate. For example, the article below positions conservationists against developers and the Bush administration is portrayed as the mediator between the two groups:

Developers and conservationists differ on a plan...it may not be known for 18 months which side is correct...The program proposed by President Bush is intended to clarify what is covered by the Federal Clean Water Act of 1992.

The plan seeks to balance two important objectives: the protection, restoration and creation of wetlands and the need for sustained economic growth and development, President Bush said in the statement (8/10/91).

The wetlands debate was so politically charged that Kusler (1992) writes, "The team working on the manual at one time consisted almost entirely of scientists, gradually became a team of lawyers and administrators" (29). Consequently, extreme politicization of the wetland issue in the *Times* often overshadowed the important environmental issues and outcomes. Table 2 illustrates the frequency that source perspectives were expressed. By excluding the science articles and focusing only on the "hard" news, scientific perspectives only account for 20 percent of the total source perspectives.

Referring back to Table 1 on sources, it appears scientists were an active group who supported wetland protection policies. That 19% figure, however, is misleadingly high because over half of the scientific sources were used in the two science articles. If the two science articles are excluded from the analysis, scientists would only account for 11% of the total sources. Clearly, scientists were left out of the wetlands debate. Arguably, scientific sources would have provided more balanced and informative viewpoints. When scientists were given voice, they not only supported wetlands protection but more clearly defined what was at stake. For example, a biologist for the Society of Wetland Scientists disagreed with the proposed manual and argued:

"No attempt was made to justify the science of the changes," Dr. Brinson said. "If this proposal goes through, it will pretty much be open season on a large segment of wetlands. It's hard to predict how quickly

this will happen, but gains in water quality attributed to wetland will be reversed, flood potential will go up, and plants and wildlife will be impacted" (10/15/91).

An important forum for the scientific community (as well as the general public) was the *Science Times*. The science perspectives would have moved the level of debate from the political to the scientific level had the *Times* not used other political and administrative authorities. That is not to say that the science articles only discussed the science; rather, the articles served as a convening forum for all points of view. The science articles not only educated the public, but invited creative solutions to policy:

In the end, many conservationists and officials are convinced, wetlands protection will have to look beyond regulation to economic solutions....Outright purchases of land for a conservation bank is one strategy being pursued in Florida...Other strategies being proposed involve economic aid for not developing or otherwise converting ecologically important wetlands, as well as tax breaks for donating them to a conservation reserve....(3/13/90).

Overall, the scientists who were given voice in the media supported the environmental objective, preservation of wetlands. This runs counter to the prevailing assumption that scientists are anti-environment. Hays (1987:329) argues that "[e]nvironmental science played a significant role in this strategy of containment [of environmental objectives].

Those seeking to promote the environmental agenda are, of course, environmentalists. Similarly, the *Times* portrayed environmentalists as wetlands advocates. Agricultural and industry were those groups opposing the protection of wetlands. Table 3 indicates the tone of each group as represented in the *Times*.

Positive tones were comments which portrayed wetlands as valuable natural resources and supported federal regulations to prevent wetlands losses. Neutral tones were balances of positive and negative coverage, or no evaluative comments. Negative tones were comments that emphasized the economic cost of a wetlands policy and the implications of environmental regulations to special interests groups (agriculture and real estate development). Also note on Table 3 that the Administration made more neutral statements than any other group.

Through the mass media, environmentalists (and others) create rhetorical appeals to form alliances with the public. Identification with the public is "revealed through efforts to build communities in face of conflict" (Killingsworth and Palmer, 1992 p. 23). An environ-

mental dilemma exists, argue Killingsworth and Palmer, because environmentalists have failed to form adequate identifications with the public.

Although environmental groups adamantly opposed the government's new delineation manual, arguing that it would eliminate up to one half of the wetlands that were subject to some federal protection, they were not always portrayed by the press as the protectors of a natural treasure. Instead, environmentalists were labeled as opposing development and economic progress. Environmentalists appeared to be protecting wetlands for aesthetic reasons while farmers and developers sought economic growth and prosperity. The following excerpts were typical of the dichotomy found in the press after the August 1991 shift:

The wetlands struggle fought for years by conservationists and developers, involves a potential investment of billions of dollars to build new homes, golf courses, roads and shopping centers where maples and ferns now grow (5/15/91).

Farmers in the South and Midwest complained that the rules were so inclusive they risked Federal prosecution for tilling productive bottomlands. Developers said under the definition, half of Vermont and most of Maryland's Eastern Shore could be classified as wetlands. Road builders engaged in long and costly legal proceedings with the Corps of Engineers for permits to work on apparently dry ground. Environmental groups, though, praised the rules (5/15/91).

When environmental groups endorsed the 1989 policy, they said that it barred development along the coastal areas of Long Island, forests in New Jersey, tidal zones in New England and miles of not so wet ground around the country. The 1989 regulations have been attacked as too stringent by farmers, industrial companies and builders who have been prevented from developing land that appears to be dry but was classified as wetlands (8/3/91).

Framing environmental issues in a "classical environmental battle" rhetorically sets environmentalists against others. The audience is forced to choose a side between jobs and economic growth or preservation. Often the issues are presented as irresolvable and the stakeholders as uncompromising. Killingsworth and Palmer write:

[T]he news media have cast environmentalists as the spoilers of economic development in a rhetoric that covertly (or uncon-

sciously) upholds the values of industrialization and the creation of new jobs in a community regardless of the nature and source of these jobs. People need money; they need to satisfy their most immediate needs. That much is clear.....The resulting portrait of the environmentalist comes to be chiefly negative. The environmentalist is anti-development, anti progress, against the building of this road or that power plant (p. 26).

Media portrayals of environmentalists are misleading since most environmentalists hope to seek a balance between preservation and economic growth, especially the groups represented in the *Times*. All the environmentalists are "reform environmentalists" who devote considerable resources to Washington lobbying and public education. These environmentalists generally do not represent radical change in society (Mitchell 1991, p. 96). Reform environmentalists are often criticized by more extreme environmental groups (for example, Earth First!) as being part of the political establishment and for being too compromising on environmental issues. Groups such as Earth First! criticize conservationists as being too moderate while the anti-environmentalists have been extreme, radical, and emotional. Nevertheless, one issue of particular concern to all conservation groups is public and private land use.

Although the Bush administration tried to focus the wetlands debate on the classification of wetlands, the real argument was private property rights. The Fifth Amendment to the U.S. Constitution guarantees that the government shall not seize private property for public use without compensation. The so-called "private rights" activists argue that regulations, including zoning, limit a landowner's use of his/her land, and is therefore, a taking. This is the argument that the *Times* seems to be making in several of the articles:

To the casual visitor, Rick McGowan's farm looks like prime cropland. And it does what good farmland should do, yielding more than 150 bushels of corn an acre last year. To officials of the Army Corps of Engineers, however, Mr. McGowan's property is quite different. Solid as it may seem, they say, it is wetland. As wetland it is part of the waters of the United States, coming under the jurisdiction of the Corps. Between those points of view of arguments, legal questions, claims and counterclaims involving the Clean Water Act of 1972—a web that now entangled farmers,

environmentalists and Federal agencies in legal disputes across the country. What a runaway bureaucracy wants them to do, farmers say, is convert good cropland into bogs and marshes. Furthermore, they say, the Government is doing this with total disregard of property rights guaranteed under the Constitution....'Bit by bit and month by month, I have lost my property,' said Mr. McGowan (4/24/91).

The *Times* fails to mention, however, that there are significant exemptions under the program which permit a broad range of individual activities. In fact, more than 97 percent of all the permit applications submitted over the last 10 years have been approved (Kusler, p. 30). Sara Nicholas, a senior research associate at the Environmental Law Institute in Washington D.C., writes that in 1990, the Army Corps approved 95 percent of all individual permit applications (p. 37).

Approximately 75% of the remaining wetlands in the lower 48 States are privately owned. Framing the wetland issue as a threat to private property and fear of stringent government regulations may have a chilling effect on property owners who may understandably become more hesitant to ensure the protection of wetlands.

Conclusions

This study is an attempt to explain and demonstrate how the wetlands issue was framed within a political and social context in the *New York Times*. How the issues were defined and how publics were invited to "see" the debate were the leading questions in the analysis.

Quantitative and qualitative research methods were employed. The combination of research techniques offers a useful approach to news analysis. The strength of content analysis is in its ability to reproduce results (reliability) and the extent to which empirical measure reflects the real meaning of the concept being considered (validity). The weakness, however, is that content analysis diminishes the richness of meaning, and sacrifices context and depth of analysis. As Entman (1993) argues, "The major task of determining textual meaning should be to identify and describe frames; content analysis informed by framing theory would avoid treating all negative or positive terms or utterances as equally salient and influential" (p. 57).

Overall, the news coverage of the federal wetlands policy evolved chronologically from advocating environmental goals to assaulting them. Initially, audiences were appealed to as community guardians, protectors of a natural treasure. Appeals were made

that spoke to America's desire to balance environmental and economic concerns. Environmentalists were predominantly portrayed as legitimate players and the audiences were encouraged to identify with them. Government players who opposed a broad federal wetland policy were confronted and criticized.

As the debate evolved, however, the coverage became more politicized and made more authoritative appeals as compared to the earlier coverage. The *Times*, in looking for authoritative and credible news sources, shifted from scientists to administrative officials. The Administration was largely portrayed as unified on the wetlands policy issue and as an arbitrator in the conflict rather than the force that would have eliminated much of what is now protected. In doing so, the press reframed the argument as one of property rights rather than environmental values.

When scientists were elicited as sources, they consistently conveyed a scientific perspective which supported federal wetlands protection policies. Overall, however, the scientific community was not successful in publicizing their viewpoints. Arguably, scientific knowledge is crucial in deciding environmental policy and shaping public opinion.

The famous "no net loss" policy expounded and then modified by former U.S. President Bush brought wetland protection into the national spotlight. The public has watched and participated in the growth in the interest of wetlands, a growth fueled by the media. The real question, however, is whether the media, environmentalists, and or Bush (assuming he was initially honest in his concern) could have prevented or circumvented the rhetorical framing of wetlands!

Notes

¹ To date, Congress has ordered the EPA to return to a 1987 manual for identification of wetlands. Congress has also requested that a study be done by the National Academy of Sciences to determine the best way to identify and delineate wetlands. As of March 10, 1995, the National Academy of Sciences had not released the study.

² Since the 1970s, the Corps of Engineers and the EPA have used the same definition for regulatory purposes. To qualify as a wetland, a site must have specific water regimes, particular plants, and hydric soils. In addition, areas saturated with water for 7 days were considered wetlands. The Corps and the EPA's definition served as the basis of the delineation manuals developed in 1987, 1989, and 1990. The Bush administrations wanted to exclude plants and soils and wetland indicators and define wetlands as areas saturated with water for 7 consecutive days.

³ I'm uncertain why Shabecoff left the *Times*.

Shabecoff, however, has seemingly moved into an environmental advocacy position. Further investigation is warranted which examines how journalists perceive their role in environmental communication.

References Cited

- Barton, Richard L. *Ties That Bind in Canadian/American Relations: Politics of News Discourse*. Hillsdale, NJ: Lawrence Erlbaum, Inc., 1990.
- Cairncross, Frances. *Costing the Earth*. Boston, Massachusetts: Harvard Business School, 1991.
- Entman, Robert M. "Framing: Toward Clarification of a Fractured Paradigm." *Journal of Communication*, 43.4 (1993): 51-8..
- Goffman, Erving. *Frame Analysis: An essay on the organization of experience*. Boston, Massachusetts: Northeastern University Press, 1974.
- Hays, Samuel P. *Beauty, Health, and Permanence*. New York: Cambridge University Press, 1987.
- Killingsworth, Jimmie M. and Jacqueline S. Palmer. *Ecospeak: Rhetoric and Environmental Politics in America*. Illinois: Southern Illinois Press, 1992.
- Kusler, Jon. "Wetlands Delineation." *Environment*, 34 (1992): 7+.
- Liebler, Carol M. and Jacob Bendix. "Old-Growth Forests on the Evening News: News Sources and the Framing of Environmental Controversy." Presented to the conference on Media and the Environment 7-9 April 1994, Reno, Nevada.
- Mitchell, Robert Cameron. "From Conservation to Environmental Movement: The Development of the Modern Environmental Lobbies," in *Government And Environmental Politics*, edited by Michael J. Lacy (The Woodrow Wilson Center Press Washington, D.C. 1991), 80-113.
- Nicholas, Sara. "The War Over Wetlands." *Issues in Science and Technology* 8.4 (1992): 35-41.
- Scott, William A. "Reliability of Content Analysis: The Case of Nominal Scale Coding" *Public Opinion Quarterly*, Fall (1955) 321-25.
- Stocking, Holly and Jennifer Pease Leonard. "The Greening of the Press." *Columbia Journalism Review* Dec. (1990): 37-44.
- Tuchman, Gay. *Making News: A case study in the construction of reality*. New York: The Free Press, 1978.
- Vig, Norman and Michael Kraft. *Environmental Policy in the 1990s*. Congressional Quarterly Press: 1990.
- White House press release, "President's Plan for Wetlands," 9 August 1991.

Figure 1
The Times News Coverage Over a Five Year Period

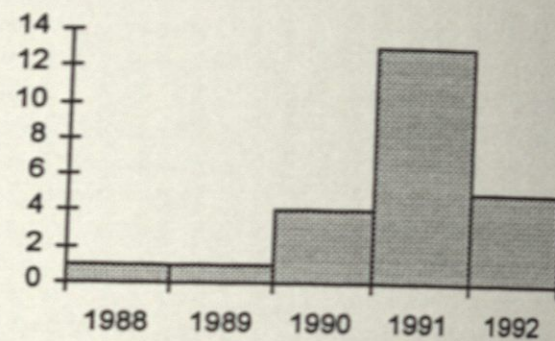


Table 1
Sources

Identification	Frequency	%
Government Sources	45	39
Environmental Interest	20	18
Development and Agriculture Interest	21	19
Wetlands Scientists	22 (with the 2 science articles) 10 (w/out the 2 science articles)	19 11
Practitioner	4	4
Other	3	3
Citizen	0	0

Table 2
Source Perspectives

Perspectives	Frequency	%
Political w/out science articles	37 (37)	32 (41)
Scientific w/out science articles	36 (18)	31 (20)
Legal/Regulatory w/out science articles	22 (22)	19 (24)
Economic w/out science articles	12 (8)	10 (9)
Other w/out science articles	9 (6)	8 (7)

Table 3

Tone of Sources about Wetland Protection Policies

	Tone		(%)
Id.	Positive	Neutral	Negative
Wetlands Scientists	19 (86) (33)	3 (14) (8)	0 (0) (0)
Environmental Interest	19 (98) (33)	1 (2) (3)	0 (0) (0)
Bush Administration	4 (25) (6)	12 (54) (32)	5 (21) (25)
Agriculture Interest	0 (0) (0)	7 (47) (18)	9 (54) (45)
Development Interest	0 (0) (0)	1 (17) (3)	3 (84) (15)
Federal Agencies	7 (30) (12)	9 (65) (24)	1 (5) (5)
Legislators	3 (43) (5)	3 (43) (8)	1 (14) (5)
Practitioners	2 (50) (4)	2 (50) (5)	0 (0) (0)
Other	3 (100) (5)	0 (0) (0)	0 (0) (0)

Environmental Perception and the Beartooth Alliance: Socioeconomic Struggles at the Grassroots

by James G. Cantrill and Michelle D. Masluk

Even a cursory review of research and practice reveals that environmental communication occurs in a fairly large range of venues. As scholars of communication have begun to explore this rich body of discourse, most of their efforts have dealt with the public campaigns of major environmental organizations, the environmentalist content of the mass media, or spokespersons' advocacy in and about a threatened natural world. However, a number of critics (e.g., Gottlieb, 1991) suggest that equally important examples may be found in more limited settings where small communities find their health and lifestyles placed in jeopardy by pollution, uncontrolled development, or economic competition. Indeed, how such individuals construe environmental risks is likely to be the primary basis from which most citizens talk about environmental challenges in the 1990s. As Hilgartner and Bosk (1988) put it, 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" (p. 58).

As an example of how the sociocultural milieu mediates the production of environmental communication, this analysis examines the discourse of a community-based organization opposed to a major mining project on the edge of Yellowstone National Park. In particular, we have examined the extent to which demographic and cognitive factors influence group perceptions of environmental risk and shape their assumptions regarding current and future expectations. Yet this analysis of ordinary women and men facing extraordinary circumstances also demonstrates something important about tradeoffs between traditional values and emergent environmental commitments in society. Humans live in a fractured social world where ideologies shift like tectonic plates causing a variety of conflicts; in isolated hamlets such as Cooke City, Montana, nuanced differences between perspectives may foreshadow more significant upheavals on our collective environmental horizon (cf. Bakhtin, 1986; Fiske, 1991).

Factors Influencing Perception at the Grassroots

In order to provide a valid representation of the kinds of forces which mediate perception of environmental problems in localized settings one may be

tempted to assume that grassroots organizations are similar to larger, national groups of environmentalists. That is, existing studies of mainstream or "fringe" environmental organizations (e.g., Cassidy, 1992; Lange, 1990) might be used to predict that the same factors shaping the beliefs of those belonging to, say, Greenpeace or Earth First! would be operant smaller clusters of "green" activists. Unfortunately, the few studies that have previously focused on community based environmental organizations (e.g., Frech, 1993; Retzinger, 1992) suggest that perception at the grassroots is nourished by more immediate circumstances which magnify the contribution of sociocultural factors. Although specific groups committed to the opposition of a policy may mirror larger social trends, we should presume that a true model of their beliefs must take into account the particular constellation of socioeconomic and cultural exigencies which are brought to bear in the perception of a specific, localized controversy.

We could isolate forces influencing grassroots environmental beliefs in a number of ways. One traditional approach has been to focus on various demographic factors. Despite the fact that this approach has generally resulted in a confusing set of findings regarding general environmental commitments (Cantrill, 1993; cf. Grunig, 1989), socioeconomic backgrounds may play a more determinant role in small organizations. In particular, we can speculate that there may be generational differences in the perception risk and future outcomes, that the financially empowered view situations from a separate vantage, that social isolation heightens concern for one's immediate environment, or that how close one lives to the focus of environmental activism effects her or his processing of information. Arguably, a young and impoverished person living next to a hazardous waste incinerator is likely to view the situation differently than someone who, belonging to the same grassroots organization, is nonetheless relatively less at risk by virtue of age, class, or residence. While such intergroup differences may be attenuated by the wide variety of individuals found in the general populace or even large environmental organizations, they could be more potent at the local level.

An alternative way of exploring the basis for environmental perception is to focus on cultural

allegiances. As we mature in society, we come to embrace a set of deep seated ideologies and world views which exert a residual influence on our perception of the environment. Among the various conceptual frameworks for understanding the relationship between culture and environmentalism, Van Liere and Dunlap's (e.g., 1983) approach seems most heuristic. Along with others who have refined the perspective (e.g., Kuhn & Jackson, 1989), Dunlap and Van Liere contend that our society is experiencing shifts from a "dominant social paradigm" (DSP) involving the belief in growth, limitless resources, private property rights, and technological salvation to a "new environmental paradigm" (NEP) associated with growth restrictions, resource conservation, biocentric law, and the restructuring of society. Studies have shown that this transformation is convoluted with competing beliefs coexisting in the minds of people. However, insofar as this family of research has hitherto not focused on small environmental groups, we cannot assume that the same fragmentation would be reflected in the perceptions of those in grassroots organizations.

It makes sense to suppose that there is a natural link between a person's demographic background and her or his commitments to either dominant or emergent world views regarding the environment. These fundamental values should be found in not only one's attitude toward environmental risk but also in the manner in which that environment is described. Pointedly, when we turn to the perceptions of activists in community based environmental groups, we would expect that those facing the most immediate threats to their self interests, and those less steeped in the traditional commitments of our society (due to their age or economic strata), would be more inclined to adhere to the new environmental paradigm as well as differ in their perceptions of current conditions or future possibilities. Alternatively, the beliefs of older and wealthier patrons of an organization, without as much a vested interest in local environmental conditions, would more likely resemble those of the rest of society. In general, and depending on what an activist values given her or his usual place of residence, the evaluations and predictions of different grassroots members should differ; if anything, environmental self-interest is grounded in the most personal of experiences (Cantrill, 1993; deHaven-Smith, 1988). Although the intersection of social and cultural influences may not be that apparent across a larger population, we might surmise that it would account for more variance between persons' thoughts and statements at the grassroots since it is there, in the trenches of environmentalism, that people are more fixated on policies and vocal in their activism.

The foregoing analysis gives rise to a series of ten

hypotheses. Specifically, we predict that:

H₁: Activists living adjacent to a site of environmental controversy will exhibit greater allegiance to the NEP than to the DSP.

H₂: Younger activists will exhibit less allegiance to the DSP than older activists.

H₃: Activists living adjacent to a site of environmental controversy will exhibit more consistent environmental belief systems than those living at a distance.

H₄: Older activists will exhibit more inconsistent environmental belief systems than younger activists.

H₅: There is a negative relationship between environmental belief system consistency and allegiance to the DSP.

H₆: Those activists who are isolated from metropolitan areas will have more negative views of general society than activists who are not so isolated.

H₇: Those activists who are isolated from metropolitan areas will have more negative views of the environment in general than activists who are not so isolated.

H₈: There is a negative relationship between activists' isolation and their evaluations of current local environmental conditions adjacent to a site of environmental controversy.

H₉: There is a positive relationship between activists' isolation and their predictions of favorable outcomes regarding local environmental controversies.

The Case of the Beartooth Alliance as a Field Study

The Beartooth Alliance represents an excellent source of information regarding the unified influence of social and cultural forces on environmental thought and communication. Its members represent a range of ages, economic empowerment, and proximity to the focus of activism; the isolated nature of the controversy magnifies the conflict; what the group opposes is the major priority for a number of national organizations such as American Rivers. And the conflict symbolically represents something more than simply an environmental spat on the threshold of a national treasure. As the Congressional Research Service (1987) reported, the greater Yellowstone ecosystem represents "an area replete with virtually all of the classic natural resource development conflicts in the West . . . in a setting deemed very special by Americans" (p. 2).

Background.

In 1988, Crown Butte Mines Incorporated successfully petitioned the State of Montana and the United States Forest Service for the right to explore for and recover gold in the New World Mining District adjacent to Yellowstone National Park. The New

World Project involves the literal hollowing-out of a mountain less than three miles from the park boundary in order to develop possibly the greatest gold-strike of the century. Unfortunately, a project the size of that envisioned by Crown Butte will result in immense, possibly disastrous regional changes. For example, pH-levels in water runoff from what some government personnel have called "the mine from hell" could approach 2.0 (i.e., about the strength of gastric acid) threatening downstream ecosystems in rivers protected under the Wild and Scenic Rivers Act. And, without a doubt, the residents of nearby Cooke City will experience radical changes in their lifestyles as the population blooms and access is denied to traditional venues for backcountry recreation.

Shortly after Crown Butte began reconnoitering the New World deposit, a small group of concerned Cooke City residents met to assess the impact of the mine on their community. Subsequently, this group evolved into the Beartooth Alliance bringing together ranchers, business people, and occasional visitors to attempt to mitigate the changes and threats occasioned by the mine. But it quickly became obvious that the grassroots group could not compete with a major corporation supported by development-minded administrations. Crown Butte had the finances, government connections, and media savvy to stymie Alliance members at almost every juncture; those legitimately concerned with issues such as water quality and economic displacement felt themselves increasingly excluded from the policy making loop and facing the very real risk of having their environment substantially degraded. And, despite the fact that the Beartooth Alliance has drawn increased media attention from outlets such as *The New York Times* and has been able to delay the actual construction of the mine, the goal of stopping the project remains elusive. Crown Butte is now moving forward through the Environmental Impact Statement process and the company currently anticipates it will begin mining in early 1996.

Respondents and Methods.

In the summer of 1992, roughly one-quarter of the Beartooth Alliance ranging in age from 28 to 79 ($n = 21$, $M_n = 52$, $M_d = 54$) were interviewed and then asked to complete a series of evaluative scales designed to measure their allegiance to either dominant or emergent environmental orientations. Of the sample, 62% were male and 38% were female; 73% percent possessed at least a college degree and a substantial number had gone on for advanced study. The place of residence identified by the informants was closely divided between Cooke City, other areas in Montana, or other regions of the United States. Notably, since we were largely interested in making generalizations about Beartooth Alliance as representative test case, the

power of this study to observe significant population differences is greater than it might at first appear given the seemingly small sample size. Furthermore, a history of studies (e.g., Cantrill & Chimovitz, 1993; Kuhn & Jackson, 1989) suggest that the scales we employed are highly reliable indicators of cultural allegiances regarding environmental beliefs.

Using open-coding methodologies (Strauss & Corbin, 1990), we examined more than 30 hours of audio recordings to focus on the valence of respondents' beliefs regarding (a) general social and environmental conditions in the United States, (b) current conditions in the Cooke City - New World Project region, and (c) what the future holds for the area. In order to capture as much detail as possible, and so we could ensure that a respondent's comments were heard in the context of their overall impressions, we used audio tapes to conduct the codings rather than verbatim transcripts. Consequently, we took into account various paralinguistic features when categorizing a set of statements as being relatively optimistic, neutral, or pessimistic. This, in of itself, may have contributed to the relatively high intercoder reliability of these codings (i.e., Cohen's kappa = .86).

After transforming the codings to numerical scores and including responses to the attitude scales as well as information referencing age and residence, the data set was statistically analyzed in a number of ways. Specifically, we calculated the degree to which a person's scaled responses were integrated by using Barton and Parsons' (1977) procedures for measuring belief system structure (see also, Cantrill & Chimovitz, 1993; Van Liere & Dunlap, 1983). We also established a person's relative commitment to either environmental orientation by subtracting her or his mean "New Environmental" score from the paired mean "Dominant Social" score; the greater the residual, the more the person could be seen as being committed to traditional values of progress, financial success, technology, and the like. In turn, we employed (a) analysis of variance to explore the relationship between age and residential proximity to the New World Project and Beartooth Alliance members' allegiance to and integration of either dominant or emergent world views and (b) nonparametric tests of independence to check if members' perceptions of general and local socio-environmental conditions were contingent upon where they usually resided.

Results and Interpretation.

The relationship between demographic factors and general world views. No main effects were observed regarding the influence of residence (H_1) or age (H_2) on Alliance members' commitments to either dominant or new environmental world views. However, there was a marginally significant effect on

allegiance to an environmental orientation when examining the interaction between these two variables ($F(1, 15) = 3.331, p = .087$). Specifically, among those who live year round in Cooke City, older Alliance members seem to be more committed to traditional values such as "progress" than their younger associates. On the other hand, relatively young members who live in Montana yet do not reside near the New World Project appear to be the least committed to an emergent environmental orientation, especially in comparison to either older members or cohorts who own property in the vicinity though do not live there.

When we considered the extent to which Alliance members' belief systems are integrated (i.e., how consistent individuals are in favoring traditional and/or new orientations toward the environment), residence (H_3) and age (H_4) again only exerted marginal effects on attitudes. Older members seemed to harbor greater attitudinal inconsistency while younger members tend to exhibit more integrated belief systems ($F(1, 15) = 3.090, p = .098$). Alternatively, those who live or summer in Cooke City exhibited more tightly knit cognitions than members who live elsewhere in Montana ($F(2, 15) = 2.820, p = .090$); there may be an association between spending extended periods near the proposed mine and the extent to which one's beliefs are consistent with one another.

Although we did not find support for H_5 when considering the combined effects of an age and residence on the correlation between allegiance and integration of beliefs, controlling for the effects of age differentials in the Beartooth Alliance resulted in a moderate, negative association ($r(18) = -.39, p = .046$). Those members of the Alliance with the most inconsistent attitudes are the same individuals who seem most committed to values of the dominant social paradigm. Thus, in general, where a person calls "home" is more reliably associated with environmental postures and beliefs than is age; also, those who "live" closer to a potential environmental crisis seem to reflect the most consistently pro-environment stances. Of course, this conclusion must be tempered by the fact that most of these findings are marginal in nature and more prone to empirical error.

The relationship between demographic factors and localized perceptions. In listening to members comments regarding their situation, it becomes clear that there are substantial differences in Alliance perceptions that depend on one's residential proximity to the New World Project. For example, the transient and recreational real estate holding Beartooth Alliance members seem resigned to the eventual licensing of the mine and believe that it is "a lead-pipe cinch," that "[t]he issue of mining will never go away..." and cite

a variety of very practical reasons why the New World Project will become operational. More than half of the seasonal membership identified a financial warrant for the mine:

...they're going to get in and work to do it, just to have a job. But I just see, I see the economics hurt people. How are they going to pay the utility bill next month? You know, what am I going to do? People have to live and they have to have food. You know, that's your necessity and they're going to say 'Environment, gosh I'm sorry, I love it, but how's [the] family going to eat?' How are they going to make it? So, I think the environment's suffering for it.

In essence, the financial rewards of renewed mining overshadow other negative considerations because the people who will make the decisions about the project only respond to wealth-oriented appeals. "Most Montanans come from an attitude that's -- it's a very conservative attitude -- come from a conservative economy (basically agriculture based) and they're totally job oriented based on some--on, on--on a past that's all they've ever known like mining. ... it's a mind set [and] it's difficult to educate them."

In contrast to the rather discouraging prospectus embraced by non-residential members of the Beartooth Alliance, their local counterparts are much more upbeat in thinking about the future. If there is one term that could consistently characterize the Cooke City resident's expectations it would be "hope." It is this sense of optimism, which is so distant from the perspective noted above, that compels a very different symbolic construction. "The future depends on what happens with the mine and the unity of the core members. We can beat this thing. We can pester the company to death or at least stall 'em till the price of gold goes down and it ceases to pay 'em a profit." And, even when accepting the frustrations associated with trying to inform citizens and legislators about the social and ecological threats posed by the New World Project, the pervasive buoyancy of residents' expectations is readily apparent; as at least one local leader of the Alliance put it:

I'm not going to say it's been easy or that we've got the mine on the run or that everyone is going to rush out and riot in order to prevent it. We still have a long way to go and I'm sure that they think they've pretty well got the E.I.S. all sewed up. But, you know, it's amazing how far we've come in such a short time. Sure it's been hard, real hard to get folks to, to understand the problems we have here and more than once

I've wanted to simply grab someone and give 'em a good shake. But slowly, most people are getting educated. That's why we've started these house meetings; so those who come up here in summer will know what we're doing and why we're so against the mine. . . . If we can keep this up through the next year or so and if whoever takes over for [the current chair of the Beartooth Alliance] can keep his cool and not get frustrated, . . . I think we really do stand a chance of convincing the government that, in this time and place, this mine really is a terrible idea.

The qualitative differences observed in Alliance discourse, when coded in terms of how optimistic, neutral, or pessimistic they appear to be, also reveal robust and statistically significant associations between where someone lives and how the environment was described. Those living in Cooke City had more negative views of (H_0) society ($\chi^2(20) = 30.868, p < .001$) and (H_1) the environment in general ($\chi^2(20) = 14.656, p = .005$) than Alliance members who merely "vacationed" in the region. Additionally, whereas those members who lived in Cooke City uniformly expressed negative impressions of what was going on in the area in the summer of 1992 (H_0), those who only visited or lived for the season were more upbeat in their assessments ($\chi^2(20) = 14.896, p = .005$). And, as reflected in the discourse extracts above, this pattern of positive and negative valence in beliefs was reversed when anticipating future conditions (H_2); the local membership generally was quite optimistic in predicting that Crown Butte would fail to secure a mining permit in the wake of Beartooth Alliance efforts while those did not reside in Cooke City expressed pessimism ($\chi^2(20) = 19.016, p < .001$). Furthermore, throughout our analyses, the strengths of these associations were fairly high with contingency coefficients ranging between .64 and .77. Thus, we can reasonably conclude that one's impressions pivoted upon the axis of residence.

World Views, Views of the World, and Grassroots Discourse

Despite the fact that we must be very tentative in extrapolating the influence of culture on perception and discourse from a set of marginally significant findings, a number of subsidiary analyses and observations suggest that an economic argument could account for observed differences among Alliance members' comments. Across the sample, greater variance was found in respondents' attitudes regarding elements of the new environmental paradigm than was seen in their responses on the dominant social paradigm scales

($t_{paired}(20) = -5.25, p < .001$). Thus, and compatible with what Cantrill (1993) argues, we can assert that even at the level of grassroots environmental activism, people remain largely shackled to traditional values, including those linked to financial prosperity.

In combination with the results of the nonparametric tests, which show the most dramatic effects for those who live in an almost subsistence economy, we may be seeing in our analysis of environmental attitudes the passing of an unseen handful of financial values. As elaborated upon in a separate, ethnographic analysis of the controversy (i.e., Cantrill, in press), those wealthy enough to afford the luxury of a vacation home in the Rockies may implicitly accept that "progress" is inevitable and may be satisfied with what they have; those who are not so financially empowered may only be able to turn to the natural environment, currently besieged though conceivably salvageable through perseverance, for a sense of wealth. Given the pervasiveness of traditional economic values, it should not come as a surprise to find that those who have benefited from prosperity would recognize a variety of tradeoffs between seemingly inevitable development and environmental security while yet embracing the values of an organization opposed to traditional measures of progress. Those living on the edge of the economy would not face such contradictions, would speak with disdain about the accouterments of development, and would expect that they might change things if only they tried hard enough.

In a more general sense, cultural allegiances such as those examined here can become a potentially divisive agent for erecting different meanings for different people in different circumstances. In discussing matters of common interest, individuals participate in the life of grassroots politics which either reinforces the dominant world view or distances that group from mainstream society (Fraser, 1990). Nonetheless, as Carbaugh suggests (1988), it is not unusual for the discursive systems of these groups to appear internally inconsistent (e.g., the membership might both reject yet seek the same values of the dominant public); though the language community is more or less shared, the meanings members attach to their seemingly contradictory impulses may radically differ from one another.

Clearly, environmental problems and their associated discourses find some commonality of origin and inertia in the cultural disposition of a society (Devall and Sessions, 1985). But we should not expect that the allied members of a particular group will necessarily be alienated from all tenets of society, that their discourse reflects the antithesis of the public sphere, nor that all members share the same outlook on the future. Even if we reject particular environmental

policies, it does not imply we will automatically dismiss all other such policies or the consequences they promote. As is neatly summarized in Miles' Law: "Where you stand depends on where you sit" (Miles, 1978, pp. 399-400). That is, the position one takes on an issue, depends on the dominant culture she or he generally represents.

We began this analysis by echoing the much ballyhooed assumption that the bulk of environmental communication at the turn of the century will be found in the arena of grassroots activism. In the end, we may pause to reconsider the true advantage to be had in localizing environmentalism. At least for those in the Beartooth Alliance, it seems that different levels of financial empowerment drive activists' perceptions whose *raison d'être* for affiliating with the group is to jointly oppose a potential catastrophe in the making. And it is these differences that may ultimately determine the viability or fragmentation of grassroots activism and influence how it is we communicate with one another to protect those places "deemed very special by Americans" and others on Earth.

Works Cited

- Bakhtin, M. M. (1986). *Speech genres and other late essays*. Trans. M. Holquist. Austin: University of Texas Press.
- Barton, A., & Parsons, W. (1977). Measuring belief system structure. *Public Opinion Quarterly*, 41, 159-180.
- Cantrill, J. G. (1996). Gold, Yellowstone, and the search for a rhetorical identity. In C. Herndl and S. Brown (Eds.), *Green culture: rhetorical analyses of environmental discourse*. Madison: University of Wisconsin Press.
- Cantrill, J. G. (1993). Communication and our environment: categorizing research in environmental advocacy. *Journal of Applied Communication Research*, 21, 66-95.
- Cantrill, J. G., & Chimovitz, D. S. (1993). Culture, communication and schema for environmental issues: an initial exploration. *Communication Research Reports*, 10, 47-58.
- Carbaugh, D. (1988). *American talking*. Norwood, NJ: Ablex.
- Cassidy, S. (1992). From the frontlines to the headlines: a case study of the first Greenpeace campaign. In C. L. Oravec & J. G. Cantrill (Eds.), *The Conference on the Discourse of Environmental Advocacy* (pp. 165-182). Salt Lake City: University of Utah Humanities Center.
- Congressional Research Service, Library of Congress (1987). *Greater Yellowstone ecosystem: an analysis of data submitted by federal and state agencies*. Washington, DC: Government Printing Office.
- deHaven-Smith, L. (1988). Environmental belief systems: public opinion on a land use regulation in Florida. *Environment and Behavior*, 20, 176-199.
- Devall, B., & Sessions, G. (1985). *Deep ecology*. Layton, UT: Peregrine Smith.
- Fiske, J. (1991). For cultural interpretation: a study of the culture of homelessness. *Critical Studies in Mass Communication*, 8, 445-74.
- 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 in the depths of an old swimming hole. In J. G. Cantrill & M. J. Killingsworth (Eds.), *Proceedings of the Conference on Communication and Our Environment* (pp. 227-232). Marquette: Northern Michigan University Printing Services.
- Gottlieb, R. (1991). An odd assortment of allies: American environmentalism in the 1990s. In C. L. LaMay & E. E. Dennis (Eds.), *Media and the environment* (pp. 43-54). Washington, DC: Island Press.
- Grunig, J. E. (1989). A situational theory of environmental issues, publics, and activists. In L. Grunig (Ed.), *Environmental activism revisited: Environmental activism revisited: the changing nature of communication through organizational public relations, special interest groups and the mass media* (pp. 50-82). Troy, OH: North American Association for Environmental Education.
- Hilgartner, S., & Bosk, C. L. (1988). The rise and fall of social problems: A public arenas model. *American Journal of Sociology*, 94, 53-78.
- 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. (1990). Refusal to compromise: the case of Earth First! *Western Journal of Speech Communication*, 54, 473-494.
- Miles, R. E., Jr. (1978). The origin and meaning of Miles' Law. *Public Administration Review*, 38, 399-403.
- Retzinger, J. (1992). Flooding the media to dam a river: the rhetoric of Nebraska's Tri-County Project, 1925-1937. In C. L. Oravec & J. G. Cantrill (Eds.), *The Conference on the Discourse of Environmental Advocacy* (pp. 93-106). Salt Lake City: University of Utah Humanities Center.
- Strauss, A., & Corbin, J. (1990). *Basics of qualitative research*. Newbury Park, CA: Sage.
- Van Liere, K. D., & Dunlap, R. E. (1983). Cognitive integration of social and environmental beliefs. *Sociological Inquiry*, 53, 333-341.

The National Park Concessionaire As Environmental Educator: A Case Study of Yosemite Park and Curry Co.

by Nickieann Fleener and Edward J. Ruddell

The national parks are managed under what some see as a dual and sometimes conflicting mandate: protecting park resources and providing for visitor enjoyment. Traditionally, the National Park Service has vested primary responsibility for visitor enjoyment to private businesses called concessionaires while retaining for itself primary for resource protection. One form of resource protection is providing park visitors with information about the park and its responsible use.

But, since park visitors often don't know the difference between NPS employees and concession employees, visitors ask resource-related questions of both. By providing visitors with answers grounded in a responsible-use ethic, concession employees could support NPS efforts to protect park resources. But, do concessionaires recognize their employees as valuable partners in support of protecting park resources? And, if so, how well do they prepare their employees to fulfill this role? These are the general questions guiding this study which focuses on the concessionaire as environmental educator to its employees.

The significance of this topic is evidenced throughout recent debates over major revisions to National Park Service concessions policy. While these debates intensified just after 1990, the year of this study's focus, they provide a context for this research.

First, much Yosemite specific information is included in the debates. Second, these debates outline concessionaire responsibilities. Further, from them it is clear that concessionaires are not free to prioritize these responsibilities. According to the principles which guide the awarding of concession contracts, a concessionaire's first responsibility is resource protection and preservation and its second is visitor enjoyment. (*Concessions At Yosemite National Park*, 1991).

Third, ideas about how these responsibilities should be carried out are included in the debates. For example, during the recent competition for the Yosemite concessions contract, applicants were asked specifically to outline programs designed to protect the park's resources. Further, applicants were asked how they intended to achieve a consistent quality in their interpretative programs, how they intended to ensure that their employees would be positive contributors to the park, and how they intended to reward employees for supporting the NPS mission even at the expense of

profit goals (*Yosemite Concession Contract*, 1993).

The aforementioned subjects are also specifically addressed in recent interpretations of the *1980 General Management Plan for Yosemite National Park, California* (NPS, 1980). These interpretations specifically charge the concessionaire to help convey the park's major interpretive themes through "orientation services, wilderness interpretation and backcountry permitting, and the use of souvenir items and recreational activities" (*Concession Services Plan Environmental Impact Statement Yosemite National Park California*, 1991).

Achieving such goals presupposes an educated, motivated, and environmentally sensitive work force armed with the knowledge and skills necessary to interpret the park's resources to visitors, to promote responsible use of the park's resources by visitors, and to engage in responsible behaviors themselves.

However, many concession employees are hired to perform service jobs such as housekeeping, cooking, and retail sales. Given the large numbers of individuals needed to fill these jobs and problems with turn-over, hires typically are based on an individual's willingness to do a job rather than on an individual's environmental knowledge. If members of that work force do not bring the knowledge and skills necessary to interpret the park or contribute to it in environmentally positive ways, then how do they acquire them? Given the thrust of the concessions policy debates, responsibility for making the necessary information available seems to rest squarely with the concessionaire. Thus, the likelihood that concessionaires will need to serve as environmental educators to their staffs seems high.

But, will the role of environmental educator be new to concessionaires or are they already actively educating employees about responsible resource use? If so, what form does such education take? And, is such education appropriate only for those who work in jobs directly involving park interpretation or would such education be appropriate for all employees? Providing partial answers to these questions in the form of an exploratory case study is the purpose of this research. More specifically, the research documents answers to these questions provided by Yosemite Park & Curry Company (YP&CC) and its employees during 1990. Because it is an exploratory case study conducted primarily through secondary analysis, this research is

not intended to be generalizable, but rather suggests the significance of the topic and illustrates its richness as a focus of additional work.

Method

Data were gathered through a mix of methods including document analysis and secondary analysis of field observations, and interviews. Employee interviews and field observations were conducted by one of the authors who lived in Yosemite National Park during the summer of 1990. More specifically, this author interviewed 121 Yosemite Park and Curry Company employees as part of a larger study designed to assess the impacts of relocating YP&CC employee housing. Respondents were selected by random sampling from a list of all nonexecutive concession employees working in Yosemite Valley. The researcher developed an interview guide and collected data from each respondent in separate tape-recorded interviews. Interviews were transcribed to facilitate analysis. For the purposes of this research, a secondary analysis of these transcripts was conducted. Thematic categories relevant to this study emerged from a close read of the transcripts (Holsti, 1969). Other data were gathered through depth phone interviews with YP&CC human resource and communication managers and through an analysis of printed materials generated by YP&CC.

Results

Yosemite Park and Curry Company. In 1990, YP&CC year-round work staff numbered approximately 1,000. Over half of these year-round employees had over 5 years tenure with the organization (*Concessions at Yosemite National Park*, 1991). To that year-round work force, YP&CC added another 1,100 employees during the summer season. (K. Walklet, personal communication 4/19/92).

Much of the work force performed service jobs such as housekeeping, food service, and retail sales. The average pay of these service workers was \$7.00 an hour plus housing in most cases (*Concessions at Yosemite National Park*, 1991). Employees were recruited by an appeal which stressed the opportunity employment brought to experience Yosemite's natural beauty. Environmental knowledge was not a condition of most employment (K. Walklet, personal communication, 4/19/92).

During the time period studied, YP&CC used a variety of vehicles to communicate with employees. These included orientation sessions, training programs, an employee handbook, employee newsletters, employee meetings, and flyers. Data in this section were drawn from these sources and from interviews with YP&CC employees and managers.

After arriving in Yosemite, YP&CC employees attended a one to two day orientation. The orientation was designed to familiarize new employees with the company's history, policies, and goals and to teach them basic job related skills. Attenders were also instructed to take a free tour of the Valley floor within 30 days of employment to familiarize themselves with the Park and received a copy of the employee handbook, *The Yosemite Experience* (Yosemite Park and Curry Company, 1989).

One theme which permeates the handbook is that an employee should never argue, insult, or be disrespectful toward park visitors. Another which runs through the handbook is recognition of a responsibility to protect Yosemite's natural resources. For example, as one of its goals YP&CC lists "to assist in the preservation of Yosemite National Park through enthusiastic cooperation with the National Park Service and other environmental organizations in the protection of park resources." In another section, YP&CC calls itself a "co-custodian" of the park along with the National Park Service and acknowledges "...a responsibility to protect this extraordinary natural resource."

But, what do responsibility and protection mean? The handbook tends to address this question in general rather than specific ways. For example, employees are encouraged to learn more about responsible park citizenship by attending ranger led interpretive programs. The handbook advises that an additional benefit of such participation will be the ability of the informed employee to "better serve" park visitors. The Handbook encourages employees to report "...any activities that are contrary to sound conservation principles or which are ecologically damaging to the Park" to the company's environmental consultant. The Handbook summarized National Park Service rules and regulations and told employees that they must follow all NPS rules.

In only two sections of the handbook, were "responsible" behaviors specifically defined. One of these sections set forth "a few simple rules" to avoid getting "lost, injured, or killed while hiking in Yosemite." These rules included not hiking alone or off marked trails and carrying sufficient water. Minimal impact techniques are not specifically mentioned. The other section focused on litter control and told employees not to litter, to clean up litter whenever they found it, and to recycle.

For the purposes of this research at least two omissions from the handbook have potential significance. First, the handbook mentioned classes, books, and tapes available to employees. These educational programs covered a range of topics from improving job specific skills to CPR to self-improvement. However, programs related to environmental education are not on

the list. Second, the handbook specifically lists 32 "conducts that may lead to disciplinary action, up to and including termination." These behaviors range from falsifying company records to chewing gum in public areas while in uniform. The conducts list did not specifically include engaging in any actions which were ecologically damaging.

Similar themes run through the employee publication, the *Yosemite Sentinel* which published five issues during 1990. For example, each issue contained at least one brief article focused on tips for success in different outdoor activities ranging from day hikes to backcountry excursions to winter camping. The editor described these articles as helping prepare the reader for "wanderings in the woods." The articles seemed aimed toward individuals basically unfamiliar with the activity considered and were written with a user rather than resource orientation. For example, the day hike story advised hikers to "know where you are going...take a friend...wear proper clothing...wear sunscreen...wear comfortable shoes."

Few articles specifically mentioned resource protection. For example, one story explained why it was important for employees to follow NPS regulations which forbid feeding the animals. The article advised employees to store their food properly outside their tents and to pick up all scraps while picnicking since "a single potato chip may be the first act towards the eventual destruction of the animal you wish to help." The other story advised: "Let me leave you with this last thought. Wilderness travel and survival can be done with little or no impact. Respect and love mother earth. Be gentle with our wilderness." The article did not elaborate on minimal impact techniques.

The *Sentinel* often ran stories containing information employees could use when interpreting the park to visitors, but the publication did not encourage employees to use the information for that purpose. For example, during 1990, the newsletter ran a series of articles on the origins of YP&CC. It ran an article summarizing the park's history as part of Yosemite's Centennial celebration. It interpreted for its readers the ecological benefits of the August 1990 fires which closed the park. And, the newsletter traced the history of YP&CC's interpretative programs and outlined the company's current interpretative services.

In addition to the handbook and the *Sentinel*, YP&CC regularly used flyers and meetings to communicate with employees. Human resource personnel reports and field observations indicate the meetings tended to focus on communicating policy or hearing employee concerns frequently tied to housing inadequacies. These meetings were clearly not intended to nor did they convey information which would help employees more effectively interpret the

park or use the park's resource in a more responsible manner.

Likewise, few flyers featured environmentally related messages. Most conveyed information about regularly scheduled recreational activities such as softball games, films, and Tae-Kwon-Do classes. Others announced special events like a frisbee clinic, and Christmas dinner. Only the flyers which summarized Earth Day celebrations contained environmentally related messages. The flyers encouraged employees to spend the morning picking up trash and exchanging that trash in the afternoon for a free "environmental bar-b-que" dinner.

Thus, YP&CC seems to have done little during the time period studied to specifically educate employees about how to protect the park's resources nor systematically monitor employee impacts on those resources. Even messages which could have easily incorporated specific information about minimal impact failed to do so.

Employee data. Employee interviews indicate that most YP&CC employees were drawn to the park by a desire to experience the area's natural beauty. One employee put it this way "Most people that are in Yosemite did not come to Yosemite to work for Curry Company. They came to Yosemite because they're either climbers, they're fisherman, they're hikers, they're just outdoors people. They just love nature. They love the park." Another said "the major benefit of working in Yosemite is living in Yosemite and enjoying the environment around us." Another said simply "I love the park and my recreational activities here."

Most of those interviewed reported they regularly engaged in one or more outdoor activity in the park. While a majority took day hikes, other popular activities included biking, climbing, camping, skiing, and running. The transcripts indicate that respondents both continued to participate in activities they were familiar with before coming to the park and participated in new activities.

Respondents also equated love of the park with a high value for the environment. One respondent put it this way "...in Yosemite the value system for the environment is so high that we are highly critical of a beer can along the side of the road." When asked about impacts of relocating employees out of the valley, one respondent observed "Yosemite Valley's a beautiful place to live. It would be hard to give it up, but you'd like to think that if it's for the good of the park, then it's worth it."

While there is a strong sense in the transcripts that individuals who participated in outdoor recreation felt they personally respected the environment, they did not believe all YP&CC employees did likewise. One

described the situation this way "there's a lot of [employees] who appreciate where they are, but there's a lot of employees who never look up at Half-Dome. Who open up their pop cans and throw them out. I've seen them, people on hikes, who eat their candy bar and their soda can and just drop it on the ground, in the middle of the wilderness, far far away from any garbage can, and it's like, excuse me. Do you know where you are, I mean, we're in a park here and you have to pick up after them." Another said that YP&CC employees were damaging fragile habitat by irresponsible mountain bike riding. She said that one afternoon she sat for three hours on the edge of the river and counted 37 mountain bikes operated by YP&CC employees cutting through a fragile meadow habitat across the river to get to work on time. Another criticized one group of employees as "drugged-out people" who liked loud music and didn't care about the environment. Another commented that the "summer people, maids, people from the inner cities have no idea what they're messing with" and have a tendency to "just trample the place."

Most indicated that park visitors looked to YP&CC employees as sources of information about the park and activities whether the employees were on duty or not. In fact, many expressed frustration with not being able to "escape" the seemingly endless barrage of "stupid" questions. One said it really bothered her that even if she was on break or eating lunch as long as she was in uniform, tourists felt free to ask her questions. Several indicated that during off-duty hours they actively tried to hide their employee status because they didn't want to have to answer tourist questions. One said he didn't let visitors he spoke with during off-duty hours know he was an employee because "...when they find out I work here, they start asking me questions." Several indicated they didn't mind answering people's questions while they were participating in recreational activities as long as the interaction was framed as participant to participant rather than as visitor to employee. One respondent explained it this way "I run into them [visitors] sometimes when I'm climbing and they'll ask me questions, but at that point they don't know I'm an employee, I'm just another climber, so that's okay. I just try to let them do their thing, enjoy their stay in Yosemite."

Others indicated they were happy to answer tourist's questions even if they were off duty. One put it this way "...if I walk to the store or something when I'm off work, people ask me questions and even out of uniform I answer questions. I am a customer oriented person so if anybody needs anything even if I'm off the clock, I will help them." Most indicated that "help" meant giving directions or suggesting activities. However, some viewed off-duty interactions as a chance to do

more than just give directions. For example, one said "When the opportunity arises, I might give them anecdotes about the park or history or things I know. I share my own perceptions of the park and its beauty with them, that kind of thing. It's not official. It's really kind of unofficial, ambassadorial type of thing because I love this place."

Thus, overall two major themes emerged from the employee transcripts: employees are heavy users of the park's resources and employees have a high level of interaction with park visitors. While the transcripts do not often reflect even an employee's self-reported skill level or environmental ethic, two things of import to this study do emerge. Employees do not mention any way in which YP&CC facilitated their participation, helped them improve their skills or monitored their impact on the environment. In fact, some employees reported that other employees engaged in activities which impacted the resource in a negative way. Virtually all those interviewed reported a high level of interaction with park visitors. Many of these interactions were not job specific.

Discussion

The study indicates that concession employees may well be an under utilized and largely untapped resource available to support concessioner efforts to protect park resources. The study suggests this potential exists because concession employees are heavy users of the park's resources and because regardless of their job or their duty status, concession employees are considered by park visitors to be sources of information about both the park and activities. The concession studied did little to actively tap this resource.

For example, the concession employees studied were heavy resource users. They engaged in activities they were familiar with before coming to the park and they took up new activities. Whatever environmental ethic they brought to the activity, they brought to the park with them or learned from each other. That is, the concessioner seems to have done little to specifically influence the manner in which its employees used the park's resources during their off-duty hours. Other than general messages about respecting the environment and responsible use, the concessioner made little specific information available about how to engage in activities in ways which were not ecologically damaging.

The need for such information is further evidenced by employee reports of other employees abusing the resource. Given that environmental knowledge was not a condition of employment for most service workers, the presence of employees with little to no outdoor experience seems likely. The few printed messages offering advice on activity participation seem to have

been targeted toward this group. However, given that seasonals would receive only the handbook and one or two issues of the company publication, such messages seem inadequate for the task. Even year-round employees exposed to all five issues of the *Sentinel* would have learned virtually nothing of minimal impact techniques from the publication. Plus, only employees who read the publication could be influenced by the information it contained and given the absence of readership studies it is impossible to assess how many employees actually read the newsletter. Further since park visitors seemed to ask concession employees questions about the park and activities whether the questions related to the employee's position or not, concessionaires would be ill-advised to ignore even seasonal service workers as targets for and conveyers of environmental messages.

Interestingly enough, the concessionaire studied could have more effectively communicated information about responsible resource use at little additional cost by simply redirecting the communication vehicles it already had in place. For example, in addition to self-help tapes available for free loan, environmental education programs could also be made available. In addition to or instead of frisbee clinics, clinics focusing on activities which more directly impact the resource could have been conducted. In addition or instead of some of the other classes offered free to employees, activity specific classes could have been offered. Flyers and other print vehicles could easily have been used to convey more environmental information. Employee meetings could also have included more environmental information.

This is not to say that in more actively assuming the role of environmental educator, concessionaires will not have to re-orient themselves in some ways. Most certainly the development and execution of educational programs will more than likely involve the expenditure of time and money. However, the more difficult change suggested by the orientation of the concessioner studied may well be at the value level. That is, sometimes the two major themes expressed in the employee handbook, responsible resource use and employee never appearing to be disrespectful to guests, are incompatible. This incompatibility may be what the NPS has in mind when it asks concessionaires how they intend to reward employees for supporting the NPS mission over the profit motive. For example, it is easily conceivable that in order to protect the resource, an employee observing either a park visitor or another employee engaging in ecologically damaging behavior might need to intervene. Even if interventions are done tactfully, they might be viewed by guests as rude or disrespectful behavior. Under the guidelines followed by YP&CC during the time period studied, rather than

intervening, employees were instructed to report negative behaviors to the company environmental officer. In many instances, not only would resource have been damaged, but also an opportunity to educate the party involved about more appropriate behaviors lost.

This discussion should not be construed as criticism of Yosemite Park and Curry Company's efforts on behalf of the environment. Much evidence of company efforts to conduct its operations with the environment firmly in mind and to support the NPS by offering interpretative programs exists. However, the study does suggest that the company had not seemed to have firmly linked its stated goal of park protection with its awareness of its employees as both heavy resources users and sources of information. The fairly truncated fashion in which the company played the role of on-site environmental educator to its employees would probably not have yielded the educated work force necessary to optimize the vision expressed more recently by the National Park Service. Given this vision and the findings of this study, the role of national park concessionaire as environmental educator to its employees seems a ripe topic for increased scholarly consideration and discussion.

References

- Concessions at Yosemite National Park: Oversight Hearing before the Subcommittee on National Parks and Public Lands of the Committee on Interior and Insular Affairs, House of Representatives*, 102nd Cong., 1st Sess. 1 (1991).
- Holsti, Ole R. (1969). *Content Analysis for the Social Sciences and Humanities*. Reading, MA: Addison-Wesley.
- National Park Service (1980). *1980 General Management Plan for Yosemite National Park, California*. Washington, DC: GPO.
- National Park Service (1991). *Concession Services Plan: Environmental Impact Statement Yosemite National Park, California*. Washington, DC: GPO.
- National Parks: Should parks limit visitors or try to meet demand? (1993, May 28). *The CQ Researcher*, 3, 458-479.
- Yosemite Park and Curry Company (1989). *The Yosemite Experience*. Yosemite: Yosemite Park and Curry Co.

Raising Awareness and Stimulating Local-Level Groundwater Protection: The Groundwater Education in Michigan (GEM) Program

by Ruth Kline-Robach

How does one raise awareness of a resource that is inherently difficult to understand, and, once awareness is raised, stimulate activities that will protect that resource? Findings of projects participating in the Groundwater Education in Michigan (GEM) Program help in understanding the most effective methods of increasing awareness of groundwater and stimulating groundwater protection activities at the local level. This paper will share the lessons that have been learned about communicating groundwater issues and concerns.

Introduction

About half of Michigan's nine million residents rely on groundwater as their sole source of drinking water. Nevertheless, given the abundance of surface water throughout the state, citizens' awareness of groundwater has historically been low. Concerns about a safe supply of drinking water for present and future generations prompted the creation of the Groundwater Education in Michigan (GEM) Program in 1988, which was initiated through a unique partnership between the Institute of Water Research (IWR) at Michigan State University (MSU) and the W.K. Kellogg Foundation in Battle Creek, Michigan.

Developed to explore opportunities for changing the way Michigan citizens think and act about groundwater, GEM Program goals have included: 1) increasing public understanding of the groundwater resource and; 2) promoting individual and broad community involvement in developing groundwater protection initiatives.

Since GEM's inception, more than 35 local and regional projects have been initiated. Individual project goals have ranged from the development of groundwater education curricula for school children to assisting communities in the development of local wellhead protection programs. GEM grantees have included many diverse organizations, including local groups such as nature centers and health departments and regional organizations such as watershed councils and councils of government. Six Michigan universities serve as GEM Regional Centers, and provide technical and program support to the local projects, as well as undertake individual groundwater protection projects.

From 1988 to 1990, the Program's priority was enhancing *groundwater education*. As projects were initiated throughout Michigan, citizens learned more about the fragile nature of groundwater and the need to protect its quality. In 1990, to capitalize on the enthusiasm and commitment generated by local GEM projects and to address the increasing number of environmental contamination sites in the state, the focus of the GEM Program was expanded to include community-based *groundwater protection* projects, to help empower communities to maintain quality drinking water supplies through specific, action-oriented activities.

The Program has resulted in a heightened awareness of groundwater across the state and a better understanding among citizens of the relationship between their actions and the quality of the environment, particularly groundwater. However, GEM project leaders faced particular challenges throughout the initiation of their activities.

Although Michigan is a groundwater-rich state, the unseen, unheard nature of groundwater, and the sheer abundance of surface waters in the state led to a generally low awareness of groundwater at the outset of the GEM Program. In addition, Michigan's highly variable glacial geology, as well as the site-specific variability of groundwater added to the challenge of developing a comprehensive, successful education program. Finally, even as groundwater awareness was raised, the task of moving from education to action at the local level proved a barrier for some projects.

After eight years of groundwater programming, GEM has gained valuable insight into methods for effectively addressing these concerns. Through ongoing evaluation of GEM projects as well as key target audiences, including surveys and in-depth interviews with project leaders, a number of lessons have been identified as key to successfully raising awareness of groundwater and promoting action-oriented protection projects. These lessons can be drawn upon when planning community-level initiatives to help ensure legitimate, experience-based environmental communication programs.

As a case study in environmental communication, GEM experiences have underscored the necessity of:

1) clearly segmenting a target audience; 2) identifying an "underlying motivator" for specific audiences; 3) creatively packaging the message by utilizing a variety of communications tools; 4) providing an impetus for moving from awareness to action; and 5) encouraging and nurturing a statewide network of support for local-level initiatives.

Identifying the Target Audience

The ultimate outcome of any environmental awareness activity is to stimulate within individuals a desired action or behavior. A message which is very general in nature is less likely to have a sustainable impact. GEM project representatives have found that groundwater education activities which focus on basic groundwater awareness aimed at the general public are less effective in spurring desired change, and difficult to sustain over the long term.

Rather than gearing efforts toward educating the general population, the most successful GEM projects have targeted messages toward specific groups of individuals. By doing so, a very precise, action-oriented message with which the target audience clearly identifies can be established.

Determining the most appropriate audience for a message is dependent upon local situations. A familiarity within a community is absolutely critical before designing an educational program. Some of GEM's most effective projects are those which were able to identify audiences who have the highest potential impact within a particular locale, or who can sustain actions by incorporating them into their current practices.

For example, in many Michigan communities, fire fighters routinely conduct hazardous materials inspections of small businesses. If this audience is targeted and made aware of possible groundwater impacts of hazardous materials, they can immediately incorporate this knowledge into their inspections, and maintain a groundwater perspective within their activities over the long term.

GEM projects have targeted an array of specific audiences, including K-12 students and teachers, water well drillers, migrant farm workers, planning and zoning officials, realtors, commercial landscapers, small business owners, as well as others. Each of these audiences was given a particular groundwater protection message.

What is the Message? Determining the Underlying Motivator

Once the audience has been determined, it is important to carefully package the message. Groundwater is by no means an alluring topic for most citizens. An educational program will more likely be

both effective and sustainable if an underlying motivator is identified and the program is marketed in a way that addresses it.

For this reason, GEM projects have found that groundwater education activities are more easily sustainable if they are tied in with an identifiable topic or issue which is less esoteric in nature and more easily understood by the general population.

Several GEM projects have successfully accomplished this by expanding the focus of their programming to encompass *drinking water* issues. By incorporating groundwater into a health-related issue which directly and personally impacts daily lives, the message of groundwater protection is more likely to be accepted.

The "marketing hook" which is designed to elicit attention will take different forms depending upon the audience and interests. For instance, while working with agricultural producers who routinely apply pesticides and fertilizers to their farm fields, the most effective avenue for conveying the groundwater protection message has been to stress the potential for cost savings as a result of conscientiously reading labels, testing soil and seeking technical assistance, thus avoiding the over-application of chemicals.

Similarly, the message to nursing mothers and mothers-to-be has been the potential health impacts of nitrates on infants and the importance of periodic home water testing. For homeowners, educational activities which identify household hazardous materials typically used in the home, and alternatives to using these materials have been initiated.

Sometimes the impetus for successfully conveying a message comes from grasping the "teachable moment." GEM has found some of the most attentive audiences in areas where a groundwater contamination incident has occurred. Because of this, flexibility in programming is critical, and the ability to shift priorities at a moment's notice may be desirable.

Utilizing Creative Tools

A key to successful communication throughout GEM initiatives has been making groundwater "real" through hands-on activities and creative materials. Although one single, overarching groundwater education tool does not exist, a primary instrument which has captured the interests of audiences of all ages and backgrounds has been the groundwater flow model.

This plexiglass model depicts a layered aquifer system of clay, sand and gravel, and shows groundwater movement through these different mediums as well as the interconnectedness of groundwater and surface water. Water well levels can be observed and dyes can be injected to show flow paths of contaminant plumes in different aquifers. The

model can be tailored to specific geologies to help viewers realize the local nature of the resource. Similarly, the simple use of columns of different soil types to help the audience understand concepts such as flow rates and confining layers has been effective.

Several of the GEM projects which targeted local decision makers such as township planning officials have utilized geographic information systems (GIS) as part of their educational efforts. Computerized maps which depict data layers such as local geology, surface and groundwater resources, known or suspected sites of environmental contamination, and a host of other parameters can be overlain on a site-specific aerial photograph, to help decision makers understand the potential impact of certain land use decisions on water resources. In addition, helping them to visualize the interconnected nature of water resources has led to an increased awareness of the need for intergovernmental communication and cooperation.

Interactive computer programs which utilize multimedia technology, videos, drama in the classroom, groundwater songs and festivals are examples of other communication methods that have been successfully utilized by GEM projects to reach particular audiences.

Moving From Awareness to Action: A Local-Level Focus

Educating individuals is easier than initiating action. As awareness of the resource is raised through market segmentation and the use of creative tools, the next step in an environmental communication program is to inspire individuals to act upon their newfound knowledge.

As the GEM projects have matured, it has become evident that people, not technology, act as the catalyst for community change, and the ownership for a sustainable community is more likely to come from those individuals who live within it. A solid emphasis on individuals will help to build a sense of ownership, and lead to strong, self-directed and motivated local leaders.

Experience within GEM has also shown that activity at the local level represents the most significant and sustained cache of power to protect groundwater quality. Since groundwater by its very nature is a localized, site-specific resource, the most successful efforts have focused at the local level and targeted individuals who best understand the local resources.

An excellent example of a community-based groundwater protection activity is Michigan's Wellhead Protection Program. In this proactive program, community members are encouraged to work in teams to protect municipal supplies of groundwater from potential contamination through long-range planning

and management. Participants in the program range from local agency representatives to water supply personnel, from teachers to retired volunteers.

In agricultural areas of the state, farmers are being asked to assess the potential impacts of their activities on groundwater quality by utilizing a confidential, voluntary self assessment package. K-12 educators are being encouraged to institute long-range monitoring of local rivers and groundwater resources with their students. Regardless of the audience, a specific, action-oriented goal should be supported.

It may be that taking the time to listen to people within a community, and incorporating their concerns, desires and needs into groundwater projects is all that is needed to spur local-level participation. In one Michigan county, a number of scientific groundwater and surface water studies are currently underway, and a GEM project has served to complement the technical studies by adding the "people component."

In this photojournalism project, rural Southwest Michigan residents and their relationships with the land are profiled in a moving and unique exhibit, "Love of the Land." Changing the focus of local discussions from environmental issues and tasks to people and their relationship to the land; and documenting the processes of change for individuals and communities has been the ultimate impact of the project. The award-winning project has gained the attention of many individuals within the community, who are learning to work together toward common goals.

Fostering a Statewide Network

Throughout the GEM experience, creating within the local groundwater education and protection projects a sense of a "community of interest" has been paramount to overall program success. To help ensure that the long-term goals of the projects are met, the MSU Institute of Water Research has facilitated communications among the organizations involved with groundwater projects, including planning annual "networking conferences," producing a newsletter to highlight project activities, and assisting in the marketing and dissemination of GEM materials.

The GEM logo has been used statewide on products and materials produced by GEM projects. The logo, which is visually appealing and easily identifiable, has helped to provide a sense of participation in a larger program and given local projects the feeling of ownership in statewide activities.

Projects have also been encouraged to share experiences via GEMNET, a user-friendly, menu-driven, PC-based electronic mail and Bulletin Board System (BBS). The system offers a cost-effective means of sharing information and resources.

Collaborative relationships have also been helpful in

establishing a sense of community. GEM projects have successfully worked with a variety of local, regional and state organizations. Not only have these partnerships allowed the projects to increase awareness and recruitment for events, but they have also helped to avoid a duplication of efforts and increased the likelihood of success by adding credibility from multiple sponsorship.

Summary

Raising awareness of groundwater and encouraging Michigan citizens to take action to protect groundwater quality have been the overall goals of the GEM Program. A variety of groundwater protection messages and tools have been used by GEM projects to impact a number of different audiences. By encouraging commitment at the local level, and supporting information sharing among organizations throughout the state, GEM has helped to increase awareness of groundwater and foster the development of a number of community-based, action-oriented groundwater protection projects.

Recasting the News Net: A Case Study of Environmental and Technical News Reporting at Four Alabama Newspapers

by Janice T. Pope

Introduction

Most studies of the news creation process have examined the process either of a single newspaper or of typical beat reporting at several newspapers. By contrast, this study examines a type of specialty reporting—environmental, medical, and science reporting (referred to hereafter as technical report)—by six reporters at four daily newspapers to examine whether the highly specialized subject matter of these beats influences the way in which these reporters define and frame events as news. The reporters' classifications of their news stories as hard, soft, spot, continuing, or developing news; the scheduling of the events that were the subjects of their news stories; and the reporters' use of news sources were the focus of this investigation. This study is based on Tuchman's (1978) metaphor of a net to describe the organization and process of news collection by the modern press in America. The news net serves as a temporal and spatial framework that guides reporters in the regular and orderly selection of occurrences as news.

Literature Review

The News Net.

Protection of the news organization and accomplishment of organizational tasks within the required production timetable are the two main (economically grounded) imperatives that have resulted in a news net, according to Tuchman (1978). The net serves the news organization's imperatives by allowing news workers to routinize news production so it is manageable, efficient, and profitable. The news net evolved simultaneously with the press's development of the news net were economical, rather than philosophical or doctrinal (see also, Schudson, 1978).

The news net imposes temporal order on the everyday work routines of those in the news room. It helps reporters and their editors make the most of each news day, as well as each news week, by guiding them to locations where they are likely to find "news" events, and by defining the process of transforming occurrences into "news." From the news organization's perspective, this harnessing of occurrences into a framework is vital, for without some frame for defining occurrences as news events, news workers would be

operating in a state of uncertainty with no guidelines for the successful performance of their tasks.

By definition, a social frame excludes certain social phenomena, making it easier for humans to define and cope with the task of everyday living. But in providing a framework for the news workers' use of resources and time, the news net results in a frame that "is intended for big fish" (Tuchman, 1978, p. 21). This has the effect of creating "holes," where no news is collected. What is caught in this net is information that comes from powerful, established social institutions which have an interest in how events are portrayed as news.

The first element of the news net framework, the spatial construction, is achieved by placing reporters at legitimated institutions where they can expect to find news. Occurrences are more likely to be called "news" if they happen where reporters can witness them or where it takes the reporter little effort to find out about them. While the process of centralization of news sources serves the news organization's goal of quick, efficient news collection, it also increases the importance of the role of these centralized sources in defining and influencing what is reported as news. Further, the reliance of news reporters on interviewing as primary information-gathering technique, rather than on a knowledge of the content of areas they cover, reinforces their dependency on official sources (Sahr, 1993).

The news net's emphasis on spatial centralization results in a hierarchy within the news room, based on (perceived) reader interest areas (Tuchman, 1978). The more established beats, with more established (centralized) news contacts and investments in time and money, are awarded to the more established reporters, with reporters competing among themselves for prominent placement of their stories in the paper (commonly referred to as "good play"). Therefore, the status of the reporters in the news net partially determines whose story is identified as the most "important" news. Tuchman explains, "The news net imposes a frame of occurrences through the cooperation of the complex bureaucracy associated with the dispersion of reporter" (p. 25). Relationships among editors and between them and their reporters

influence where stories are placed in the newspaper and in turn, the perceived importance of those stories by the public, who remains largely unaware of the process of news production (Soloski, 1989).

The news net is achieved, however, through more than just centralization of news sources: it is the linking of time and space together in the daily accomplishment of news work that produces the news net. So no only does "news" occur at certain places, it also occurs at certain times of the day. "Or, at least, the rhythm of news work is designed to catch those occurrences that happen at the appropriate time in the appropriate place" (Tuchman, 1978, p. 40). Accordingly, most news stories are collected on week days during "business" hours.

The news net is accomplished through the process of typification of news stories. "Typifications are classifications arising from practical purposive action" (Tuchman, 1978, p. 46). In other words, typifications are more than categories imposed on news workers by social researchers (second-order constructs); they are the working classification scheme news workers use (first-order constructs) to characterize occurrences so that can smoothly plan their work days, as well as offset the pressures of deadline and potential intra- or extra-organizational criticism. News workers typify occurrences as news as an organization process, not as a professional practice (Tuchman, 1978).

Tuchman (1978) identified five basic typifications based on reporters' and journalism textbooks' classifications of news stories: hard, soft, spot, developing, and continuing. She asked the reporters in her study to define them terms and found that there were four *practical* issues involved in news organizations' governing of the news flow through typifications: scheduling of the event (i.e., whether it is prescheduled, nonscheduled, or unscheduled), urgency of dissemination (whether the news story must receive publication within 24 hours), the effect of technology upon perception, and facilitation of future predictions.

Scheduling of the event is concerned with how the subject of a news story comes to the reporter's attention and is closely tied to the second category, urgency of dissemination. Events and issues may be unscheduled, nonscheduled, or prescheduled. Unscheduled events/issues are those which occur unexpectedly, such as fires, deaths (sometimes!), or natural disasters. Dissemination of this information must also occur within 24 hours in order for it to still be "news". Prescheduled events are those announced ahead of time by their conveners, such as city council meetings, debates, news conferences and so on. Information about prescheduled events also must be disseminated within 24 hours. Nonscheduled events/issues are those which do not require dissemination within 24 hours.

Together these two issues, scheduling of the event and urgency of dissemination, most influenced reporter's typifications of news as hard or soft. The latter two issues--the effect of technology upon perception, and facilitation of future predictions--involve the organization's allocation of resources and control of the work flow and influenced most the distinction of events as spot, developing, or continuing, which are all hard news typifications.

Throughout her study of how reporters solve their practical work problems, of how, through their social negotiations, they arrive at sets of procedures for framing occurrences into news, Tuchman (1972, 1978) focuses on traditional beat reporters. As she points out, these reporters have established, centralized sources and routines. Her emphasis on traditional beat reporters leaves unanswered the question of how reporters on less traditional beats arrive at their definitions of news. Is the news net the same for these specialized beat reporters, or are the imperatives of the news organization different for these beats, resulting in different work routines? If these imperatives are different, then how are the resultant definitions of news affected? These questions form the heart of this investigation into the routines and practices of technical news reporters.

Technical News Reporting.

Technical news beats were chosen as the focus of this study because of their relatively recent history of newspapers and because of the complexity of the subject matter that they cover. These beats, composed of some or all of the following--environment, energy, medicine, science, health and technology--are concerned with some of the most compelling and interrelated quality-of-life issues present in Western culture. Reporters who cover these areas deal with ever-changing, ever-growing, and increasingly specialized scientific, medical, and technological fields. The occurrences, phenomena, and terminology associated with these fields are not always easily understandable to the so-called scientific layperson, be that layperson a reporter or newspaper reader. At the same time, the gap between scientists and reporters is widened by the scientists' increasingly skeptical view of the media and the media increasing criticism of science after decades of passive acceptance. (Logan, 1991).

As many scientific, environmental, and medical issues have taken on national, political prominence, the stake of the public in receiving information has been threatened by the reliance of news media on powerful social institutions, as in the case of AIDS coverage, which Rogers and Chang (1991) argue was delayed in being placed on the national agenda by both the *New York Times* and the White House. Even with the proliferation of entertainment and information delivery

systems, the news media continue to play a significant role in the public perception of reality, by setting the public agenda. A rich tradition of media research supports Cohen's 1963 assertion that the press, "may not be successful much of the time in telling people what to think, but it is stunningly successful in telling it's readers what to think about" (p. 3). Consequently, the way in which newspapers define environmental, scientific, technological, and medical issues/events as news is ultimately of great concern to the public.

The conflict between technology, lifestyle, and environmental concerns dawned in the 1960s and 1970s and was fully realized in the first massive oil spill in 1969. Earth day (1970) legitimized protection of the environment as a public concern, so that during most of the 1970s, environmental reporting was finding its "beat" on many large American daily newspapers (Schoenfeld, 1980). But during the early 1980s, as environmental reporting became "institutionalized as part of the nation's 'business as usual,' public attention drifted, as did that of many newspaper editors" (Freidman, 1983, p. 26). In fact, an assessment of the trends in environmental reporting from 1970 to 1982 found that there was a "shift across time--to relatively fewer articles on degradation and protection of the natural environment, and to more on economic and development issues" (Howenstine, 1987, p. 846). Another study of the number of reporters designated as environmental reporters by daily newspapers across the U.S. found the number peaking at 100 in the 1970s and dropping to around 60 throughout the 1980s (DeMott & Tom, 1990). Both the shift to reporting economic and development issues and the decreased number of designated environmental reporters might be explained by a trend both in the specialized reporters' use of centralized sources and by the increased number of centralized sources in environmental and technical areas.

In addition to the barriers of specialized vocabularies, rapid technological changes, and subject area specialization, technical reporters must contend with the probability that technical "news" does not happen in the same way that traditional news does (e.g. Brooks, 1990, and Sibbison, 1984, 1988). An oft-cited problem of technical reporters is that newspapers are organized to cover stories with immediate impact that originate from centralized sources, that is, events that can be framed in the traditional news net discussed earlier. However, technical and environmental news stories often have long-term impacts, rather than immediacy, and the opportunity for technical reporters to use less-centralized sources of information seems likely to exist. The availability of electronic information technology also increases the opportunity that reporters have for contacting less visible experts,

such as scientific experts who may be members of an "invisible college" (Crane, 1972). However, Hansen, Ward, Conners, & Neuzil (1994) found this was not the case with beat reporters working on breaking news, that in fact, "The organizational routines of newswork, the social location of news reporters, and the managerial considerations about deadlines and staff and resource allocations still seem to work against a broadening of the 'news net' that is cast" (p. 568).

The literature on technical news reporting suggests that there are unique problems associated with it, problems not usually associated with traditional news beats. These are: a) the relative newness of the beat(s), b) the complexity of the story subject matter, c) the lack of centralized news sources, and d) an orientation toward issues rather than events. These unique problems lead to the question of whether technical beat reporters respond to the news net described by Tuchman (1978) or whether the complexity of their subject matter and difficulty of finding local expert news sources results in a different news net. At the same time, there is the question of whether the news organizations had differing imperatives for their technical reporters or whether the imperatives are the same as those of the routine beat reporters in Tuchman's study. I assumed that the imperatives of the news organization would be evident in the reporters' definitions of news.

Method

To document the process by which technical reporters typify events as "news," I investigated the on-the-job, day-to-day work of the only six technical reporters in Alabama at the time (1988). These reporters worked on four daily newspapers: The *Anniston Star*, The *Birmingham News*, The *Montgomery Advertiser*, and the *Tuscaloosa News*. All six reporters identified themselves as either health, science or environmental reporters, as did their editors.

Three instruments were used to collect data. I initially interviewed each participant using a questionnaire that contained both closed and open-ended items, then asked the reporters to keep a detailed log of their daily technical news reporting activities during a concurrent 3-week period. At the end of the 3 weeks, I asked each reporter questions concerning how routine he felt his work weeks were during the duration of the study and how faithful he was in keeping the log.

On the self-report log, reporters were asked to note the subject of each story they worked on, the initial source and date of the story, its deadline (if any), the story classification (i.e., hard or soft, continuing, developing, spot, or other), his editor's instructions, and current work tasks as he proceeded to work on the

story, including interviewing, research, and source names.

Findings

Based on the literature, it seemed highly likely that technical reporters would use their time differently than the reporters in Tuchman's (1978) study because of the relative newness of the beat(s), the complexity of the story subject matter, the lack of centralized news sources, and an orientation toward issues rather than events. These characteristics indicated that technical reporters typically would not report on events/issues which require immediate dissemination in order to keep their value as news. Instead, it seemed that they would be likely to report on nonscheduled events/issues. Therefore, this study had predicted that technical reporters would primarily cover nonscheduled events, and according to Tuchman's findings, would classify them as soft news, or, if as hard news, then as analysis, investigative reporting, feature, or some other classification unique to the individual reporting situation. This was not the case.

Examination of the technical reporters' classifications of their stories alone shows that these reporters did not cover the classification of stories predicted. Instead, they reported that approximately 71 percent of their stories were hard news stories and only 27 percent were soft. However, when the stories were examined in light of the scheduling of the "news" event, the outcome looked somewhat different. In fact, the reporters did do a substantial amount of reporting on nonscheduled events (as predicted), but they did not classify these stories as soft news or as analysis, feature, or investigative reporting. Fifty-three percent of the events/issues the reporters covered were nonscheduled, which another 29 percent were prescheduled. Coverage of both nonscheduled and prescheduled events gives the newspaper increased control over the production of news; therefore, these findings support the study's assumption that technical reporters fill the news organization's imperative of control of the news production process.

I also expected that technical reporters would report mostly on soft news, or if on hard news, then on "other" types, such as analysis, feature, or investigative types. However, these reporters classified 49 percent of the stories as sport news and only 9 percent as "other". Tuchman (1978) reported that only stories about unexpected happenings (unscheduled events, such as fires and natural disasters) with an immediate deadline would be typified as spot news. Instead, these reporters classified stories such as the following as spot news: "Tissue expansion: a new plastic surgery technique," "Mine reclamation: a press conference," "Cooper Green advisory board--its role and

effectiveness," and "More efficient keyboard for typewriters." None of these required dissemination with 24 hours, nor did the event happen unexpectedly. Instead, based on the data provided on the reporters' logs, these reporters classified stories as "spot news" when they were writing a one-time story about which they expected no future follow-up stories.

Another unexpected finding was the correspondence between the reporters' initial classification of the story as soft or hard, and their further classification of that story as spot, continuing, or developing news. Tuchman (1978) found that stories typified as hard news were composed of unscheduled and prescheduled events requiring immediate dissemination in order to maintain their worth as "news." I expected the technical reporters' classifications to show the same relationship between scheduling and classification, although I expected they would report a high percentage of soft news and/or analytical, feature, or, investigative hard news stories. Yet, the reporters in this study considered 16 of their total 26 stories on nonscheduled event to be hard news stories, even though immediate dissemination was not necessary. Further, most of these 16 stories were not classified as news analysis or some type of in-depth reporting, as expected. In fact, all of the reporters who indicated a nonscheduled event as hard news also typified these stories as continuing, developing, or spot news, except one reporter on one story. Obviously, these reporters did not rely on scheduling for classification of stories in the manner expected.

These reporters also relied more heavily on centralized news sources than was predicted by the literature. Sixty percent of their total sources were from centralized institutions. At the time of this study (1990), this was somewhat unexpected, although the high use of centralized sources is supported by more recent studies such as Smith's 1993 study of coverage of the Exxon Valdez oil spill, in which 61 percent of the sources were from centralized, powerful institutions.

One possible explanation for this recasting of the news net by technical reporters, who considered most of their stories to be hard news stories, regardless of scheduling or deadlines, is that because hard news stories are considered to be more prestigious, these reporters perceived their work as fitting that description. Without exception, during the interview these reporters said their stories got "good play," by which they mean prominent placement in the newspaper, such as on section covers. Considering this, it is possible that story placement, or the reporters' perception of where the story would be placed, had greater influence over their classification of news than did scheduling of events/issues.

The finding that technical reporters related the spot news classification to their perception of the story event as a one-time occurrence, rather than to scheduling or deadline caused me to rethink some of the literature about technical reporters. It is possible that over time in their specialized beat, these reporters simply negotiated a new earning for the classification "spot news" because they did not consider their beat to be one that concentrates on fast-breaking events with immediate deadlines; therefore, spot news took on a new meaning related to the possibility of future stories—or lack thereof. This is logical when considered in the light of news organization imperatives that technical reporters provide the newspaper with a flexible, predictable supply of stories that have flexibly release dates in order to help control the flow of news processing.

Finally, taken together, the technical reporters' reliance on centralized sources and on nonscheduled, self-generated stories with flexible deadlines indicates that these specialized reporting beats do exist to some extent to fill the organizational imperative of smooth news production, and that this imperative influences environmental, science and medical reporters in their selection of events and issues as news. Although the news net appears to be slightly re woven by these reporters, the scope and looseness of the net appears to be much the same as it is for other beat reporters, so that the effect is still a news net that predominantly catches the information of centralized sources.

References

- Brooks, M. M. (1990, April 21). Environmental journalism. *Editor & Publisher*, pp. 20-21, 131.
- Cohen, B. C. (1963). *The press and foreign policy*. Princeton, NJ: Princeton University Press.
- Crane, D. (1972). *Invisible colleges: The diffusion of knowledge in scientific communities*. Chicago: University of Chicago Press.
- DeMott, J. and Tom, E. (1990). The press corps of spaceship earth: A trend analysis, 1968-1988. *Newspaper Research Journal*, 11(4), 12-23.
- Friedman, S.M. (1983). Environmental reporting: Problem child of the media. *Environment*, 25(10), 24-29.
- Hansen, K.A.; Ward, J.; Connors, J.L.; & Neuzil, M. (1994). Local breaking news: Sources, technology, and news routines. *Journalism Quarterly*, 71, 561-572.
- Howenstine, E. (1987). Environmental reporting: Shift from 1970 to 1982. *Journalism Quarterly*, 64, 842-846.
- Logan, R.A. (1991). Popularization versus secularization: Media coverage of health. In L. Wilkins & P. Patterson (Eds.), *Risky Business: Communication issues of science, risk, and public policy* (pp. 43-59). New York: Greenwood Press.
- Rogers, E. M. and Chang, S. B. (1991). Media coverage of technology issues: Ethiopian drought of 1984, AIDS, Challenger, and Chernobyl. In L. Wilkins & P. Patterson (Eds.), *Risky Business: Communication issues of science, risk, and public policy* (pp. 75-96). New York: Greenwood Press.
- Sahr, R. (1993). Credentialing experts: The climate of opinion and journalist selection of sources in domestic and foreign policy. In R. J. Spitzer (Ed.), *Media and public policy*. Westport, Connecticut: Praeger.
- Schoenfeld, A. C. (1980). Newspersons and the environment today. *Journalism Quarterly*, 57, 456-462.
- Schudson, M. (1978). *Discovering the news: A social history of American newspapers*. New York: Basic Books.
- Sibbison, J. (1984). Environmental reporters: Prisoners of gullibility. *The Washington Monthly*, 16(2), 27-29, 32-35.
- Sibbison, J. (1988). Covering medical 'breakthroughs.' *Columbia Journalism Review*, 27(4), 36-39.
- Smith, C. (1993). News sources and power elites in news coverage of the Exxon Valdez oil spill. *Journalism Quarterly*, 70, 393-403.
- Soloski, J. (1989). Sources and Channels of Local News. *Journalism Quarterly*, 66, 864-870.
- Tuchman, G. (1972). Objectivity as strategic ritual: An examination of newsmen's notions of objectivity. *American Journal of Sociology*, 77, 660-679.
- Tuchman, G. (1978). *Making news: A study in the construction of reality*. New York: The Free Press.

Be Blown on by All the Winds: Henry David Thoreau and the Concept of Health

by Michael P. Branch

Be Blown on by all the winds. Open all your pores and bathe in all the tides of Nature, in all her streams and oceans, at all seasons....For all Nature is doing her best each moment to make us well. She exists for no other end. Do not resist her. With the least inclination to be well, we should not be sick. Men have discovered—or think they have discovered—the salutariness of a few wild things only, and not of all nature. Why, "nature" is but another name for health....Henry David Thoreau, Journal, August 23, 1853.¹

Our culture's concept of health too often separates the health of our bodies from the health of the environment which must sustain us. Even our health-care institutions contribute to unhealthy ecological disruption by using products made with ozone-depleting CFCs and HCFCs, and by disposing of vast quantities of toxic pollutants and hazardous waste. These ecologically irresponsible practices find their way back into the health-care system; ozone depleting, for example, is linked to skin cancers and retinal damage. Even local connections between health care and the environment seem to go unnoticed; as when the effluvia from a hospital incinerator contribute to a dangerous concentration of dioxin in the local food chain. We might frame this question about human and environmental health by paraphrasing Henry Thoreau: of what use is your body without a healthy planet to put it on?

The reformist idea that human health should be conceived in terms of ecosystemic health has received eloquent expression in American nature writing—a literary lineage distinguished by such figures as William Bartram, Ralph Waldo Emerson, John Muir, Mary Austin, Aldo Leopold, Rachel Carson, Edward Abbey, and Barry Lopez. It is Henry David Thoreau, however, whose work has more powerfully shaped American assumptions about the salutary influences of the natural world. Thoreau's famous experiment at Walden Pond remains our most resonant version of the pastoral journey to nature, a venerable cultural narrative that continues to grow in significance as the ecological integrity of our environment is increasingly compromised. Indeed, Henry Thoreau's insistence that "Health is a sound relation to nature" provides one of

America's earliest ecologically-informed definitions of human health.²

Always a subject of debate among Americans, the concept of health was particularly at issue in the New England of Thoreau's day. Mid-nineteenth-century Massachusetts, in particular, was characterized by a remarkable climate of social reform in which flourished movements for abolition, women's suffrage, and temperance, calls for ecclesiastical, educational, and agricultural reform, and experiments with communal living such as those at Brook Farm and Fruitlands. Not surprisingly, the New England agenda also included health reform, and a powerful attempt to prevent America from becoming "a nation of invalids" was led by crusaders such as Sylvester Graham (of Graham cracker fame), John Harvey Kellogg (inventor of the corn flake), and William A. Alcott (brother of Thoreau's friend, transcendentalist Bronson Alcott).³ Although Thoreau was influenced by (and, to a lesser extent, influenced) such reformers, his own theory of health is distinguished from theirs by its energetic advocacy of unmediated contact with wild nature.

As a writer and reformer, Thoreau embraced health as a primary metaphor by which to examine his culture's assumptions regarding both nature and the conduct of life. It was a metaphor that carried the burden of his own struggle, with tuberculosis, which may have begun as early as 1836. There is a sense in which all Thoreau's writings are both prescriptive and proscriptive, for he attempts to distinguish not only between the important and the trivial, the essential and the superfluous, but also between the healthy and the unhealthy. Further, Thoreau's valuation of "health," like his valuation of "nature," was richly informed by aesthetic, ethical, and spiritual concerns. While dietary reformers such as Sylvester Graham ministered exclusively to the body, as while philosophers such as Ralph Waldo Emerson ministered chiefly to the soul, Thoreau argued that true health would result only from the integration of physic and metaphysics:

Good for the body is the work of the body, and good for the soul is the work of the soul, and good for either the work of other—let them not call hard names, nor know a divided interest.... The body is the first proselyte the Soul makes. Our life is but the Soul made known by its fruits—the body.

The whole duty of man may be expressed in one line,—Make to yourself a perfect body.⁴

To Thoreau, the "perfect body" was an expression of both the physical and spiritual well-being that he identified with the natural world.

Thoreau's belief that physical and spiritual health requires direct contact with nature is manifest most clearly in his own pilgrimage to Walden Pond. His experiment in wild domesticity at the pond-at experiment that environmentalists today might call "rehabilitation" because it enacts a new way of living carefully adapted to the ecological limits of the land—is an attempt to recontextualize the individual body within the body of the nature world. In Walden, he attempts to situate himself within a network of interconnected relationships:

Shall I not have intelligence with the earth? Am I not partly leaves and vegetable mould myself? What is the pill which will keep us well, serene, contented? Not my or thy great-grandfather's, but our great-grandmother Nature's universal, vegetable, botanic medicines, by which she has kept herself young always, outlived so many old Parrs in her day, and fed her health with their decaying fatness. For my panacea, instead of one of those quack vials of a mixture dipped from Acheron and the Dead Sea, which come out of those long shallow black-schooner looking wagons which we sometimes see made to carry bottles, let me have a draught of undiluted morning air.⁵

Thoreau's argument is that nature heals us because its body is intimately related to our own. The "indescribable innocence and beneficence of Nature," as he calls this healing force is explicitly conceived through images of kinship that emphasize the interrelations between human and nonhuman nature (W 138). In invoking the ancient figure of the Earth Mother, Thoreau suggests that we are her direct descendants, and he privileges her influence over that of our mortal fathers and physicians. In Walden, Thoreau often employs the metaphor of medicine to distinguish the true panacea of "sun and wind and rain, of summer and winter" from the sham elixirs of a human civilization increasingly alienated from nature (W 138).

Thoreau's *Walden* is not only a classic paean to the salubrity of nature, but also a scathing critique of the sickness induced by an increasingly urbanized and industrialized culture—what he referred to as "this restless, nervous, bustling, trivial Nineteenth Century" (W 329). Thoreau describes Walden as a sort of diagnostic instrument; he hopes the book will say

"something about [our] condition...whether it is necessary that it be as bad as it is" (W 4). His critique, significantly, centers on the metaphor of disease—the "dis-ease" of over-civilization he contrasts to the healthful "ease" of his life at the pond (W 77). The debilitating influence of society, as the "Economy" chapter of *Walden* argues forcefully, springs primarily from excessive materialism and from the unhealthy mode of living it necessarily engenders. "It is very evident what mean and sneaking lives many of you live," Thoreau upbraids his contemporaries,

...always promising to pay, promising to pay, tomorrow, and dying to-day. . . lying, flattering, voting, contracting yourselves into a nutshell of civility, or dilating into an atmosphere of thin and vaporous generosity, that you may persuade your neighbor to let you make his shoes, or his hat, or his coat, or his carriage, or import his groceries for him; making yourselves sick, that you may lay up something against a sick day. . . (W 6-7, emphasis added)

The "lives of quiet desperation" that Thoreau criticizes are made desperate by an inordinate desire for the "so called comforts of life," which he redefines as "positive hindrances [sic] to the elevation of mankind" (W 14). Thoreau's observation, which perhaps stings more in 1995 than it did in 1854, is that our exhausting attempts to ensure comfort paradoxically induce illness. Thoreau's discussion of property, for example, makes it sound a bit like a hereditary disease, one "more easily acquired than got rid of," and best treated as did the Mucclasse Indians—with a ritual purification by fire (W 5, 68).

Thoreau's diagnosis that the cause of our physical and spiritual ills lies in acquisitive behavior and alienation from nature raises his famous dictum of "Simplicity!" almost to the status of a medical prescription. More is at stake than traditional exhortations against the degenerative disease of luxury. Thoreau asserts that the confusion of desires with needs is a source of "incessant anxiety and strain," which is "a well nigh incurable form of disease" (W 11). In effect, *Walden* functions as an etiological text, a literary attempt to explore the causes of the disease of over-civilization that had beset the industrializing America of his day. Moreover, through describing his exemplary life at Walden, Thoreau clearly seeks to demonstrate the restorative influences of nature. His daily activities of bathing, walking, eating, and hoeing are basic rituals that promote sound health even as they offer moral instruction. "If, then, we would indeed restore mankind by truly Indian, botanic, magnetic, or natural means," prescribing Thoreau, "let us first be as

simple and as well as Nature ourselves, dispel the clouds which hang over our own brows, and take up a little life into our pores" (W 78-79).

Thoreau frequently objected that human culture—at least as it was figured in the archetypal "civilized" spaces of Concord and Boston—enacts a perilous process of withdrawal from the influence of the natural world. In "Walking" he contrasts his own idea of "fitness" with the disturbingly hermetic and sedentary lives of his neighbors:

I think that I cannot preserve my health and spirits, unless I spend four hours a day at least—and it is commonly more than that—sauntering through the woods and over the hills and fields...When sometimes I am reminded that the mechanics and shopkeepers stay in their shops not only all the forenoon, but all the afternoon too, sitting with crossed legs...I think that they deserve some credit for not having committed suicide long ago.⁶

The simple, foundational act of walking is not only a "natural remedy" to the contagion of the city; it also signifies Thoreau's rejection of the artificial boundary that signifies Thoreau's rejection of the artificial boundary that increasingly separates culture from nature. Thoreau puns that the village spawns degeneracy because it is a "trivial or quadrivial place": it promotes a superficial knowledge precisely because it is several times removed from the surrounding fields and forests (NHE 101). Looking back toward the village from the freedom of the woods, Thoreau reports in *Walden* "a vague sense all the day of some sort of itching and disease in the horizon, as if some eruption would break out there soon, either scarlatina or canker-rash" (W 160).

Thoreau proposed treatments for the diseases of over-civilization by advocating urban planning reform measures such as parks, tree-plantings, and town forests. He warned that a culture which exiles nature promotes "a sort of breeding in and in," an incestuous vitiation of stock which ultimately dooms the race to extinction (NHE 125). It was Thoreau's conviction that health ultimately depends upon the individual's opportunity for unmediated contact with nonhuman nature. "Sympathy with nature is an evidence of perfect health," he writes, "[but] to insure health, a man's relation to Nature must come very close to a personal one."⁷

Concerns about human and environmental health are illustrated particularly well by the example of food, since eating is a fundamental point of contact between the human body and the ecosystem that sustains it. As Joseph Gusfield suggests, the relation between food

and health is richly polysemic, and "can be read metaphorically, as symbolizing the experience of the user, of the author, as symbolizing the other domains of understanding with which the literal is connect."⁸ The symbolic resonance of food has not been lost on Thoreau scholars, whose appetite for Thoreauvian diet has generated numerous studies of his vegetarianism and other dietetic experiments.⁹ Unfortunately, such studies usually fail to recognize the way in which Thoreau's advocacy of wild foods explicitly links human health to the health of nature.¹⁰

Consider Thoreau's famous claim in *Walden* that "a huckleberry never reaches Boston" (W 173). Critics have rightly noted that Thoreau hereby deplores the commodification of the berry, and readers who share a passion for wild fruits know that the flavor, smell, texture, and color of a freshly-picked berry are indeed its defining characteristics. Both the savoriness and the nutritional value of the berry are inextricable from the sun, wind and rain which nurture it. Most important, though, is Thoreau's foundational emphasis upon ecosystemic context: a huckleberry in Boston ceases to be a huckleberry because the "consumer" of the fruit cannot benefit from the requisite pilgrimage to nature. If, as Thoreau believed, one purpose of wild fruits is to nourish our physical and spiritual health, that purpose is defeated when we sever the direct, experiential bond between our bodies and the body of nature. In effect, the decontextualization of the huckleberry is symptomatic of our unhealthy alienation from the natural world.

Thoreau often uses the lexicon of food symbolically in order to distinguish the health of nature from the impending ill health of society. Just as plants may become less nutritious as they are increasingly "cultivated" and "refined," our insatiable appetite for the cultivation and refinement of civilization may weaken us by distancing us from wild nature. As we have seen Thoreau's symbolic use of food extends even to the berry, which connotes, among other things, wildness, freedom, independence, contact with Native American wisdom, and sanctification in the community of nature. As his friend Ellery Channing succinctly put it, Thoreau had an "edible religion."¹¹ Despite Emerson's famous remark that Thoreau's lack of ambition prevented him from holding any office higher than "the captain of a huckleberry party," it is clear that Thoreau saw berrying as a ritual by which the relationship of human to nonhuman nature could be resanctified:

The fields and hills are a table constantly spread. Diet-drinks, cordials, wines of all kinds and qualities, are bottled up in the skins of countless berries...inviting us to a pic-nic with Nature. We pluck and eat in

remembrance of her. It is a sort of sacrament—a communion—the not forbidden fruits, which no serpent tempts us to eat. Slight and innocent savors which relate us to Nature, make us her guests, and entitle us to her regard and protection. (NHE 241)

Thoreau admonishes that if we destroy woods and privatize fields, so as to preclude the harvest of wild foods, we thereby prevent people "from gathering health and happiness and inspiration, and a hundred other far finer and nobler fruits than berries" (NHE 251). The berry, like other foods growing wild in the woods or fields, is symbolic of a health-inducing relationship because it represents a re-union of the individual body with the robust body of nature from which it originally issued.

Thoreau's emphasis upon the ecosystemic context of human health is also apparent in his insistence that the value of wild foods depends upon their being eaten "in season," that is, out in the seasons of the wild nature where they were nourished. Thoreau emphasized the need for experiential immersion in nature with his medicinal peroration to "Huckleberries":

Live in each season as it passes; breathe the air, drink the drink, taste the fruit, and resign yourself to the influences of each. Let these be your only diet-drinks and botanical medicines. In August live on berries, not dried meats and pemmican as if you were on shipboard making your way through a waste ocean, or in the Darien Grounds, and so die of ship-fever and scurvy. Some will dies of ship-fever and scurvy in an Illinois prairie, they lead such stifled and scurvy lives...Miasma and infection are from within not without. The invalid brought to the brink of the grave by an unnatural life, instead of imbibing the great influence that nature is—drinks only of the tea made of a particular herb—while he still continues his unnatural life—saves at the spile and wastes at the bung. He does not love nature of his life and so sickens and dies and no doctor can save him. Grow green with spring—yellow and ripe with autumn. Drink of each season's influence as a vial, a true panacea of all remedies mixed for your especial use. (NHE 261).

In likening a natural life to a cask which must be constantly replenished, Thoreau again suggests that human health requires the consistent nourishment of nature's influence.

In Henry Thoreau's alternative narrative of health,

physical and ecosystemic well-being are mutually interdependent; their fates are braided. Of course, the Thoreauvian prescription of health through immersion in wild nature presupposes that some wild nature still exists. Much of Thoreau's voluminous late natural history writing grieves for the loss of wildness in both human and nonhuman nature. Symbolic of this loss is the commodification, privatization, and extermination of wild foods. "I fear that he who walks over these fields a century hence will not know the pleasure of knocking off wild apples. Ah, poor man," he laments, "there are many pleasures which he will not know!" (NHE 209). Thoreau believed that the endangerment of nature not only threatens our spiritually ennobling "pilgrimage to...sacred places," it also suggests a loss of cultural knowledge about how to health ourselves.¹² Unlike many current health-care theorists, Thoreau clearly recognized the simple, ecological fact that the good or ill health of the natural world is ultimately manifest in the good or ill health of our bodies. "Every man is the builder of a temple, called his body," wrote Thoreau (W 221); if the temple of nature is desecrated, he warned, the temple of the body will inexorably be desecrated as well.

Thoreau's concerns about the promotion of health and the protection of wilderness are unified in his influential idea of "preservation." According to the *Oxford English Dictionary*, to "preserve" is "to keep safe from harm or injury"—an imperative that should be applied both to our bodies and our ecosystems. In a passage from *Walden* long celebrated by environmentalists, Thoreau used the idea of health to argue for the preservation of local forests: "Our village life would stagnate if it were not for the unexplored forests and meadows which surround it. We need to tonic of wildness.... We need to witness out own limits transgressed, and some life pasturing freely where we never wander: (NHE 365-366). Significantly, Thoreau also invoked the concept of health in his most famous and sweeping preservationist declaration: "[i]n Wildness is the preservation of the World. Every tree sends its fibres forth in search of the wild. The cities import it at any price. Men plow and sail for it. From the forest and wilderness come the tonics and barks which brace mankind" (NHE 112-133; emphasis added).

Henry Thoreau's prescription of the tonic of wildness (or wilderness) is a gesture towards a more ecological, more holistic concept of health. He locates health at the intersection of the corpus and the corpus naturae, the nexus of the body and the body of nature. Thoreau invoked the concept of preservation to connect human and ecosystemic health because he realized, as our culture seems not yet to realize, that to preserve one we must preserve the other.

Notes

1. Henry David Thoreau, *Journal* vol. 11, p. 395-395 (*The Writings of Henry David Thoreau*, ed. Bradford Torrey, Boston: Houghton Mifflin, 1906). The Riverside edition is cited here because this period in the journal is not yet available in the Princeton edition. Some passages from this article also appear in another of the author's articles, forthcoming in the journal *Literature and Medicine*.

2. Henry David Thoreau, *Journal* vol. 12, p. 394 (*The Writings of Henry David Thoreau*, ed. Bradford Torrey, Boston: Houghton Mifflin, 1906). The Riverside edition is cited here because this period in the journal is not yet available in the Princeton edition.

3. Anonymous, "Why We Get Sick" (*Harper's New Monthly Magazine*, October, 1856: 642-646).

4. Henry David Thoreau, *Journal* vol. 1, p. 229-230; *Journal* vol. 1, p. 138 (Princeton: Princeton University Press, 1981). All subsequent references to the Princeton edition of the *Journal* are made in the text and cited as *J*.

5. Henry David Thoreau, *Walden*, p. 138 (Princeton: Princeton University Press, 1971). All subsequent references to *Walden* are to the Princeton edition and are cited in the text as *W*.

6. Henry David Thoreau, *The Natural History Essays*, p. 95-96. (Salt Lake City: Peregrine Smith, 1980). All subsequent references to *The Natural History Essays* are to this edition and are cited in the text as *NHE*.

7. Henry David Thoreau, *Journal* vol. 16, pp. 188, 252 (*The Writings of Henry David Thoreau*, ed. Bradford Torrey, Boston: Houghton Mifflin, 1906). The Riverside edition is cited here because this period in the journal is not yet available in the Princeton edition.

8. Joseph R. Gusfield, "Nature's Body and the Metaphors of Food," p. 81 (in *Cultivating Differences*, ed. Michele Lamont and Marcel Fournier, pp. 75-103. Chicago: University of Chicago Press, 1992).

9. Several critics even attempt rather precise nutritional analyses, offering speculation about the relationship between Thoreau's diet and his terminal illness. See Daniel Wesolowski, "Thoreau's Nutrition" (*Thoreau Society Bulletin* 141, Fall, 1977, p. 7); Lawrence Willson, "Thoreau and the Natural Diet" (*South Atlantic Quarterly* 57, winter, 1958, p. 102); Benjamin P. Sandler, "Thoreau, Pulmonary Tuberculosis and Dietary Deficiency" (*Chest* 63, May, 1973, p. 855); Stephen Adams and Barbara Adams, "Thoreau's Diet at Walden" (in *Studies in the American Renaissance*, pp. 243-260. Edited by Joel Myerson, Charlottesville: University of Virginia, 1990).

10. Although it remains unpublished, Thoreau's book-length manuscript entitled "Wild Fruits" amply attests to his enthusiasm for the physical and spiritual value of wild edibles. In the "Higher Laws" chapter of *Walden* (a chapter originally entitled "Animal Food"), and in late natural history essays such as "Wild Apples" and "Huckleberries," Thoreau is fascinated by the health value of wild berries, roots, seeds, and fruits.

11. Quoted in J. Parker Huber, "John Muir's Menu," p. 66 (*Sierra*, November/December 1994, pp. 66-67).

12. Henry David Thoreau, "Wild Fruits," p. 197 (in *Faith in a Seed*, ed. Bradley P. Dean. Washington D.C.: Island Press, 1993).

The author wishes to thank David B. Morris, Daniel Philippon, and Jessica Pierce for their helpful comments on an earlier draft of this article.

Cold War, Silent Spring: The Trope of War in Modern Environmentalism

by Cheryl Glotfelty

1945: The United States drops atomic bombs on Hiroshima and Nagasaki, ending World War II.¹

Rachel Carson writes a letter to *Reader's Digest*, proposing to do an article on the harmful effects of wide-area applications of DDT.

1946: Joseph Stalin proclaims in an election speech that war is inevitable as long as capitalism exists. Winston Churchill warns that the Soviets desire "the indefinite expansion of their power and doctrines" (quoted in LaFeber 39).

Rachel Carson is employed by the United States government in the Fish and Wildlife Service.

1947: The Truman Doctrine, pledges to aid "free" peoples of the world in their struggle against "totalitarian" regimes.

1949: The Soviet Union explodes its first nuclear device.

1950: The United States quadruples its defense spending. Truman orders the development of the Hydrogen bomb.

1958: Carson receives a letter from her friend Olga Owens Huckins describing the bird deaths in her yard following the aerial spraying of her neighborhood with DDT. Carson determines to write a book about pesticides.²

1959: Khrushchev forms an alliance with Fidel Castro.

Carson writes her editor Paul Brooks that she is building up "a really damning case against the use of... chemicals as they are now inflicted upon us" (Brooks, *House*, 244).

1960: Summit talks in Paris between Khrushchev, Macmillan, Eisenhower, and de Gaulle fail.

Carson writes to a friend that "It is a great problem to know how to penetrate the barrier of public indifference and unwillingness to look at unpleasant facts that might have to be dealt with if one recognized their existence" (quoted in Brooks, *House*, 258).

1961: Kennedy takes responsibility for the Bay of Pigs invasion fiasco. Khrushchev orders construction of the Berlin Wall.

The title *Silent Spring* is chosen for Carson's nearly-finished book. One working title had been *The War Against Nature*; another had been *Man Against the Earth*.³

1962: The Cuban missile crisis marks the height of US-Soviet tensions, bringing the world to the brink of nuclear war.

Silent Spring is serialized in *The New Yorker* and then published in book form. One reader wrote to *The New Yorker* that

Miss Rachel Carson's reference to the selfishness of insecticide manufacturers probably reflects her Communist sympathies, like a lot of our writers these days.

We can live without birds and animals, but, as the current market slump shows, we cannot live without business.

As for insects, isn't it just like a woman to be scared to death of a few little bugs! As long as we have the H-bomb everything will be O.K.⁴

The genesis, the writing, and even the reception of Rachel Carson's most influential book exactly coincided with the Cold War years in America and were colored by them. Indeed, the very subject of her book--DDT and other synthetic pesticides--was itself a product of war. DDT was first used on a large scale in the Naples typhus epidemic of 1943-44 and continued to be used during the rest of World War II to protect millions of soldiers and civilians against insect-borne diseases. Thanks to DDT, World War II is thought to be the first war in history in which more men died from enemy action than from disease. DDT came to the United States for civilian use in 1945 in a wave of publicity and high hopes. Some called it the atomic bomb of insecticides, the harbinger of a new age in insect control. DDT and its fellow chemicals were heroes, fruits of a new age of science and technology that promised to make life more safe, comfortable, and convenient than ever before.⁵

Just as Cold War rhetoric convinced the American public that their World War II ally, the Soviet Union, had become their worst enemy, so, too, did the rhetoric of *Silent Spring* persuade the public that the miracle pesticides were, in fact, deadly poisons, harmful to all living things, including humans. After President Truman delivered the speech that would be known as the Truman Doctrine, one commentator noted, "We went to sleep in one world and woke up . . . in another" (quoted in Hinds and Windt, p. 147). *Silent Spring* had a similar effect. Many people credit the book with launching the modern environmental movement. Scholars of American environmental rhetoric M. Jimmie Killingsworth and Jacqueline S. Palmer assert

that "Carson's book established rhetorical conventions that would become standard fare in the environmentalist debate" (p. 65). *Silent Spring's* critique of the widespread use of what were regarded as wonder chemicals was nothing less than an indictment of modern life itself. Carson's editor and biographer Paul Brooks remarks,

Silent Spring has been recognized throughout the world as one of those rare books that change the course of history—not through incitement to war or violent revolution, but by altering the direction of man's thinking. (Brooks, House, p. 227)

I agree with Brooks that Carson altered the direction of our thinking, but I argue that *Silent Spring* did instigate a new kind of war by redirecting the language and concepts of the Cold War to apply to "man's war against nature" (Carson, p. 7). While pesticide manufacturers were waging their all-out war on insects, Carson started a new "war" against the manufacturers and pesticide sprayers. They became the new, worst enemy. Industry-as-the-enemy has by now become an entrenched way of thinking in the environmental movement, and the lexicon of war pervades environmentalist discourse.

Pesticide advertisements themselves cleverly exploited Cold War icons. Some pesticide commercials bore a striking resemblance to anti-communist propaganda, depicting an insect army marching across a map of the United States. The situation looks terribly grim UNTIL a spray can appears from the sky to kill the hostile invaders dead in their tracks and keep the world safe for democracy, "sproutless potato[es]," and "mosquitoless patio[s]" (Carson, p. 216).

Given the militant cast of pesticide advertisements, Carson might have adopted the strategy of arguing that insects and humans were *not* enemies and that war was the wrong metaphor to describe their relationship. Today's effort to reintroduce wolves on public lands has taken such an approach, reeducating the public to understand that wolves are not our enemies but are noble creatures whose presence enriches our lives. Carson, however, did not attempt to deconstruct the war metaphor as it was applied to insects. Perhaps it would have been too difficult to persuade the public that gypsy moths, fire ants, and body lice are noble beings. She must have recognized that no amount of fancy talking would convince a cotton-grower that the boll weevil was not his enemy.

Carson shrewdly retains the war metaphor, but insists that we are making some critical errors in the way that we are fighting, errors which may prove to be suicidal or which could cause us to lose the war entirely. One such error occurs when we turn powerful

weapons against ourselves. The midwestern states, for example,

have launched an attack [on the Japanese beetle] worthy of the most deadly enemy instead of only a moderately destructive insect, employing the most dangerous chemicals distributed in a manner that exposes large numbers of people, their domestic animals, and all wildlife to the poison intended for the beetle. (Carson, p. 88)

Another critical mistake is made repeatedly when our effort to eradicate a species backfires and actually strengthens that species, which rapidly evolves to become resistant to the chemical. While we are thus encouraging the evolution of Super-pests against which further chemical attacks are futile, our indiscriminate chemical barrage is simultaneously killing the natural predators of the pest species. As Carson writes, "we have turned our artillery against our friends. The terrible danger is that we have grossly underestimated their value in keeping at bay a dark tide of enemies that, without their help, can overrun us" (p. 251). Carson thus concurs with an expert in soil science that "a few false moves on the part of man . . . and the arthropods may well take over" (quoted in Carson, p. 61). As these dire warnings imply, Carson does not idealize insects but depicts them as a force to be reckoned with; consequently, we had better learn to fight more intelligently.

Carson not only exposes the folly of our contemporary insect control strategies, she offers numerous smarter battle plans, including the importation of a given pest's natural predators, introduction of insect-specific diseases, release of sterilized males, various kinds of lures and traps, improved sanitation, new strains of pest-resistant crops, and greater diversity in plantings. She concludes that "There is, then, a whole battery of armaments available to the forester who is willing to look for permanent solutions that preserve and strengthen the natural relations in the forest" (p. 296). Carson promises no single solution, no atom bomb for insects, but rather recommends a variety of approaches, each depending on detailed, scientific knowledge of natural systems and each tailored to a specific situation. Just as America could not wipe out communism from the face of the earth but instead pursued a policy of containment and learned to establish diplomatic relations with a variety of Communist governments in many countries, so, too, Carson proposes that we seek not eradication but rather "contain[ment] within reasonable bounds" (p. 117) and "a reasonable accommodation between the insect hordes and ourselves" (p. 296).

The foregoing discussion shows how Carson retains

war-inflected language to frame a wiser defense plan against problem insects. The Cold War provides a readily comprehensible lens through which to view the relationship between humans and insects. The key is not to deny the war but to fight it more sensibly, with less risk to ourselves and our allies. While Carson thus agrees that certain insects are destructive, she argues that those very pests are less destructive to us than has been our chemical assault on them. Blanket spraying of potent synthetic chemicals poisons both humans and the natural systems upon which human life depends. Whoever is behind this rain of poisons is endangering our lives to a much greater degree than did the pest insects. By this clever move, Carson implies that the most deadly enemies are not the foreign insects but the insect controllers in our very midst. Such an accusation is tantamount to declaring a new war, a war between the pesticide industry and the people.

There are many striking parallels between the rhetorics of the Cold War, *Silent Spring*, and modern environmentalism. Cold War rhetoric constructed a bipolar world, one in which two superpowers dominated the globe, with smaller countries falling under one or the other sphere of influence. Differences within each camp were minimized while differences between the two camps were exaggerated. The possibility of a third, alternative position was denied. With only two choices, the question becomes simply which side are you on? As is typical of wartime rhetoric, the "other" side is portrayed as malevolent and aggressive, while "our" side is innocent and defensive. Scholars of Cold War rhetoric Lynn Boyd Hinds and Theodore Otto Windt, Jr. (1991), have documented how "the Soviets [were] transformed in this rhetoric of nihilism into subhuman monsters devoid of human feelings" (p. 114).⁶ Hinds and Windt explain that melodrama—widely acknowledged by literary critics to be the lowest form of drama—is a staple of wartime rhetoric, as a sinister villain menaces a helpless maiden, who is in desperate need of a stalwart hero.

Silent Spring likewise creates a bipolar, melodramatic picture, with the pesticide industry and its henchmen in the Department of Agriculture on one side, the public on the other, and a fainting nature in need of rescue. As Killingsworth and Palmer note (1992),

The agonistic expose, of which Silent Spring is a fine example, . . . fosters controversy and divides perspectives, often attempting to arrange disparate interests into a clearly demarcated pair of opposed parties—environmentalist and developmentalist, for example—thus mobilizing citizens for a quick decision one way or the other. . . . (p. 76)

Carson depicts "the control men" (p. 86) of the pesti-

cide industry as inhuman, uncaring, and greedy. It is, in her words, "the authoritarian temporarily entrusted with power" (p. 127) who orders the spraying and thereby "disregard[s] the supposedly inviolate property rights of private citizens" (p. 159) and "contaminate[s] the entire environment" (p. 8). "On every hand there is evidence that those engaged in spraying operations exercise a ruthless power" (p. 12), writes Carson. She observes that hers is "an era dominated by industry, in which the right to make a dollar at whatever cost is seldom challenged" (p. 13) and in which "nothing must get in the way of the man with the spray gun" (p. 85).

While the pesticide industry is clearly the villain, the public has been both a hapless victim of the "chemical death rain" (p. 12) and an unwitting accomplice by passively allowing such abuse to happen. Carson writes *Silent Spring* in order to goad the passive to take action and to give "the many, many people who are eager to do something . . . the facts to fight with."⁷ The rhetoric of bad guys (commonly portrayed as a powerful minority) versus good guys (portrayed as the increasingly vocal majority) is a familiar feature of modern environmentalism.

During the Cold War, Winston Churchill's image of an Iron Curtain dividing Europe reinforced the sense of a bipolar world, and in addition connoted that there were secret machinations taking place behind the Iron Curtain. As rhetoricians Hinds and Windt point out, this conception of mysterious dealing behind the curtain "pervaded interpretations of Soviet actions. Specific actions were never what they seemed, and one had to lift the masks from actors to interpret those actions for what they were" (p. 107). In other words, Soviet statements might be lies, and Soviet actions concealed ulterior motives.

Carson adopts this Iron Curtain approach by questioning what deals are struck behind the closed doors of the Department of Agriculture, of university research labs funded by the chemical industry, and in the board rooms of pesticide manufacturers. She warns that "the control men in state and federal governments—and of course the chemical manufacturers—steadfastly deny the facts reported by the biologists and declare they see little evidence of harm to wildlife" (p. 86). Elsewhere, she refers to publications of the Agriculture Department as "propaganda" (p. 163). Senator Joseph McCarthy's announcement in 1950 that he had a list of 205 communists working in the State Department probably had nothing to do with Carson's insinuation that there are environmental traitors within government; nonetheless, such accusations are by now commonplace in environmental rhetoric.

During the Cold War, statements from Washington rarely described tensions with the Soviet Union in the context of historical development or national interests;

instead, the conflict was cast in ideological terms as a war between communism and capitalism, or between totalitarianism and freedom. The ideological chasm separating the two great powers was assumed to be unbridgeable. Ultimately, the Cold War became a moral struggle between good and evil, lightness and darkness. The mutual mistrust and persistent focus on incompatible ideologies all but precluded compromise, dooming negotiations about important, pragmatic issues like arms reduction.

Carson, too, cast what could have been a pragmatic discussion of appropriate pesticide use into the more philosophical and ideological context of the proper relationship between humanity and nature. Paul Brooks notes that Rachel Carson knew that she would be attacked: "It was not simply that she was opposing indiscriminate use of poisons but--more fundamentally--that she had made clear the basic irresponsibility of an industrialized, technological society toward the nature world" (Foreword, xii). Carson insists that the pesticide issue has a moral dimension: "Incidents like the eastern Illinois spraying raise a question that is not only scientific but moral. The question is whether any civilization can wage relentless war on life without . . . losing the right to be called civilized" (p. 99). As Carson represents this conflict, the unbridgeable ideological chasm is between domination and accommodation, arrogance and humility, stupidity and intelligence, greed and grace, right and wrong. Finding themselves publicly vilified, it is no wonder that chemical manufacturers attempted to block publication of the book and spent a quarter of a million dollars on a public relations campaign. The ideological warfare of environmentalism continues today in much the same terms that Carson used, with a few new unbridgeable chasms appearing on the horizon, such as the ones separating patriarchy and ecofeminism, and anthropocentrism and biocentrism.

Finally, and perhaps most importantly, both the Cold War and *Silent Spring* create a climate of crisis in order to justify their demand for drastic action. How was Truman to persuade Congress to spend millions of dollars to prop up corrupt governments like the one in Greece in 1947? He drew upon the public's memory of World War II to warn that if Greece were to fall into the hands of the communist revolutionaries, the rest of Europe could topple like dominoes. According to the rhetoric of the Cold War, the world stood at a crossroads in history: "If the United States did not intervene now, all would be lost" (Hinds and Windt, 1991; p. 134). Later, images of Armageddon were conjured up to pave the way for the quadrupling of the defense budget in 1950. In the blockade of Cuba in 1962, nothing less than national survival was said to be at stake. Hinds and Windt write that "In the medical

world a crisis is a turning point for a sick patient, a crucial moment when a life or death decision must be made" (p. 131). They observe that Cold War rhetoric created a series of crises until an atmosphere of crisis became the consensus reality.

Just as Truman drew analogies between the Soviet Union and the Nazis, Carson exploited the leading fear of her time--the threat of nuclear war--to draw parallels between pesticides and radioactive fallout.⁸ The opening chapter of *Silent Spring* paints an imaginary picture of a pastoral American village suddenly afflicted with "a strange blight" which kills chickens, cattle, sheep, and even children at play. She then warns that "A grim specter has crept upon us almost unnoticed, and this imagined tragedy may easily become a stark reality we all shall know" (p. 3). Elsewhere she observes that "anything . . . within range of the chemical fallout, may know the sinister touch of the poison" (p. 156). And because pesticides cause "a general and permanent lowering of environmental resistance," Carson predicts that "we may expect progressively more serious outbreaks of insects, both disease-carrying and crop-destroying species, in excess of anything we have ever known" (p. 252). In fact, she says, "it is happening, here and now" (p. 252). She quotes a scientist, who confesses, "We all live under the haunting fear that something may corrupt the environment to the point where man joins the dinosaurs as an obsolete form of life" (p. 188).

"When will the public . . . demand . . . action?" Carson asks. Thanks to the wave of anxiety caused by *Silent Spring*, the answer would be "in the summer of '62."

In part due to the phenomenal impact of *Silent Spring*, the rhetoric of crisis in the environmental movement has been deployed for several decades now. One recent example from Dave Foreman's *Confessions of an Eco-Warrior* typifies the genre:

We are living now in the most critical moment in the three-and-a-half-billion-year history of life on Earth. . . . Never before . . . has there been such a high rate of extinction as we are now witnessing. . . . Clearly, in such a time of crisis, the conservation battle is not one of merely protecting outdoor recreation opportunities, or a matter of aesthetics, or 'wise management and use' of natural resources. It is a battle for life itself. . . . (p. 2)

The Cold War lasted for forty years. It will be interesting to see how long the consensus of environmental crisis can be maintained.

One goal of this paper has been to show how the modern environmental movement has some of its roots in and continues to derive much of its rhetoric from the Cold War.⁹ In some cases the clash between environ-

mentalists and anti-environmentalists has escalated beyond mere rhetoric, as author David Helvarg (1994) documents in *The War Against the Greens*:

[E]ven with the violence around Redwood Summer (a Labor Day Protest greeted with a hail of eggs and rocks, the beating of several activists on local backroads, and the head shaving in jail of four longhairs who had sat down to block a logging truck), it is hard for me to imagine that environmental conflict in the United States might ever begin to resemble some of the haunting scenes of violence and hatred I had come to know as a war correspondent in Northern Ireland and Central America. But today, four years later, having seen the bomb and arson damage firsthand, and having met and talked to people who have been beaten, shot at and terrified, had their dogs mutilated, their cars run off the road, and their homes burned to the ground, I'm not so certain. (p. 7)

In the heat of the environmental backlash, perhaps it is time to question whether the trope of war--with its battles, its victories and defeats, its eco-warriors and enemies, its moral crusades and mortal fear--is an appropriate tool for solving environmental problems and making intelligent decisions. The Cold War was a bad idea. Should people who are committed to enlightened stewardship of the earth continue to invoke it?

End Notes

¹ See Walter LaFeber for a general history of the Cold War.

² See Paul Brooks, *The House of Life*, for full text of the Huckins letter and for a discussion of the making of *Silent Spring*.

³ These provisional titles are mentioned by Carson in letters to her friend Dorothy Freeman. See *Always, Rachel*, edited by Martha Freeman.

⁴ This letter, dated 29 June 1962, was sent to *The New Yorker* by H. Davidson of San Francisco, CA. It was not published at the time, but it does appear in the "Better Late Than Never" section of the seventieth anniversary issue of *The New Yorker*, 20 and 27 February 1995, p. 18. For an excellent report on *Silent Spring*'s public reception, see Frank Graham, Jr.

⁵ For a good review of public perceptions and use of DDT, see the PBS television documentary, "Rachel Carson's *Silent Spring*."

⁶ For other studies of Cold War rhetoric, see Mary Kaldor's *The Imaginary War*, and Martin Medhurst, et al., *Cold War Rhetoric*.

⁷ Letters to Dorothy Freeman, 6 January 1962, in Martha Freeman, ed., *Always Rachel*, p. 391.

⁸ For an interesting essay tracing Carson's effective allusions to radioactive fallout, see Ralph Lutts.

⁹ See Dave Foreman and Bill Haywood's *Ecodefense: A Field Guide to Monkeywrenching* (complete with a camouflage cover) for an example of a handbook of tactical maneuvers to use in the ongoing war to defend Mother Earth.

Works Cited

- Better Late than Never. *The New Yorker*. Seventieth anniversary issue. 20, 27 February 1995.
- Brooks, Paul. Foreword. *Silent Spring* by Rachel Carson. 25th anniversary ed. Boston: Houghton Mifflin, 1987.
- Brooks, Paul. *The House of Life*: Rachel Carson at Work. Boston: Houghton Mifflin, 1972.
- Carson, Rachel. *Silent Spring*. 1962. 25th anniversary ed. Boston: Houghton Mifflin, 1987.
- Foreman, Dave. *Confessions of an Eco-Warrior*. New York: Harmony Books, 1991.
- Foreman, Dave, & Bill Haywood, eds. *Ecodefense: A Field Guide to Monkeywrenching*. 2nd ed. Tucson, AZ: Ned Ludd, 1987.
- Freeman, Martha, ed. *Always, Rachel: The Letters of Rachel Carson and Dorothy Freeman, 1952-1964*. Boston: Beacon, 1995.
- Graham, Frank, Jr. *Since Silent Spring*. Boston: Houghton Mifflin, 1970.
- Helvarg, David. *The War Against the Greens: The "Wise-Use" Movement, the New Right, and Anti-Environmental Violence*. San Francisco: Sierra Club Books, 1994.
- Hinds, Lynn Boyd, & Theodore Otto Windt, Jr. *The Cold War as Rhetoric: The Beginnings, 1945-1950*. New York: Praeger, 1991.
- Kaldor, Mary. *The Imaginary War: Understanding the East-West Conflict*. Cambridge, MA: Basil Blackwell, 1990.
- Killingsworth, M. Jimmie, & Jacqueline S. Palmer. *Ecospeak: Rhetoric and Environmental Politics in America*. Carbondale: So. Illinois UP, 1992.
- Lafeber, Walter. *America, Russia, & the Cold War, 1945-80*. 4th ed. New York: John Wiley & Sons, 1980.
- Lutts, Ralph H. Chemical Fallout: Rachel Carson's *Silent Spring*, Radioactive Fallout, and the Environmental Movement. *Environmental Review* 9.3 (Fall 1985): 211-25.
- Medhurst, Martin J., Robert L. Ivie, Philip Wander, & Robert L. Scott. *Cold War Rhetoric: Strategy, Metaphor, and Ideology*. New York: Greenwood P, 1990.
- Rachel Carson's *Silent Spring*. PBS documentary film in "The American Experience." Writer/producer Neil Goodwin. Peace River Films, Cambridge, MA. Aired 8 Feb. 1993.

Rhetoric of Disengagement: Interpretive Talks in the National Parks

by Zita Ingham

The Rhetorical Situation: Contexts, Aims

One informal but important locus of public environmental discourse is the National Park Service's interpretive program. In talks typical of the large wilderness parks, Park Service Ranger Naturalists lecture to visitors on noteworthy aspects of historical or natural features. The talk may in fact be a "walk," during which the naturalist guides visitors through an area or building, or it may be a slide-accompanied lecture given in an amphitheatre or meeting room. This essay investigates rhetorical situations and strategies of interpretive slide lectures, as represented by talks given in Grand Teton National Park in the summer of 1994. In many evening programs at wilderness parks, dependence on audiovisual technology and a lecture format, combined with the lack of a strong ethos on the part of naturalists (originating in the unresolved aims of the Park Service itself) inhibits connections--physical and emotional--that visitors might make with the landscapes and surrounding ecology.

The Scene

On a summer evening in Grand Teton National Park, visitors may choose from up to five programs at the campgrounds, which begin at 8 or 9 pm, just as the sun is setting. Each program begins as a naturalist, uniformed in full polyester regalia, arrives to welcome the visitors, who usually number between 20 and 100. During the next 30 minutes, the naturalist shows slides ordered around a theme, such as "A Bear for All Seasons" or "Mountains, Rivers, Valleys: Each Ecosystem in the Park Holds Its Own Mysteries." These talks are a popular feature, especially for families with children. Instead of gathering together in the evening to watch TV, campers gather around the slide screen.

The slide lecture is the most prominent form of interpretation at Grand Teton National Park, and it is not endangered--it's much too important, because of its appeal to certain audiences and its usefulness as a way of controlling and entertaining visitors. It's efficient for working with large groups, as crowd control, and the slides provide views of landscape and wildlife that visitors rarely see. It's familiar--all the players know their roles. But its disadvantages have been underestimated to a damaging degree in a political climate where understanding of natural systems and interest in

preserving and studying them is scarce.

Lectures, however convenient, emphasize information over experience, watching over doing. The slides obscure what is happening now. Although the naturalist may mention in passing that the bats swooping at the screen are gathering insects, the slides always win our attention, even over the naturalist herself, standing in darkness, face obscured by that broad-brimmed hat. At a talk entitled, "The Circle of Life: The Variety of Life in Grand Teton Reflects John Muir's Understanding of the Connections in Nature," which included several slides of moose, the brightness of the screen prevented the audience from being able to see a moose cow and calf feeding, for the entire length of the show, ten feet from the screen. A particular, personal experience of "John Muir's Understanding of the Connections of Nature" is impossible in these circumstances.

Each slide prompts elaboration of a point, as the show moves through its predetermined, goal-oriented pattern. The lecture format, even in as friendly a version as the naturalists achieve, is still a performance, not a collaborative act. The lack of intimacy between audience and interpreter and between interpreter and surroundings fosters a lack of connection between audience and ecosystem.

Fundamentals of Interpretation

In pursuit of facilitating engaged, collaborative experiences of nature, it's useful to consider historical and contemporary views of interpretation. The intention of interpretation, at least in its documented beginnings, was never to disassociate visitors from their surroundings, never to run them through the place like so many cattle. In the first book on interpretation, indeed the Bible of interpretation considering its stature and widespread use in training interpreters, *Interpreting Our Heritage: Principles and Practices for Visitor Services in Parks, Museums, and Historic Places* (1957), Freeman Tilden defines interpretation as:

the work of revealing, to such visitors as desire the service, something of the beauty and wonder, the inspiration and spiritual meaning that lie behind what the visitor can with his senses perceive. (pp. 3-4)

Tilden's insistence on interpretation as revelation

still influences interpreters and researchers, who continue to read and cite his work, although in some contemporary writing citations of Tilden are cursory and obviously not thoughtfully considered (see Sharpe, Machlis, Ham). For Tilden, the aim of interpretation is:

to reveal meanings and relationships through the use of original objects, by first-hand experience, and by illustrative media, rather than to simply communicate factual information. (p. 8)

More contemporary books on interpretation acknowledge the primacy of communicating "meanings and relationships," but revelation of "the inspiration and spiritual meaning that lie behind what the visitor can with his senses perceive"--interpretation as exalted, romantic, spiritual--is acknowledged nowhere else. Tilden freely acknowledges, in fact privileges, a spiritual component in our relations to places and things that contemporary specialists in interpretation perhaps would find embarrassingly emotional.

Presently, the emphasis on inspired connection to a place is replaced by an emphasis on understanding relationships between the objects in the landscape. Interpretation as a moral force, in the way that some nature writing is scripture, devolves into interpretation as entertainment. We can identify traces of Tilden in some, especially older, work. For example, in a 1980 manual on interpretation, William Lewis lists the many goals of interpretation. He begins with:

(1) To help park visitors understand that the place they're visiting is related to the place they call home. (2) To help visitors understand the interrelationships among as many aspects of what is being observed as possible. (3) To help visitors have an inspirational, relaxing, good time. (Interpreting for Park Visitors, p. 31)

But the more recent and more technical the manuals are, the less they share Tilden's views on the aims of interpretation. In *Interpreting the Environment* (1976), Grant Sharpe cites several definitions of interpretation and proposes that "the primary objective of interpretation is to assist the visitor in developing a keener awareness, appreciation, and understanding of the area he or she is visiting" (p. 4). Sam Ham, in *Environmental Interpretation* (1992), distinguishes interpretation from "other forms of information transfer" by the quality of its "pleasure" because "Interpretation is entertaining" (p. 8). These writers are quick to distinguish the differences between interpretation and teaching, mostly in reference to a teacher's captive audience, but conflate the "inspirational" aspects of interpreting, if mentioned at

all, with entertainment value. The "closer" the manuals are to National Park administration--the more they are used by or funded by the Parks--the less Tilden's influence on them. Not surprisingly, in a technical report on specific interpretive services at Grand Teton National Park, interpretation is defined as "the planned transfer of information about a park or related topics" (Machlis et al., p. 8). Clearly, interpretation involves the imparting of information, and many believe more than just that, but in practice, interpreters are encouraged to see themselves as, at best, entertaining teachers, rather than as the preachers of nature Tilden might have imagined.

Interpretive talks demonstrate the original paradox on which the Parks were founded in interesting ways. As the aims of interpretation--to inspire and to instruct--appear sometimes at odds, the aims of the Park Service appear always, on every level of Park activity, to be at odds, especially as the parks become more populated. The act of 1916 which established the Park Service set its goals as being:

to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations. (quoted in *Information and Training Handbook*, p. 1)

In 80 years, the number of parks in the system has grown to 386, with 273 million visitors in 1994: what would be enjoyable to 273 million visitors could hardly ensure conservation of wilderness. Surely more than one problem in the Park Service can be traced to this early and continued partitioning of aims. The "ranger naturalist" is a walking manifestation of this paradox.

Rhetorical Strategies

Strategies that naturalists use to engage audiences, to instruct and convince audiences, such as the use of audiovisual equipment, the uses of conventions of storytelling and the object lesson, allusions to environmental and political speech codes, and references to cultural and religious "master narratives," affect visitors' perceptions of information and of the park--its landscape, wildlife, plants, and human inhabitants. The intention of these strategies is to engage audiences--to enable them to perceive their surroundings in order to connect to them--but in some ways strategies used in these talks facilitate less engagement with their surroundings than with information about them. "A Howl in the Woods: Wolves in the Greater Yellowstone Ecosystem," notably the most environmentally polemic talk given in Grand Teton National Park in the summer of 1994, illustrates advantages and disadvan-

tages of these techniques.

Before the lecture, on a small stage area in front of the slide screen, the naturalist set out two skins, one of coyote and one wolf, and plaster castings of wolf and coyote footprints. These serve to begin the talk with an "object lesson" in the differences between coyotes and wolves, illustrating the size of wolves and the texture of the fur. The object lesson here provides personal experience of aspects of wolves and coyotes: children rush up to touch the skins and handle the paw prints when invited.

The lecture begins with pictures from the "mythology of the wolf," emphasizing the naturalist's argument that European religions and cultures emphasize a "negative mythology," illustrated, for instance, by old engravings from Norse mythology and contemporary images such as the murderous wolves of the Disney movie *Beauty and the Beast*. The naturalist's point, in this first section of the talk, is that it is possible to "choose" a mythology, considering obvious alternatives between traditional images and more positive recent images of the wolf in pseudo-Native American popularizations and contemporary wildlife art.

Underlying the entire talk is a strong argument to consider the wolf, to consider our personal and cultural relationship to wolves, given the impending reintroduction of wolves into the Yellowstone ecosystem. After showing the skins and casts of tracks, and after eliciting comments and anecdotes from the audience of wolf-related feelings and experiences, the naturalist explains the legal support for the mandated reintroduction of wolves and the foundations for opposing arguments. She refers to the Park Service's mission "to conserve" wildlife. Most of the talk is a story of the seasonal life of wolves--the familiar trope of the documentary--but this section is prefaced by the naturalist's suggestion that the slides can "challenge" the audience to imagine wolves in the Yellowstone ecosystem, in expectation of seeing wolves in this area. Her "challenge" to the audience resumes after the audience views the slides of life cycle and behavior. "I challenge you," she says, "to take an active role--for or against--" the reintroduction of wolves. She offers names and addresses of legislators and Park administrators for those who are interested, and then, playing a taped recording of wolf howls, she shows a last slide of a dark, very close wolf gazing straight back at the audience, and asks, "Are you ready for this? Can you accept this here?"

Perhaps this talk illustrates the wisest sort of argument--the forestalling of a bid for consensus that is by no means assured. Perhaps visitors are not interested in the Yellowstone bioregion's messy

politics after a hot day of fighting the crowds on the hiking trails. But even if that's true, this lecture is still short on "inspiration," that quality which makes interpretation more than just instruction. We are "challenged," as if by a preacher to his [sic] choir, to consider the wolf, but in this political climate, is that enough? Of course, in this setting, many visitors seek distance from these wild surroundings; disengagement is a legitimate intention on the part of audience members. Regardless, disengagement of the population of voters who visit the Parks is not in the best interest of the Park bureaucracy, and this bureaucracy is missing an important persuasive vehicle in their less-than-conscious employment of slide-lecture programs. Visitors are voters; voters with connections to a place are more likely to support provisions to care for it. As park administration plan campgrounds, visitor centers, and amphitheaters, administrators should be clear about what they want visitors to know and how they want them to acquire it, for the sake of the administrators' own survival in the parks.

Some better ways of inspiring and instructing visitors have long been in place: hikes with naturalists, "roving" naturalists and volunteers who hang out to talk to people at designated sites. These situations facilitate individualized, active, collaborative exchanges of knowledge and experience, rather than performances and presentations which may teach but do not as thoroughly engage. The missed opportunity here is one of a real argument, or rather, real arguments. In an effort to please visitors, to provide rest and relaxation, naturalists refrain from what they fear may be interpreted as strident environmentalism. But the assumption that underlies environmental education, that to know something is to love it, may not be enough to count on as mining, ranching, and development interests threaten the "pristine" quality of the wilderness parks. It isn't less argument that will save the parks: it's more and better arguments, all the arguments. We could start with forging actual connections with the audience--a little audience research might reveal where discussions of the issues, and some interaction beyond performance, might be elaborated. A more deliberate attempt to cover the "other" side--five minutes of statistics and inferences--would have helped visitors feel they had a stake in the argument. Is most criticism of wolf reintroduction coming from ranchers in the Yellowstone bioregion? How many ranchers? With how many cattle? How much public land is used for grazing? Will ranchers be compensated for losses to wolves? the question that Park administrators must answer is, why is education in the biology of wolves considered entertaining and important, while education in the politics of wolves is not?

Discounting the political issues of environmentalism is one way the Park Service disengages naturalists from their surroundings, from their subject matter. The issue is not whether federal money should be used to support politically environmentalist positions; the issue is which positions are now being supported. The position demonstrated in the talks I have observed is one of disengagement of Park personnel from both the environment and from the audience.

The Engaged Naturalist

The most obvious manifestation of this disengagement is the attention both naturalist and visitor give to the talk itself. The slides themselves are just so much more Park property--usually they haven't been taken by the naturalist who shows them, and too often they are not even slides of the Park at which they are shown. On the evening of the day I almost bumped into a black bear at String Lake, I was treated to slides of black bears taken in Glacier National Park, slides which reappeared in other talks a bit too often.

Slide lectures disengage the naturalist from the environment, which I think is the key to changing the practice. The slide lecture represents missed opportunities for working with visitors: naturalists could be out naturalizing, taking pictures, taking visitors with them on photographic excursions. There are participatory activities in the Parks, but less time and energy is allotted to them than to the slide lectures. Slide lectures needn't be abandoned; they could be linked to activities that could take place that day or the next. They could be de-emphasized in favor of spending energy elsewhere, perhaps in teaching visitors to do what true naturalists do: observing, documenting, reporting. Visitors would probably even pay extra for it. It wouldn't be work, for those who would be interested--it would be the experience of connection to the place, which is what visitors are really looking for. It would be an example of the paradigm shift some say has taken place in education, a shift to an emphasis on collaboratively-gained, community-beneficial knowledge. That shift is not yet in evidence in the Park Service.

Personal experience of a place is what inspires visitors; accounting for individual, active experiences could mean very different kinds of interpretation, and perhaps less of it, not more. For example, William Stafford's Methow Valley poetry, seven poems printed on signs at scenic turnouts along the Methow River and Early Winters Creek in Washington, exemplifies inspired, engaged interpretation. Forest Service employee Sheela McLean says about the poetry, "We wanted a way to make people feel. 'We were tired of our natural history approach'" (Marston, p. 14). Reading the poems just before winter closed the road,

she says, "I almost cried. The poems have the power to yank something out of my chest" (Marston, p. 14). That's what interpretation could do.

In terms of the literature on interpretation, Tilden's (1957) premises clearly privilege the quality of audience response over technologies of delivery and even over information itself in ways that are worth revisiting. His take on style of delivery is revealing:

So style is just the interpreter himself. How does he give it forth? It emerges from love.

... I do not name it here as a principle. It is, indeed, not a principle but a passion. (p. 10)

So, in Tilden's (1957) view, interpretation requires "passion"--intimate connections to audience and subject matter.

Biologists, naturalists, and nature writers have long argued that we all strive for a more intimate connection with land, wildlife, ecosystems. 273 million visitors a year to National Parks support this as being true. The nature writer Terry Tempest Williams (1994) has recently made the most direct, succinct argument for this position.

It is time for us to take off our masks, to step out from behind our personas--whatever they might be: educators, activists, biologists, geologists, writers, farmers, ranchers, and bureaucrats--and admit that we are lovers, engaged in an erotics of place. Loving the land. Honoring its mysteries. Acknowledging, embracing the spirit of place--there is nothing more legitimate and there is nothing more true.

That is why we are here. It is why we do what we do. There is nothing intellectual about it. We love the land. It is a primal affair. (p. 84)

We might see this is an "inspired" stance, political and personal at once. We could say this is using romantic and sexual tropes to persuade for a certain kind of connection of the land. We could say this way of connecting to the land--letting it be, an object of human love--is too expensive and too restrictive, because it disallows other kinds of relationships to the land. But if we can't discuss these affairs with each other, in our National Parks which are so concretely the sites of these connections and which are inhabited by those who could lead in educating and inspiring us in such discussions, then we lack inspiration, which is, after all, why we come to these places.

Works Cited

"The Circle of Life: The Variety of Life in Grand Teton Reflects John Muir's Understanding of the

Connections in Nature," Interpretive Talk, Grand Teton National Park, July 26, 1994.

National Park Service. Rocky Mountain Region. *Trends in Interpretation: The Rocky Mountain Region from 1981-1988*. By David Dunatchik. Estes Park, CO: Rocky Mountain Region, 1989.

Ham, Sam H. *Environmental Interpretations: A Practical Guide for People with Big Ideas and Small Budgets*. Golden, CO: North American Press, 1992.

"A Howl in the Woods: Wolves in the Greater Yellowstone Ecosystem." Interpretive Talk, Grand Teton National Park, July 30, 1994.

National Park Service. Grand Teton National Park. *Information and Training Handbook: Seasonal Park Rangers, Seasonal Ranger Naturalists, Fire Control Aids*. By Merlin K. Potts. Moose, WY: Grand Teton National Park, 1959.

Legg, Michael. *National Association of Interpretation: 1988 Research Monograph*. Ft. Collins, CO: National Association of Interpretation, 1988.

Lewis, William J. *Interpreting for Park Visitors*. N.p.: Eastern Acom Press, 1980.

Machlis, Gary E., Sam H. Ham, and Mark E. Van Every. *Mapping Interpretive Services: A Pilot Study at Grand Teton National Park*. Moscow, ID: College of Forestry, 1982.

Marston, Betsy. "The Valley is Deep Around Us." *High Country News*. November 28, 1994; 14-15.

National Park Service. Grand Teton National Park. *Master Plan Development Outline: Grand Teton National Park, Wyoming*. Moose, WY: Grand Teton National Park, 1958.

National Park Service. Grand Teton National Park. *Resume of Interpretive Operation*. By Charles W. McCurdy. Moose, WY: Grand Teton National Park, 1972.

Sharpe, Grant W. *Interpreting the Environment*. New York: John Wiles and Sons, 1976.

National Park Service. Grand Teton National Park. *Annual Statement for Interpretation and Visitor Services*. By E. Patrick Smith. Moose, WY: Grand Teton National Park, 1991.

Tilden, Freeman. *Interpreting Our Heritage: Principles and Practices for Visitor Services in Parks, Museums, and Historic Places*. Chapel Hill: U of North Carolina P, 1957.

Williams, Terry Tempest. *An Unspoken Hunger: Stories From the Field*. New York: Pantheon, 1994.

Superficial and Systematic Uses of Information About Environmental Risks

by Robert J. Griffin and Sharon Dunwoody

Few challenge the assertion that communication plays a central role in the perception of environmental risks. But there is a notable lack of consensus, at present, about how risk messages influence knowledge, attitudes and behaviors. Most risk communication researchers would agree that characteristics of the message and of its intended recipient interact to produce an effect (or lack of one). But how can one capture the intricate dance among the myriad factors that might tip your or my risk judgment in one direction or another?

The quick answer to that last question is: You can't. The number and type of potentially relevant variables is staggering, almost paralyzing. But an alternative to comprehensiveness exists. Instead of trying to account for all factors, risk communication researchers opt for being strategic. They cull from that overwhelming pile of variables some that seem potent, capable of having a greater impact on risk judgment than others. The goal is to assemble a small set of relatively powerful predictors that, while not explaining 100% of the variance in risk judgment, will explain enough.

In this paper, we propose a model that focuses on characteristics of individuals that, we feel, will predispose those individuals to seek and process risk information in different ways. Specifically, we suggest that five factors will influence the extent to which a person will seek out risk information in both routine and non-routine channels and the extent to which she/he will spend time thinking about a risk.

Risk Information Seeking and Processing

Why care about seeking and processing? Clearly, no matter how carefully or comprehensively you construct risk messages, you have wasted your time and energy if no one pays attention to them. Risk managers and researchers have long attended to the characteristics of the messages themselves (e.g., Singer & Endreny, 1993; Sandman, Sachsman, Greenberg & Gochfeld, 1987), but few have gone on to explore what individuals do with those messages. The few who have done so have focused typically either on how characteristics of the message influence reader reactions (for example, Johnson & Tversky, 1983; Dunwoody, Neuwirth, Griffin & Long, 1992) or on the differential impact of information channels, for example, mediated channels versus interpersonal ones

(i.e., Dunwoody & Neuwirth, 1991; Johnson & Meischke, 1993; Coleman, 1993). For example, Griffin, Dunwoody, Dybro and Zabala (1994) found that sending brochures warning of lead contamination to residents of a city had virtually no impact on residents' assessments of their level of risk or on any subsequent actions taken to lessen the risk. Instead, the best predictor of such assessments or actions was personal contact with a health professional, an interpersonal channel.

To the rescue have come psychologists, who have long been interested in information processing. Specifically, in proposing our model, we utilize and adapt aspects of a model developed by Eagly and Chaiken (1993) called the "Heuristic-Systematic Model" (HSM) of information processing. In the Heuristic-Systematic model, individuals make use of information either superficially or thoroughly. Heuristic processing is defined as "a limited mode of information processing that requires less cognitive effort and fewer cognitive resources" (p.327) than systematic processing. The latter, by comparison, is a much more comprehensive effort to analyze and understand information. Someone who uses heuristic processing to select a computer to purchase, for example, may rely on some characteristic that allows a quick decision with little thought, for example relying on a familiar manufacturer's name or on the advice of a friend. The systematic processor, on the other hand, will gather a great deal of information and will scrutinize it, evaluating the validity of various, competing claims, before selecting a computer to buy.

We suggest that the same heuristic-systematic distinction may be at work in individuals' assessment of environmental risks. Some individuals, under some conditions, will gather a lot of information about a risk and will make an effort to evaluate that information systematically before reaching a decision about the risk. Others will take the heuristic route, utilizing various superficial cues to reach decisions. For example, faced with conflicting information about the safety of dioxin, the systematic processor may gather copious amounts of information from a variety of information channels and then will read and evaluate in an effort to make a decision. The heuristic processor, on the other hand, may use small bits of information to reach a quick decision, for example relying on the

judgment of a colleague at work or evaluating the validity of current claims on the basis of some a priori attitude about the sources (e.g., "I hate EPA, so anything that EPA says is wrong").

The question, then, is what prompts someone to evaluate risk information systematically versus heuristically.

Our Model: Five Predictors

Our model (see *Figure A*) proposes that five major sets of variables will predict the kind of risk information seeking and processing that people engage in. Specifically, they are:

- Individual characteristics
- Perceived hazard characteristics
- Personal worry
- Information sufficiency
- Information gain self-efficacy.

Characteristics of Individuals. Our model begins with a set of variables representing the demographic/sociocultural background of respondents as well as their experiences with the hazard.

Demographic/Sociocultural. Most studies of risk perception introduce a variety of demographic and structural or sociocultural variables to help absorb variance in the dependent variable of interest. Typically, some subset of those constructs does account for statistically significant amounts of variance, although they rarely engage the lion's share. Typical of their contribution is that found in an extensive survey of public attitudes in the United States about the management of such risks as nuclear power, handguns, auto travel and industrial chemical production (Gould et al., 1988). The researchers found that the addition of such demographic variables as age, education, gender and political orientation did account for variance in respondents' judgments about the acceptability of technology safety regulations (the dependent variable) but accounted for increases, on average, of only 3 percentage points.

Use of these kinds of demographic variables is further problematized by their atheoretical employment. For example, studies frequently demonstrate a difference in risk perception between men and women; typically, women perceive a higher level of risk than do men and signal greater levels of personal worry about that risk than men. How should one give meaning to such a gender difference? In recent work, psychologist Paul Slovic found not a gender difference in risk perception but a difference between white males and everyone else (i.e., white women and minority men and women). The gender difference, he suggests, may be masking a difference in one's sense of control over one's environment. White males may simply feel more control than others

(Slovic, 1994). Such findings suggest that we need to select and interpret individual characteristics carefully. We propose the following list for more intense study:

- **Gender** has been such a systematic predictor of variance in the past that we include it here. But we also will include perception of personal control to explore that suggested dimension of gender meaning.
- **Ethnicity** similarly has been found to relate to risk perception, perhaps because of differences in (1) perceptions of personal control and/or (2) other factors such as differences in levels of exposure to (or experience with) risks (Vaughn & Nordenstam, 1991). We will include aspects of relevant hazard experience.
- **Age** has typically—but not always—had a positive relationship with risk perception. That is, the older one is the more fearful one is. However, this reaction may be risk-specific, e.g., concern about longer-term risks might decrease with age (e.g., Fischer et al, 1991; Griffin, Dunwoody, Dybro & Zabala, 1994).
- **Socioeconomic Status** also has uneven history of prediction. However, status, like ethnicity, could affect exposure to various risks. And education -- one of the major dimensions of SES -- tends to be such an important predictor of an individual's ability to seek, process and retain information that "knowledge gaps" can often develop between higher and lower status segments of society (Griffin, 1990; Olien, Donohue & Tichenor, 1983). One upshot is that blue-collar workers, for example, probably have a greater likelihood of personal harm from workplace hazards such as hazardous chemicals, but might not have the education that would enhance their ability to seek and process risk-relevant information.

Relevant hazard experience. Grunig (1983) observes that people tend to apply a referent criterion from past situations (e.g., a cognition that can serve as a decision rule) as an initial guide when deciding how to think, behave or communicate in a new situation, and that they develop new criteria only if the referent criterion fails to work in outlining the new situation. In our model, we propose that a major referent criterion that people might apply to a hazard is their past experience with the same hazard or with what they might nominate as a related hazard, including their experiences with associated preventive behaviors. Personal experience with a risk has served as a strong predictor, in many studies, of a number of dependent variables, among them individuals' perceptions of the risk of recurrence of that hazard in the future (Griffin, Dunwoody, Zabala & Kamerick, 1994), their

perception of the extent of risk posed by a related hazard (Griffin, Dunwoody, Dybro & Zabala, 1994), and information seeking (Lenz, 1984; Johnson & Meischke, 1993).

Hazard Characteristics, Worry, and Relevance.

Most studies of information use and processing employ some measure of issue salience, involvement or relevance as a predictor. As noted earlier, an issue judged to be personally relevant or important is more likely to generate systematic processing efforts than is an issue relegated to lower levels of importance or relevance (see, for example, Donohew, 1990; Petty & Cacioppo, 1981; Eagly & Chaiken, 1993). Constructs like salience or relevance, although clearly valuable to information studies, may be overly broad for use in studies of information and risk perception. Risks by definition have a very particular negative valence, and it is reasonable to assume that individuals' cognitive evaluations of a risk produce a response closely related to such constructs as relevance and salience but more specific and negatively valenced than either. We propose two stages of our model to capture this process: (1) cognitive precursors, something we call perceived hazard characteristics, which include measures related to a sense of personal risk, and (2) an affective construct we call "personal worry" about the risk. We expect that these variables, like the relevance variable, will eventually affect the intensity of information seeking and processing.

Perceived hazard characteristics. Risk perception researchers have convincingly argued that risk judgments are multidimensional, that is, that they take into account more than just estimates of the likelihood of coming to harm from exposure to a risk.

Perhaps the most visible proponent of multidimensional risk judgments is psychologist Paul Slovic, whose surveys of individuals' perceptions of risks and benefits led to a set of empirically defined groupings of risk characteristics and, ultimately, to groupings of risks themselves. He refers to his approach and the theoretical framework within which it is embedded as "the psychometric paradigm" (Slovic, 1992). Slovic originally demonstrated the utility of some 15 different risk characteristics but found that they could be grouped into a smaller set of higher-order characteristics that reflected the degree to which a risk is understood and the degree to which it evokes a "feeling of dread" (p.121). Gregory and Mendelsohn (1993), in a reanalysis of some of Slovic and colleagues' original survey data, found that six variables accounted for significant variance in respondents' assessments of perceived risk and of dread: (1) An estimate of the number of deaths that would take place "if next year is average"; (2) the estimated impact of the risk on future generations; (3)

an assessment of the immediacy of the effect; (4) a judgment of the potential for catastrophic outcome; (5) an assessment of the economic benefits of the risk; and (6) an assessment of the pleasure benefits of the risk. We include these six variables as well, and supplement them with three other cognitive precursors:

- (7) **Perception of personal risk.** An evaluation of the likelihood that "I personally" will be affected by the risk (Griffin, Dunwoody, Zabala & Kamerick, 1994);
- (8) **Prevention self-efficacy.** A self-evaluation of the level of personal control that the individual has over susceptibility to harm from the hazard (see, for example, Weinstein, 1993; Schwarzer, 1992; Ajzen & Timko, 1986; Rogers, 1985);
- (9) **Trust in risk management.** A judgment of the amount of trust the respondent has in the ability of others to prevent the respondent from coming to harm. This variable reflects a growing sentiment among risk perception researchers (see, for example, MacGregor et al., 1994; Flynn et al., 1992; Slovic, 1992; Wynne, 1992; Kasperon et al., 1987) that individuals' judgments of how much they can trust "responsible" agencies and institutions may play a major role in the kinds of risk perceptions that we attempt to measure in the construct discussed in the next section.

Variables 7 and 8 in particular reflect the model's need to obtain measures of personal rather than societal estimates of harm, given the nature of the next stage of the model. Variables 8 and 9 might even interact with one another to predict worry (e.g., worry might be especially magnified among those with low trust and low prevention self-efficacy; self-efficacy might not affect worry very much if trust is high). See *Figure B*. To some extent, such relationships between trust and prevention self-efficacy might reflect processes related to internal vs. external locus of control (e.g., Rotter, 1966).

Personal worry. Psychologists have long been interested in the power of emotion to catalyze behavior. Much of the work in this area has conceptualized emotion, or affect, broadly as feelings or moods. But as Dillard and Wilson (1993) note, one uniform dimension found in all conceptualizations is valence. And it is on that dimension that most communication studies rely when exploring the impact of emotion on various behavioral outcomes. Even more specifically, most studies explore the impact of negative valence, usually conceptualized as fear.

Beginning with Hovland and colleagues (1953), researchers have postulated that fear appeals could enhance the likelihood of recipients accepting a

communicator's message. A recent synthesis and analysis of the effects of such messages concludes that "the vast majority of experiments have found that higher levels of threat lead to greater persuasion than lower levels" (Eagly & Chaiken, 1993: 443). Fear is an obvious predictor of choice for risk perception researchers. Slovic (1987), for example, argues on behalf of the power of a concept he calls "dread." Risk communication researcher Peter Sandman (1994) similarly identifies an affective state called "outrage."

Even more specific is the affective concept we utilize in this study: level of personal worry. We argue that worry is conceptually distinct from estimates of coming to personal harm and that worry is a better predictor of subsequent risk-related behavior than is the more cognitive estimate of likelihood of harm (Dunwoody & Neuwirth, 1991). Similarly, and also consistent with previous findings in our research program (Griffin, Dunwoody, Zabala & Kamerick, 1994), we would expect worry to motivate information seeking and processing about a risk, even if indirectly, more than would the cognitive components of risk perception.

Information Sufficiency. Our model proposes that personal worry about a risk will affect the confidence one wants to have in one's knowledge about the risk (information sufficiency threshold), in particular about how to behave (i.e., protect oneself) in the face of the risk, which should manifest itself in a judgment of the amount of information the respondent feels he or she needs to take effective preventive action. Further reflecting the approach of the HSM model (Eagly & Chaiken, 1993: 330-332), we propose that more effortful information seeking and processing will be motivated when the sufficiency threshold is higher than the amount of such information the respondent feels he or she currently has (perceived knowledge). A strategy such as that used by Fischer et al. (1991: 312-313), in which persons are asked how much information they have gotten about a risk and its relationship to the amount they need (e.g., "a little of what I needed," "all that I needed") might be adapted to help measure information sufficiency.

Various individual characteristics, especially relevant hazard experience and social status, should affect what one actually knows about some hazards, as might some of the perceived hazard characteristics. We specify none of these relationships in the model as yet, except for the expectation that the block of variables grouped under "individual characteristics" will account for a significant amount of variance in the perceived amount of information one has about a hazard (perceived knowledge).

Information Gathering Self-Efficacy. Because our dependent variables of risk information seeking and processing are essentially communication

behaviors, one's sense of self-efficacy (e.g., Bandura, 1986) or perceived behavioral control (e.g., Ajzen, 1988) in performing them will be as important to measure here as in other domains of behavior or behavioral intention. We expect that information gathering self-efficacy will capture one's perceived ability to perform the information seeking and processing steps necessary for the outcome one desires, especially when an outcome requires more cognitive effort and the non-routine gathering of information. This variable should represent capacity (Eagly & Chaiken, 1993) as one of the essential precursors, along with motivation, of information seeking and processing efforts.

Information Seeking and Processing. Our model includes aspects of information processing (heuristic and systematic) that are a part of the HSM formulation, and it combines them with measures of broader patterns of information seeking (routine or non-routine) about risks that can be measured more readily in survey (rather than laboratory) settings.

Information processing: Eagly and Chaiken (1993) define heuristic processing as "a limited mode of information processing that requires less cognitive effort and fewer cognitive resources" (p.327) than systematic processing. The latter, by comparison, is a much more comprehensive effort to analyze and understand information. Applying Eagly and Chaiken's sufficiency principle to our formulation, we propose that the perceived gap between what someone knows and what he or she needs to know (i.e., one needs to know more about how to take effective preventive action in the face of a health risk) motivates a person to devote more cognitive effort to processing messages about the behavior, e.g., evaluating the message critically, thinking about the message, integrating message-based information with what one already knows. However, systematic processing is dependent upon one's capacity to think comparatively and critically and one's existing knowledge structures, and therefore is affected by the variable we call "information gathering self-efficacy." By default, however, most people employ the principle of least effort in processing messages, judging their validity and making decisions to comply through superficial cues such as the length of the message, the use of a trusted spokesperson, or the use of statistical data (e.g., for our study, the mere appearance of a risk estimate in a news story). This default is "heuristic processing." Both forms of processing, however, can take place simultaneously (Eagly & Chaiken, 1993).

As noted earlier, we suggest that the heuristic-systematic distinction may be at work in one's assessment of risks and one's own related behaviors. Some individuals, under some conditions, will gather

a lot of information about a risk and will make an effort to evaluate that information systematically before reaching a decision about what to do about the risk. Others will take the heuristic route, utilizing various superficial cues (e.g., noticing the use of statistics or a trusted spokesperson *per se* in a message) to reach decisions.

Heuristics used for processing messages are learned from past experience and stored in human memory (Eagly and Chaiken, 1993). Therefore, even though they are sometimes applied without much attention by people attending to messages (Chaiken, 1987), heuristics might represent themselves operationally through recognition measures of beliefs that people have about risk messages (e.g., agreement with statements such as "risk stories with statistical data are more trustworthy" or "longer risk stories are more trustworthy"). Systematic processing might be operationalized in a survey format in part via various measures of attention to risk messages beyond mere exposure (e.g., Griffin, Dunwoody, Zabala & Kamerick, 1994; Perse, 1990a) and the respondent's self-report of elaboration of the messages (adapting Griffin, 1990; Perse, 1990a; Grunig, 1983). Nonetheless, more development is needed of these measures.

Information seeking: Communication researchers (e.g., Johnson & Meischke, 1993; Gantz, Fitzmaurice & Fink, 1991) have frequently examined the ways that members of the public seek information more or less actively from various sources. Most research that examines audience uses of media, consistent with the sufficiency principle, finds that people employ a variety of mass and interpersonal channels to achieve personal goals (e.g., Perse & Courtright, 1993; Perse, 1990a, 1990b, 1990c), including those representing various cognitive (e.g., problem-solving or coping) and affective (e.g., tension-reduction) motivations (McGuire, 1974). Consistent with this past research and also our own (e.g., Griffin, Dunwoody, Zabala & Kamerick, 1994), our model adds the dimension of multi-channel information seeking and proposes that the sufficiency principle can also motivate non-routine seeking of information -- that is, active attempts to gather relevant risk information (e.g., calling the doctor) that go beyond habitual or routine sources a given individual might usually use for such information (e.g., evening newscast).

We expect that a significant proportion of variance in risk information seeking and processing will be predicted by the variables described in the model. We anticipate that risk information seeking and processing would be measured on continuous scales, especially given the probable overlap or simultaneity of heuristic and systematic processing. For illustration purposes,

however, Figure A shows six categorical mixtures of the seeking and processing variables. Here are examples of the four cells (RH, RS, NH, NS) representing the most basic combinations of seeking and processing:

- **Routine/Heuristic (RH)**, probably the most common, in which individuals might superficially attend to risk messages they encounter through habitual media use (e.g., they happen to come across a story in the evening newspaper they subscribe to);
- **Routine/Systematic (RS)**, in which individuals do not alter their information-gathering habits but do process more deeply and critically the information that they do encounter through ritual media use;
- **Non-Routine/Heuristic (NH)**, in which individuals expend extra effort to go beyond their routine information channels to gather or contact information sources whose messages they plan to process uncritically--e.g., calling a doctor to get advice they plan to follow;
- **Non-Routine/Systematic (NS)**, probably the least common, in which individuals expend extra effort to go beyond their routine information channels to gather or contact information sources whose messages they plan to process more deeply or critically--e.g., getting "second opinions" from physicians.

Summary

We propose a model that focuses on characteristics of individuals that, we feel, will predispose them to seek and process information about health risks in different ways. Specifically, we suggest that five factors--(1) individual characteristics, (2) perceived hazard characteristics, (3) personal worry about the risk, (4) information sufficiency, and (5) information gain self-efficacy--will influence the extent to which a person will seek out risk information in both routine and non-routine channels and the extent to which he or she will spend time and effort analyzing the risk information critically.

In future development of the model, we would expect that prior exposure to mass mediated depictions of risk could also affect some components of the model. For example, reliance on different media (mass and interpersonal) for information about risks could affect the perceptions that audiences have about various health hazards. Since television typically covers hazards that are catastrophic but relatively rare (Greenberg, Sachsman, Sandman, & Salomone, 1989), people who rely more on news media for risk information might have different perceptions of personal risk from various hazards than do people who

rely more on health professionals. Future development might also examine the effects of risk information seeking and processing on risk-related beliefs, attitudes, and behaviors. For example, in line with the Heuristic-Systematic Model, we would expect that deeper, more active information seeking and processing would result in more stable beliefs about behaviors one would take in the face of a health risk. The stability or volatility of these beliefs could, in turn, affect the stability or volatility of risk-related attitudes and behaviors (Fishbein & Ajzen, 1975). The Theory of Reasoned Action (Fishbein & Ajzen, 1975) might therefore be a useful companion to our model (also see Ajzen, 1988; Griffin, Neuwirth & Dunwoody, 1995).

Conclusion

Our model attempts to provide an understanding of the processes affecting the ways that audiences use information about environmental risks to their health, and will be tested in discrete stages. We hope that our model will accelerate the development of theory in risk communication, and that practitioners will also find the model useful when they construct messages designed to inform audiences about environmental risks. This line of research is important because, even with advances in medicine and technology, public health programs are expected to continue to rely on people making behavioral choices based on information they gather or receive about health risks (Fishbein & Middlestadt, 1989).

References

- Ajzen, I. (1988) *Attitudes, Personality, and Behavior*. Milton Keynes, UK: Open University Press.
- Ajzen, I. & C. Timko (1986) Correspondence between health attitudes and behavior. *Journal of Basic and Applied Social Psychology* 7: 259-276.
- Bandura, A. (1986) *Social Foundations of Thought and Action*. Englewood Cliffs, NJ: Prentice Hall.
- Chaiken, S. (1987) The heuristic model of persuasion. In M.P. Zanna, J.M. Olson, & C.P. Herman, eds., *Social Influence: The Ontario Symposium*, Vol. 5. Hillsdale, NJ: Erlbaum, 3-39.
- Dillard, J. P., & Wilson, B.A. (1993) Communication and affect. *Communication Research* 20(5):637-646.
- Donohew, L. (1990) Public health campaigns: Individual message strategies. In E.B. Ray and L. Donohew, eds., *Communication and Health: Systems and Applications*. Hillsdale, NJ: Lawrence Erlbaum, 136-152.
- Dunwoody, S. & K. Neuwirth (1991) Coming to terms with the impact of communication on scientific and technological risk judgments. In L. Wilkins and P.

Patterson, eds., *Risky Business: Communicating Issues of Science, Risk, and Public Policy*. Westport, CT: Greenwood Press, 11-30.

Dunwoody, S., K. Neuwirth, R.J. Griffin & M. Long (1992) The impact of risk message content and construction on comments about risks embedded in "letters to friends." *Journal of Language and Social Psychology* 11(1 & 2): 9-33.

Eagly, A.H. & S. Chaiken (1993) *The Psychology of Attitudes*. Fort Worth: Harcourt Brace Jovanovich.

Fischer, G.W., M.G. Morgan, B. Fischhoff, I. Nair & L.B. Lave (1991) What risks are people concerned about? *Risk Analysis* 11(2): 303-314.

Fishbein, M. & I. Ajzen (1975) *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley.

Fishbein, M., & S.E. Middlestadt (1989) Using the Theory of Reasoned Action as a framework for understanding and changing AIDS-related behaviors. In V.M. Mays, G.W. Albee and S.F. Schneider, eds., *Primary Prevention of AIDS: Psychological approaches*. Newbury Park, CA: Sage, 93-110.

Flynn, J., W. Burns, C.K. Mertz & P. Slovic (1992) Trust as a determinant of opposition to a high-level radioactive waste repository: An analysis of a structural model. *Risk Analysis* 12(3): 417-429.

Gantz, W., M. Fitzmaurice & E. Fink (1991) Assessing the active component in information seeking. *Journalism Quarterly* 68(4): 630-637.

Gould, L.C., G.T. Gardner, D.R. DeLuca, A. R. Tiemann, L.W. Doob & J.A.J. Stolwijk (1988) *Perceptions of Technological Risks and Benefits*. New York: Russell Sage Foundation.

Greenberg, M.R., Sachsman, D., 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.

Gregory, R. & R. Mendelsohn (1993) Perceived risk, dread, and benefits. *Risk Analysis* 13(3): 259-264.

Griffin, R.J. (1990) Energy in the eighties: Education, communication, and the knowledge gap. *Journalism Quarterly* 67(3), 554-566.

Griffin, R.J., S. Dunwoody, F. Zabala & M. Kamerick (1994) Public reliance on risk communication channels in the wake of a cryptosporidium outbreak. Presented to the Society for Risk Analysis, annual convention, Baltimore MD. December.

Griffin, R.J., S. Dunwoody, T. Dybro & F. Zabala (1994) The relationship of communication to risk perceptions and preventive behavior related to lead in drinking water. Presented to the Association for Education in Journalism and Mass Communication,

annual convention, Atlanta GA. August.

Griffin, R.J., K. Neuwirth & S. Dunwoody (1995) Using the theory of reasoned action to examine the impact of health risk messages. In B.R. Burleson, ed., *Communication Yearbook 18*. Thousand Oaks, CA: Sage, 201-228.

Grunig, J.E. (1983) Communication behaviors and attitudes of environmental publics: Two studies. *Journalism Monographs* 81, March.

Hovland, C.I., Janis, I.L. & Kelley, H.H. (1953) *Personality and Persuasibility*. New Haven, CT: Yale University Press.

Johnson, J.D., & H. Meischke (1993) A comprehensive model of cancer-related information seeking applied to magazines. *Human Communication Research* 19(3): 343-367.

Johnson, E.J., & Tversky, A. (1983) Affect, generalization and the perception of risk. *Journal of Personality and Social Psychology* 45(1): 20-31.

Kasperson, R., S. Klaidman, V. Houk, E. Silbergeld, E.H. Blair, F. Lynn, P. Sandman, A. Alm & T. Vacor (1987) Trust and credibility: The central issue? In J.C. Davies, V.T. Covello and F.W. Allen, eds., *Risk Communication*. Washington, DC: The Conservation Foundation, 43-62.

Lenz, E.R. (1984) Information seeking: A component of client decisions and health behavior. *Advances in Nursing Science* 6: 59-72.

McGuire, W.J. (1974) Psychological motives and communication gratification. In J. Blumler and E. Katz, eds., *The Uses of Mass Communication: Current Perspectives on Gratifications Research*. Beverly Hills, CA: Sage, 167-198.

MacGregor, D., P. Slovic, R.G. Mason, J. Detweiler, S.E. Binney & B. Dodd (1994) Perceived risks of radioactive waste transport through Oregon: Results of a statewide survey. *Risk Analysis* 14(1): 5-14.

Olien, C., G.A. Donohue & P.J. Tichenor (1983) Structure, communication, and social power: Evolution of the knowledge gap hypothesis. In E. Wartella, D.C. Whitney, and S. Windahl, eds., *Mass Communication Review Yearbook*, Vol. 4. Beverly Hills, CA: Sage, 455-461.

Perse, E.M. (1990a) Audience selectivity and involvement in the newer media environment. *Communication Research* 17(5): 675-697.

Perse, E.M. (1990b) Media involvement and local news effects. *Journal of Broadcasting & Electronic Media* 34(1): 17-36.

Perse, E.M. (1990c) Involvement with local television news: Cognitive and emotional dimensions. *Human Communication Research* 16(4): 556-581.

Perse, E.M., & J.A. Courtright (1993) Normative images of communication media: Mass and

interpersonal channels in the new media environment. *Human Communication Research* 19(4): 485-503.

Petty, R.E. & J.T. Cacioppo (1981) *Attitudes and Persuasion: Classic and Contemporary Approaches*. Dubuque, Iowa: W.C. Brown.

Rogers, R.W. (1985) Attitude change and information integration in fear appeals. *Psychological Reports* 56:179-182.

Rotter, J.B. (1966) Generalized expectancies for internal vs. external control of reinforcements. *Psychological Monographs* 80, 1 (No. 609): 1-28.

Sandman, P.M. (1994) Mass media and environmental risk: Seven principles. *Risk: Health, Safety & Environment* 5(3):251-260.

Sandman, P.M., Sachsman, D.B., Greenberg, M.R., & Gochfeld, M. (1987) *Environmental Risk and the Press*. New Brunswick, NJ: Transaction.

Schwarzer, R. (1992) Self-efficacy in the adoption and maintenance of health behaviors: Theoretical approaches and a new model. In R. Schwarzer, ed., *Self-Efficacy: Thought Control of Action*. Washington, DC: Hemisphere, 217-243.

Singer, E., & Endreny, P. (1993) *Reporting on Risk*. New York: Russell Sage Foundation.

Slovic, Paul. (1987) Perception of risk. *Science* 36:280-285.

Slovic, P. (1992) Perception of risk: Reflections on the Psychometric Paradigm. In S. Krinsky and D. Golding, eds., *Social Theories of Risk*. Westport, CT: Praeger, 117-152.

Slovic, P. (1994) Scientific versus public perceptions of environmental risks: Where is the reality? Presentation at the 160th national meeting of the American Association for the Advancement of Science, San Francisco CA. February.

Vaughn, E. & B. Nordenstam (1991) The perception of environmental risks among ethnically diverse groups. *Journal of Cross-Cultural Psychology* 22(1): 29-60.

Weinstein, N.D. (1993) Testing four competing theories of health-protective behavior. *Health Psychology* 12(4): 324-333.

Wynne, B. (1992) Risk and social learning: Reification to engagement. In S. Krinsky and D. Golding, eds., *Social Theories of Risk*. Westport, CT: Praeger, 275-297.

Figure A: Model of Risk Information Seeking and Processing

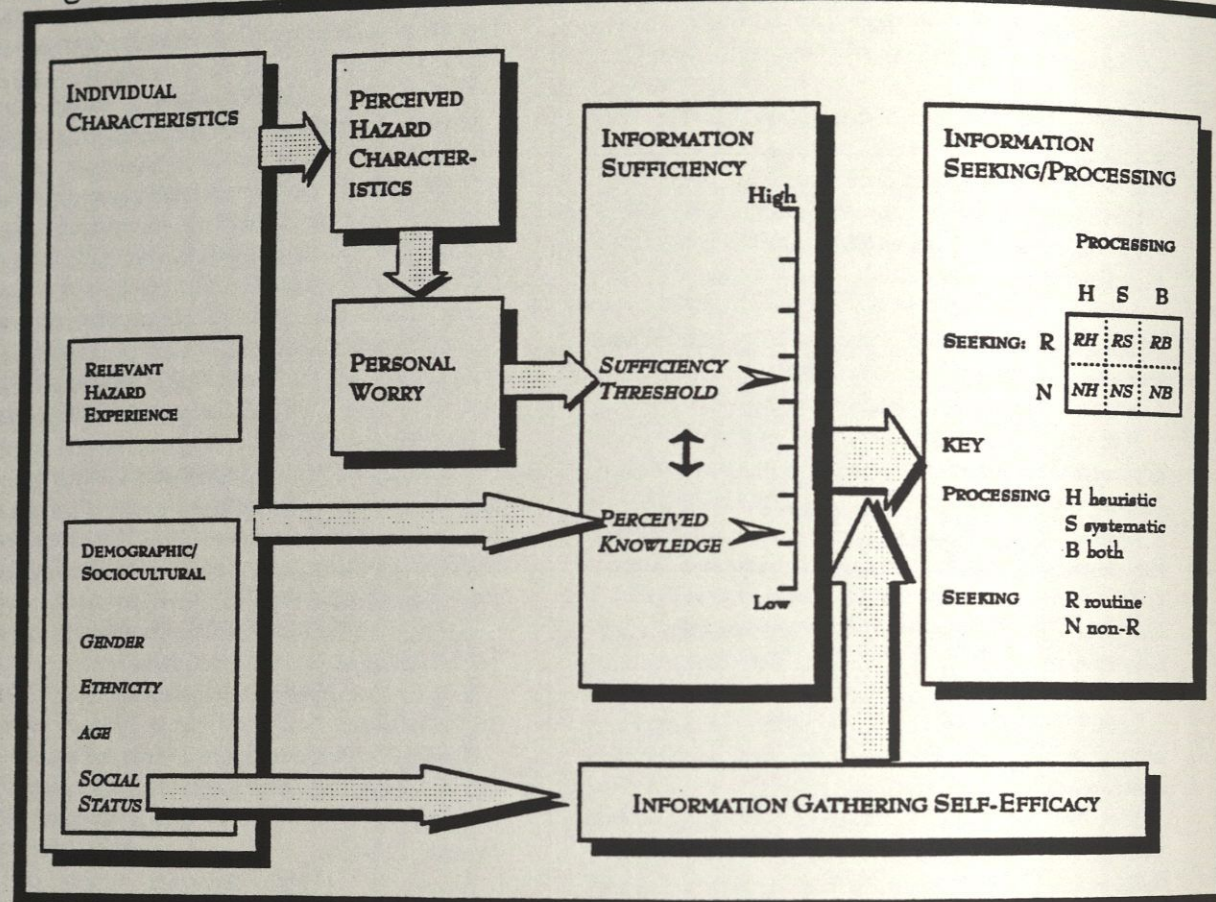
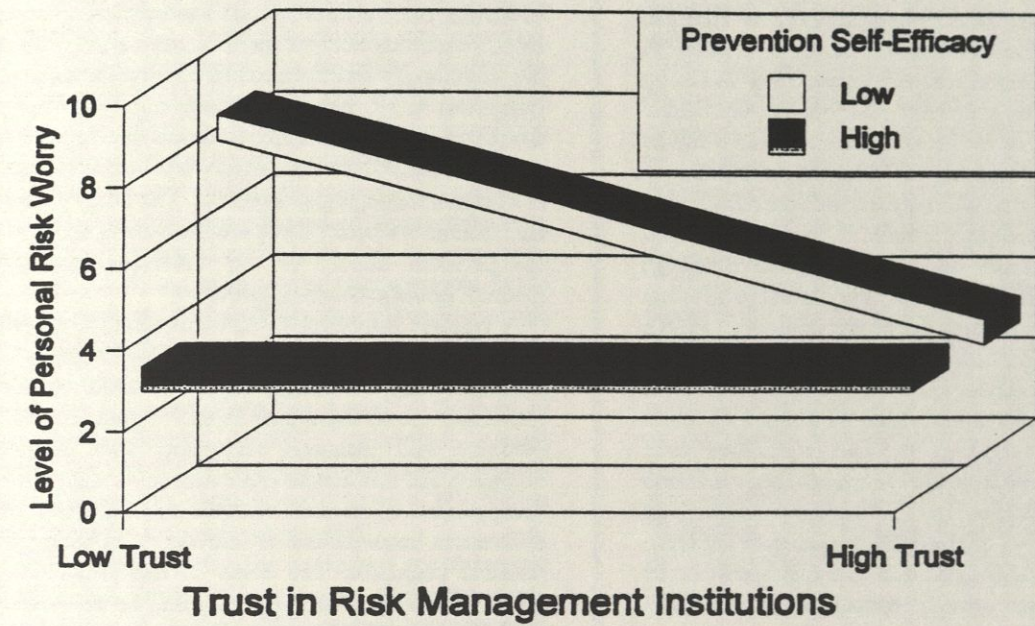


Figure B: Hypothetical Relationships--
Trust, Self-Efficacy, and Worry



Reporting Hantavirus: A Study of Intercultural Environmental Journalism

by JoAnn M. Valenti

In recognition of the 50th anniversary of the National Congress of American Indians, the U. S. Commerce Department released a report in late 1994 based on 1990 census data from over 300 tribes in the United States. According to the study, the American Indian population increased over 30 percent during the last decade. Nearly 450,000 families are identified in the current population of 1.9 million; in four of the ten largest tribes, more than 10 percent have college degrees; and the Navajo have the highest proportion (48.8%) of people living in poverty ("Survey," 1994). To help media accurately report on Indian issues and write articles involving tribal lifestyles, the Bureau of Indian Affairs encourages reporters to call for correct terminology or phrasing, and handbooks have been developed. (See for example *The American Indian and the Media* published by The National Council on Christian and Jews.) Others have advocated the value of cultural journalism, an effort to encourage diversity among those who actually report and write the news (Creed, 1994).

In their article "Beyond the Culture Wars: An Agenda for Research on Communication and Culture", Davis and Jasinski warn against assumptions about the social world and advise us that "[L]ong-suppressed ethnic cultures are gaining strength" (1993, p. 141). Most American journalists and communications researchers have been trained in educational and institutional environments founded on the preeminence of modern civilization. However, over the past decade the challenges to modernism and concerns raised by negligence in the dominant social order have become more evident; one more often finds references to the work of Habermas (1979, 1989), for example, in the social research and communication literature. Signs of a developing consciousness, a sensitivity to diverse voices, have emerged slowly in mainstream media and mainstream communication research. An underlying premise in this paper, however, suggests that journalistic standards and norms are fairly potent contaminants for any culture. Journalism considered as a learned "new" culture is capable of taking precedence, overwhelming existing mores.

Deference to cultural rationalities, perhaps unscientific in the technical view, opens environmental journalism and the health risk dialogue to a wider range of voices, inclusive of those who see themselves

as victims. Such efforts by media to be more inclusive are more recently evident and indicate a recognition of the complexity and richness of the media audience. Questions arise, however, when reporters, not as advocates, but in the effort to follow the fuller story must understand diverse voices without framing news in a manner damaging to a culture. The study reported here examines whether there are barriers in addition to the personal history of any individual journalist inherent in the journalistic process.

A cultural approach to environmental communication assumes the view that the "lay" experiential evidence and reasoning that constitute cultural rationality are as legitimate as the "expert" scientific evidence and technical rationality that normally dominate the risk debate (Krimsky & Plough, 1988). The problem when faced with the addition of cultural differences becomes one of knowledge in addition to possible prejudice. The focus of this paper is the production and negotiation of meaning for mass media audiences in the reporting and health communications surrounding the emergence of a new strain of hantavirus. The discovery of this disease in a new environment is a newsworthy health risk event. This study examines media portrayal of Navajo culture in reporting the hantavirus outbreak in 1993, the role of the journalistic process and cultural ignorance in the hantavirus coverage, and intent (meaning) sources for the hantavirus information and the media professionals themselves brought to the story.

Accepted mass communication theory suggests that regional media coverage of the hantavirus outbreak is more likely to be balanced; proximity detours reliance on limited sources or over-reliance on sources representative of only a partial point of view. Reporting in regional newspapers should also more often be the work of staff journalists than copy provided over national wire services. In the absence of cultural journalism, it is assumed reporters rely on journalistic standards; cultural insights or privilege do not intrude on expected norms.

Communicating Environmental and Health Risk In Mass Media

The role of the mass media in public knowledge, perceptions and attitudes, especially when information is new, has been widely studied. Media have been

charged with activating apprehensions and myths. Mediated environmental news is the focus of much recent study. Consistent with general media role findings, in a study of British television coverage of environmental issues, Cottle (1993) found unopen and unequal access to the range of voices. He found news forums restricted to "outside" voices, but saw encouragement in "live" programming where more opportunities for discursive engagement occurred. Studio-based interviews, for example, offered the possibility of developing other, non-traditional points of view. He called for increased sensitivity to cultural expressions of environmental portrayals of news.

Waiting for journalists who promise by nature or birth to be more sensitive to non-dominant cultures to report environmental and health risk stories proves frustrating, and may, as this researcher suspects, fail to alter the product. The latest figures on diversity among America's news professionals show improvement at a snail's pace (Lieberman, 1994). In *USA TODAY* report on a survey from the American Society of Newspaper Editors (ASNE), minorities overall account for 10.5% of the total population of close to 54,000 newsroom professionals. At only .3%, Native Americans are the least represented.

Those who watchdog the watchdogs are concerned about what journalists bring to their reporting. Dunwoody and Griffin (1993) studied how reporters cover Superfund sites in differing communities and found predictable factors influencing journalistic strategies. In addition to re-affirming that journalists are event driven, for example, they report that journalists "simply adopt the frames of references of the bureaucracies that they cover; a dimension of an issue will be deemed newsworthy because officials have defined that piece of the process as important" (p. 46). But they also find that sources of all kinds are able to drive story themes, and that occupational or organizational norms and resources can influence story frames. Indeed, however, prevailing power structures tend to build environmental coverage frames. Those media frames then influence both societal risk judgements and personal risk judgement (Coleman, 1993).

As one might expect, the amount of media coverage given to environmental or health risks is related to people's estimates of principal causes of death (Kasperson et al., 1988). Media are "highly selective, often sensationalized, and sometimes inaccurate" when reporting environmental and health risks and recommended actions (Wilkins & Patterson, 1987, p. 19). Rarity is a more compelling story than commonality; ratings and newspaper sales are assumed to be driven by dramatic events, not in-depth analysis of important emerging issues. Not surprisingly, public under-

standing and involvement in environmental issues has been hindered by the quality of information provided (McCallum, Hammond, & Covello, 1991).

Media attention appears unrelated to the number of deaths or injuries, but closely related to newness, rarity or perceived drama (Singer & Endreny, 1987). Singer and Endreny (1987) also found that media offer no or inadequate information about the likelihood of the occurrence of a risk, often leaving inaccurate public perception and unnecessary or misguided anxiety. Slovic (1986), who has researched public perception of risks extensively, finds memorability and the ability to imagine a risk culpable in distorted public risk perceptions. Anything that causes a risk to be more memorable increases the perceived likelihood of occurrence (Ryan, Dunwoody & Tankard, 1991).

Of additional note is the text-audience relationship, framed not only by the media writer but also by the reader, listener or viewer. Frameworks of interpretation involve personal experience or predisposition, political and environmental concern filters, assessment of evidentiary contributions (how an argument or narrative, image or statistic is added to knowledge), and judgement of balance or fairness (Corner & Richardson, 1993). Meaning and interpretation of news are contingent on influences beyond the mediated message.

The Hantavirus Story

Although hantaviruses are distributed worldwide (Stone, 1993), when the emergence of a new strain of hantavirus in the United States hit the mass media agenda in 1993, charges of media stereotyping and environmental racism came in tandem. The initial story telling was accused of being laden with negative images of a Native American culture and generalities that leapt from scientific uncertainty to labels associating the disease in error with a particular minority group of people and their culture. From the onset, Navajo spokespersons attempted to respond to what they saw as a crisis in the public sphere and correct misperceptions, as well as, defend themselves in the face of ethnocentrism from both the media and health communities. Within weeks of the discovery of yet another strain of hantavirus, a National Public radio (NPR) report (June 9, 1993) broadcast interviews with Navajo spokespersons, who already resented the insensitivity of journalists covering the story and linking the disease to the tribe. A reversal of the more respectful trend in the treatment and understanding of Native American cultures seemed likely as hantavirus reports recreated a fearful image of an entire region of the country and a culture. The Navajo people were left to confront a host of hostile publics.

Unfortunately, this story may never end. As

naturalist Terry Tempest Williams (1987, 1994) might explain in her efforts to help audiences become more sensitive to Navajo culture, coyote is everywhere. A recently released study by state, federal and Indian groups indicates rodents throughout the state of Montana carry the hantavirus disease ("Hantavirus," 1995).

Within one year of reporting of the outbreak in the Four Corners region in the western states, 40 people had died in 17 states. The disease was tagged as "an Indian ailment" because the new viral strain was discovered on a Navajo reservation covering parts of Utah, Arizona, Colorado and New Mexico. *USA TODAY* may have been first to use the tag "the Navajo flu," although a representative from the National Center for Infectious Diseases (CID), an M.D. who authored the original formal notices announcing the news viral strain, claims a headline in the *Albuquerque Tribune* first used the label "Navajo Flu." *Albuquerque Tribune* science reporter Lawrence Spohn equated that to calling AIDS "the gay disease" (Richard, 1993). The *Arizona Republic* used the label "the Navajo epidemic," and NBC News made reference to "the Navajo disease."

Dwayne Beyal, public information director for the Navajo Nation, told one *Inquiry* writer that while the spread of the disease may end, "the false image of Navajo life as impoverished and unsanitary may persist in the minds of many Americans" (Richard, 1993, pp. 2-3).

The Centers for Disease Control (CDC) based in Atlanta, Georgia became a key government source for the story, although CDC makes an effort to refer media to state and local health departments. CDC press officer Bob Howard labels the problem a "data dump," referring to the estimated 25,000 media calls he receives each year. In hindsight, CDC spokespersons describe rather than cultural sensitivity in the case of the hantavirus outbreak, an example of "dueling amateurs": a CDC investigator trained in epidemiology and a non-specialist reporter.

Analysis of Media Coverage

Although the original time frame for analysis was set for April 1993 (the "crisis" story actually broke in the major national media in late May 1993) through May 1994, headlines and wire stories continued for months to herald the Navajo/hantavirus story, first as the tribal government objected to the originally recommended name for the "deadly" virus discovered in the Four Corners area, and later as more victims were identified.

The first name proposed for the strain of hantavirus, Muerto Canyon virus (MCV), in use in the scientific literature (*Science*, 1994), was derived from Canyon

del Muerte (canyon of death), a site on the Navajo reservation. Traditionally, new viruses are named after where they are discovered, but to avoid offending local people, CDC called this new strain Pulmonary Syndrome Hantavirus (Marshall, 1993; Hughes et al, 1993). "The hantavirus was all over the United States," Navajo Nation Council member Genevieve Jackson told an Associated Press reporter. "We resent the fact that it is named after a canyon here...CDC should have a little more respect and consideration for the Navajo people" (Associated Press, Navajo, 1994). The name finally accepted for the new strain, "Sin Nombre," introduces an interesting sidestep (meaning "without a name") from the cultural versus scientific tradition conflict.

Continuing stories reported new cases of the disease with some fatalities, and analyzed long term economic woes created as fearful tourists canceled plans to visit the Four Corners area (Becenti, 1994), and in a related turn of events, CDC announced a "war" on diseases, comparing "virulent cholera ravaging India" to "hantavirus killing Americans" (Associated Press, CDC, 1994).

Findings. In an initial analysis of 67 news stories in three regional newspapers (*The Phoenix Gazette*, *The Arizona Republic* and *The Salt Lake Tribune*), and a small sampling of coverage from television news (ABC and CNN) and other media, during the period from late May 1993 through April 1994, support is found for early criticism of media's performance as this story broke. Articles selected using NEXIS, CARS and home delivery service were coded as either local (staff) written or from wire services. In the three regional newspapers analyzed, 60% of stories originated from wire services, while 40% were reported by local staff. The number of mentions of "Navajo" were counted and each was evaluated in context as negative, neutral or positive. Coders judged each mention of "Navajo" in reference to modifying or other specific words also appearing in the same sentence or paragraph, and general tone based on context.

The number of sources used in each story was then recorded and each quote or attribution categorized as Navajo, Government, Business/Industry, Citizen/Member of General Public, or Other (with notation of expertise or affiliation if evident). A random recode resulted in a reliability of 82%.

Of all references made to Navajo (n=302), 35% were judged to be negative. Some 39% of references to Navajo were neutral; 26% were positive. However, it appears that specific mention of Navajos or contextual references derogatory to the Navajo or Native American culture declined as the story unfolded. Reports of the virus and specific mention of the Four Corners region as a Navajo reservation appear to give

way to increased attention to science and medical information, although general geographic mention of the southwest or Four Corners area continues. (Further work is needed on possible continuing associations regardless of specific mentions.)

Some 1 to 11 sources were used in each of the stories examined (n = 251). Of these, 34% were clearly identifiable as Navajo or Indian/Native American. Government sources, usually CDC or state Health Department officials, accounted for 45%, while business or industry represented 6% of those quoted. The "Other" category provided 13% of sourcing; these were generally university scientists or medical professionals in the private sector. Only some 2% of sources used to tell the story were voices from the general public, usually tourists.

Examples of quotes from Navajo Tribal Council spokespersons and from government sources demonstrate the unraveling conflict:

Zah [President of the Navajo Nation], at a press conference here said, "Navajos are finding themselves shunned in public places and business establishments...Navajos have been made to feel like plague bearers or lepers whose touch is to be feared." (Arizona Republic, June 18, 1993, p. A1)

"I believe it behooves you as an educational institution to learn the known facts about this illness before resorting to actions that discriminate against our students," [Marshall] Plummer [Vice President of the Navajo Nation responding to the University of Colorado and New Mexico State's announcements that Indian students would need a medical screening] said. "Be assured that this illness is not Navajo specific. The illness has struck non-Indians and people who live far away from Navajo lands. This is not a racial illness, but a regional one." (Phoenix Gazette, June 15, 1993, p. B1)

"People who have been personally affected by this, by friends and relatives, in some cases because of the publicity and the presence of the media are reluctant to talk to our investigators," said Dr. C. Mack Sewell, New Mexico's chief epidemiologist. (Phoenix Gazette, June 3, 1993, p. A2)

For this study, only three sample transcripts from television news (ABC News and CNN) were examined. Again, analysis for negative, neutral or positive association between the disease and the culture, and frequency of sources representing diverse cultures, suggests a similar pattern as exemplified in

the following excerpts:

"An army of health care workers has descended on the U.S. Southwest-its mission, to identify a mysterious illness that has killed 13 people, mostly Navajo Indians. The professionals have all the tools of modern medical investigation, but tribal traditions and taboos are complicating their probe." [Natalie Allen, CNN anchor, lead-in to report from correspondent Robert Vito, June 3, 1993.]

"Navajo children from Arizona were headed home today after being told they could not visit with their pen pals at a Los Angeles school. The principal of the California school and her students were worried they might catch the disease from the Navajo children." [ABC News reporter Gary Sheppard, June 2, 1993.]

Electronic media's references or associational tagging however followed print's lead and became less negative in later coverage.

Coverage in *The Navajo Times*. To explore the possible effects of cultural journalism on this same coverage, articles about hantavirus appearing in the Navajo Tribal Council newspaper, *The Navajo Times*, during the peak months of the breaking story (June and July) were also coded. Two coders independently analyzed the 20 identified stories noting placement and coding the number and categories of sources and evaluating references to "Navajo" as positive, negative or neutral. Inter-coder reliability was measured at 87%.

Almost all coverage during the studied period appeared as front page stories, and either carried staff bylines or ran with writer/reporter unidentified. Although the majority of references to "Navajo" were found to be "neutral" (60%), even in this tribe sponsored periodical, nearly one-third (32%) of all references to the Indian name were coded as "negative." And of the total 100 direct references to the term, only 8% were judged to be "positive."

In the analyzed articles, with attribution to a range from 1 to 13 sources, the most often cited source was not a government spokesperson or report. Data show that 26% of the 94 identified sources were categorized as "government," while Navajo sources, the anticipated primary source for this publication, comprised only slightly more (29%) of the sources used in this reporting. Other media were quoted or paraphrased in 11% of the *Navajo Times* coverage, but unlike the reporting in the regional dailies studied, journalists writing for this tribal newspaper went to the science community for 28% of the attributed information. Business and industry sources accounted for 4% of the

coverage, and members of the public (not identified as Navajo) made up the remaining 3% of people contributing to this coverage.

Conclusions and Further Research

It is difficult to say much about what the world is like when all of the data are not yet available. Such is the nature of theorizing. This analysis of a small sample of the local media directly involved with the coverage of the recent hantavirus outbreak confirms some of the criticism of media, but it is not clear what lasting impact, if any, such media coverage has on those who read or see such reporting, nor what problems result from negative reinforcement of existing stereotypes. And, indeed, an effort to balance the usual government and expert sources with attention to Navajo perspectives is evident in this study. But, as has been pointed out in reference to poor media coverage of religion, "prejudice is a minor problem compared with apathy and ignorance," (Mattingly, 1993, p. 12).

What this study suggests is that cultural sensitivity alone may not override deeply rooted journalistic training and processes. As one reporter covering this story pointed out, "Everybody that had an Indian on the staff sent them." And although a total population of only .3% seems not to offer a large pool of Native American journalists, peak news events during this story often looked like "a convention of the Native American Journalists Association," according to one NAJA member.

Although an unexpected number of the journalists who covered this story extensively for mainstream print and electronic media were Native American, differences in coverage minority reporters brought to the coverage suggest only an initial "better understanding" and easier access to some sources. However, barriers to unbiased intercultural journalism are strong. Conroy Chino, a reporter for an Albuquerque television station and an American Indian, says he understands the criticism of how media performed in covering the hantavirus story. "There is some legitimacy to those complaints," Chino told Bob Gassaway in a story for *Quill*. "We came with satellite trucks, flashing cameras, and probing questions," he said. "We pounced on this story because of its impact, its intriguing quality." Navajos chased Chino away from a funeral for one victim on the reservation. In Navajo culture, not only are burial ceremonies considered private, but that person's name goes unspoken for a year after his or her death. It is safe to assume most journalists covering the story were ignorant of many Navajo traditions, customs and the privacy of spiritual rituals.

Another reporter, who is Navajo and filed numerous lengthy stories for one of the studied regional

newspapers, said, "I have to put my Navajo-ness in the back seat and go on." To this reporter's advantage, she spoke the Navajo language, and on more than one occasion was able to get to stories and Navajo sources others missed. However, she added that when the story was over, she planned to see her medicine man to conduct a traditional ceremony for restoring her harmony with the universe.

Of additional importance, although minority reporters were involved in the regional coverage, their input is hardly exclusive. At one major newspaper where a correspondent who is Navajo contributed much of the reporting on the hantavirus story, wire stories were also run, often with such leads as: "Three months after a mysterious, life-threatening malady struck around the Navajo reservation...." and ended with a death count. Headlines for wire service coverage typically read, "Hantavirus Scare Has Slowed N.M. Tourism" (*Salt Lake Tribune*, 1993). Interestingly, the assignment editor during this coverage at one of the studied regional newspapers is Native American and in an interview with this researcher discussed personal involvement in the story. A relative living on the Navajo reservation had actually contracted the disease.

As Hahn (1994) reminds us in *The Politics of Caring*, "The biases of reporters, editors, and publishers and the influence of advertisers surely have an effect, if only in subtle and not completely conscious ways" (p. 198). What Hahn fails to address is the influence on individual bias not only from the journalistic process, but inherent in journalistic norms.

The long term impact of media's initial framing of a new issue may be too deeply embedded in the public sphere for media, even when they "correct" their interpretation, to undo misperceptions. Considering the role of CDC and other public health investigators in this story, and the equally harsh criticism of their "cultural insensitivity" during this virus outbreak, future research should include attention to the effect of sources as well as media. In a recent letter to the editor of *Science*, one of several responding to criticisms of the quality of U.S. Environmental Protection Agency (EPA) research, Richard Andrews (1994) writes:

If EPA is truly to base its decisions on the best possible science, it will need not only to improve the quantity and quality of its research but also to address equally important socioeconomic factors that determine the effectiveness of its policies. A likely result will be the discovery of many risk-reduction opportunities that are less costly and more effective than present policies (p. 1670).

This message may need to be heard by the CDC, and

other government decision makers, especially those serving as primary sources of information for the mass media. If the content of point source information changes to better reflect a sensitivity and understanding of all cultures, it may curtail waiting for the ASNE survey data on diversity in hiring to improve, or the advent of approval for cultural journalism. But what this preliminary study also suggests is that shooting the messenger, or making assumptions about the messenger, may conjure only more stereotyping and is unlikely to resolve the environmental or cultural justice issue in the long run if the difficulty lies within the process standards and norms. Attention to training in cultural sensitivity within our own national boundaries, and more importantly, thought to insensitivities built into our media processes offer more promise in the effort to remove the existing barriers to accurate and fair coverage.

References

- Andrews, R.N.L. (March 25, 1994). *Science*. Vol. 263:1669-70.
- Associated Press (April 24, 1994). CDC starts early-warning system in war on disease. *The Salt Lake Tribune*, sect. A, p. 7.
- Associated Press (April 19, 1994). Navajo council hears objection to disease name. *The Salt Lake Tribune*, sect. A, p. 8.
- Becenti, D. (April 20, 1994). Reservation businesses hurt by hantavirus coverage. *The Salt Lake Tribune*, sect. D, p. 4.
- Coleman, C. (1993). The influence of mass media and interpersonal communication on societal and personal risk judgements. *Communication Research*, 20, 611-628.
- Corner, J., & Richardson, K. (1993). Environmental communications and the contingency of meaning: A research note. (pp. 222-233) In A. Hanson (Ed.) *The mass media and environmental issues*. Leicester, London: Leicester University Press.
- Cottle, S. (1993). Mediating the environment: Modalities of TV news. (pp. 107-133) In A. Hanson (Ed.) *The mass media and environmental issues*. Leicester, London: Leicester University Press.
- Creed, J. (1994). The value of cultural journalism to diversity in the mainline press. *Journalism Educator*. Vol. 49, 3:64-71.
- Davis, D.K., & Jasinski, J. (1993) Beyond the culture wars: An agenda for research on communication and culture." *Journal of Communication*, Vol. 3, 3:141-149.
- Dunwoody, S., & Griffin, R.J. (1930). Journalistic strategies for reporting long-term environmental issues: A case study of three Superfund sites. (pp. 22-50) In A. Hanson (Ed.) *The mass media and environmental issues*. Leicester, London: Leicester University Press.
- Gassaway, B. M. (1993, Nov./Dec.). Press virus strikes Navajos. *Quill*, 25-25.
- Habermas, J. (1979). *Communication and the evolution of society*. London: Heinemann.
- Habermas, J. (1989). *The structural transformation of the public sphere*. Cambridge, MA: MIT Press.
- Hahn, A.J. (1994). *The politics of caring*. Boulder, CO: Westview Press.
- Hughes, J.M., Peters, C.J., Cohen, M.L., & Mahy, B.W. (1993). Hantavirus pulmonary syndrome: An emerging infectious disease. *Science*, Vol. 262, 850-851.
- Kasperson, R.E., Renn, O., Slovic, P. Brown, H.S., Emel, J. Goble, R., Kasperson, J.X., & Ratick, S. (1988). The social amplification of risk: A conceptual framework. *Risk Analysis*, Vol. 8, 177-187.
- Krimsky, S., & Plough, A. (1988). *Environmental hazards: Communicating risks as a social process*. Dover, MA: Auburn House Publishing Co.
- Lieberman, D. (April 15, 1994) Newspaper diversity: Slow progress. *USA TODAY*, sect. B, p. 48.
- Marshall, E. (1993). Hantavirus outbreak yields to PCR. *Science*, Vol. 262, 832-836.
- Mattingly, T. (1993, July/Aug.). Religion in the news. *Quill*, 12-13.
- McCallum, D.B., Hammond, S.L., & Covello, V.T. (1991). Communication about environmental risks: How the public uses and perceives information sources. *Health Education Quarterly*, Vol. 18, 3:349-361.
- Richard, D. (1993). Navajo, press cultures at odds. *Inquiry*, Vol. 7, 2:1-3.
- Ryan, M., Dunwoody, S., & Tankard, J. (1991). Risk information for public consumption: Media coverage of two risky situations. *Health Education Quarterly*, Vol. 18, 3:375-390.
- Salt Lake Tribune*, (Sept. 15, 1993). [reprinted from *Dallas Morning News*] Hantavirus scare has slowed N.M. tourism, sect. A. p. 10.
- Science*, (Feb. 25, 1994). CDC finds new strain of hantavirus. Vol. 262, p. 1079
- Singer, E., & Endreny, P. (1987). Reporting hazards: Their benefits and costs. *Journal of Communication*, Vol. 6, 3:10-26.
- Slovic, P. (1986). Informing and educating the public about risk. *Risk Analysis*, Vol. 6, 403-415.
- Stone, R. (1993). A rogues' gallery of hantaviruses. *Science*, Vol. 262, 835.
- Stover, G. (1990). Media minorities and the Group of Ten. *Gannett Center Journal*, Vol. 4, 5:105-111.
- Survey reviews American Indian lifestyles, The

Associated Press, Nov. 18, 1994.

Wilkins, L., & Patterson, P. (1987). Risk analysis and the construction of news. *Journal of Communication*, Vol. 37, 3:80-92.

Williams, T.T. (1987). *Pieces of white shell: A journey to Navajoland*. Albuquerque: University of New Mexico Press.

Williams, T.T. (1994). In cahoots with coyote. In *An unspoken hunger: Stories from the field*. NY:Pantheon.

Improving Communication in a Climate of Uncertainty

by Heather Tosteson

Communications between scientists and communities living around hazardous waste sites can be improved by a better understanding of how the differences in the ways they respond to uncertainty can impede communication between them. Approaches to improving communication would benefit from incorporating some of the findings on the psychological and sociological effects associated with these situations, particularly the findings on the role of belief systems and interpretive frames as methods of coping with uncertainty.

Community

Scientific professionals are trained to think analytically. They try to select narrow problems, communicate chiefly with each other and do so in precise, technical terms. They control the quality of their work in part through cautious interpretations of data. Furthermore they do research for its own sake, to pursue knowledge. . . . The residents on the other hand, think of the problems as total. For them it is not just a body part that is involved, but their whole bodies, the bodies of their families, their homes, their lives—all are involved. - Levine (1)

The Stress of Uncertainty. Chronic uncertainty is one of the most distinctive psychological and sociological stresses associated with living near a hazardous waste site (2-4). Here I am referring to uncertainty as it is commonly understood—a situation that is unpredictable, undefined, and potentially threatening. In chronic man-made disasters, such as toxic exposures associated with hazardous waste sites, the need to attribute responsibility for the situation heightens the need to resolve uncertainty but also increases the level of distrust, making all communication difficult (3,4).

Communities around hazardous waste sites face numerous forms of scientific uncertainty concerning their possible exposure to contamination. It is the invisibility of these threats, Vyner suggests, that makes them so stressful(2). By invisibility, he refers to toxins that one cannot see, cannot detect, and whose effects at low levels of exposure one cannot predict with certainty. People are often not sure if they were exposed at all or whether these exposures are likely to make them sick. Even if they do become sick, they will probably never be able to determine with any degree of scientific certainty what caused their illness. The

invisibility of these threats means that there is no way to know with any certainty if one has been protected from them, thus heightening the level of stress they cause.

Along with threats to personal well-being, the uncertainty associated with toxic exposures has social implications as well. Different interpretations of the contamination, its effects, and who should be held responsible can polarize a community (3, 5-8). As the sociologists Couch and Kroll-Smith write, "In chronic technological disasters, instead of providing a source of solace and aid, the social community breaks down, creating a milieu that for many people proves more threatening than the aversive agent itself. (3)"

To be in an undefined but threatening situation is extremely stressful, and the natural response is to seek to reduce the threat (9, 10). When people become aware that scientific certainty is not possible, they must develop other ways of interpreting the social and philosophical significance of the experience to allow them to reduce their feeling of dread (3, 8, 11). Often people respond to scientific uncertainty about exposure with a conviction that they have been exposed (2, 12). This conviction of exposure, even though it is often a worst case scenario, can relieve the greater stress of uncertainty:

Beliefs confer certainty on reality. They reduce the hazard that accompanies the acute experience of uncertainty....For believers, the meaning of a power surge in a gas meter, a neighbor diagnosed with cancer, or an agency official who cites evidence that the risks are not as severe as first indicated, does not reside in the events themselves, but in the logic of the belief system. Believers can stop asking questions about the scope and degree of danger. Certain of the true extent of danger...they require little supporting information to confirm their threat beliefs and an extraordinary amount of contrary evidence to disconfirm them. (13)

In most accounts of dealing with the threat of toxic exposures, the theme of lost innocence recurs (5, 11, 12, 14). Exposure signifies a profound betrayal of social trust, a loss of an essential belief in safety for the individual now and in the future, and also, through genetic damage, the loss of safety for future generations (11, 12).

Normal responses people use to evaluate and cope

with the stress of a perceived threat are hindered by the uncertainty associated with toxic exposures, which makes it difficult to assess the level of danger and therefore the appropriate response to it (1, 8, 9, 11). Intensification of normal coping responses to stress (such as vigilance, information gathering and interpretation) can result in forms of response that impede rather than help people resolve uncertainty--such as hyper-vigilance, per-severation, obsessional thoughts, and developing rigid non-empirical belief systems to reduce the dread associated with unseen dangers (2,3). These intensified responses can all be seen as ways to resolve a level of uncertainty that is highly uncomfortable. However, the consequences of these intensified coping mechanisms are often exacerbated feelings of threat and distrust.

Expectations of Science. In the presence of such uncertainty and threat, communities turn to scientists for help. Levine describes the expectations people at Love Canal had of scientists as follows:

They expected scientific professionals to give them useful, comprehensible information. They felt the purpose of research is to help make decisions, to help people in trouble. Furthermore, they knew that the decisions that would be made about their fate-- whether or not to clean up the dump and how, whose homes would be purchased, who would pay costs, what the outcome of lawsuits would be, were all dependent, at least in part, upon the conclusions and the statements of scientific professionals. They viewed the researchers as politically involved, as financially involved, and as influential in the decisions, whether or not the scientific professionals viewed themselves in that way. (15)

One expectation communities may have is that science can reconcile different interpretations into one world view. For example, communities can expect scientists to validate the community's belief system by providing proof of the community's exposure. In the process, the scientists will reify the community's dread and thus make it more controllable. Or scientists can be expected to protect the community by providing indisputable scientific evidence that the community is not at risk, thus re-establishing the community's trust in the infallibility of science and also their trust in a "safe" world.

Other expectations of scientists insist on the distinction between the interpretive frames of the community and of the scientist. For example, scientists can be expected to be objective but compassionate, re-establishing the community's trust in the value of

objective science but also acknowledging, as the quote from Levine suggests, that the implications of scientific findings are far from neutral; indeed, they have serious and far-reaching personal and social implications for the people directly affected. Here scientists are expected to be consistent, to emphasize the image of science as a consensual, fact-driven, rather than interpretive activity (6). Sometimes scientists, in their role as government employees, will be expected to provide social closure by apportioning responsibility for the situation and by allowing the citizens to feel some social control over the scientists' activities in their capacity as civil servants. Here, closure involves placing the scientific findings in a social context over which the community does have some influence (13, 16).

Scientists

In the economic and cultural context of the 20th-century United States and, indeed, in much of the industrialized world, science serves as a source of authority. This authority is intimately linked to a popularly conceived notion of the scientific enterprise that is based on a certain ideal of science. According to this ideal, science is a process that yields an objective, rational, politically neutral body of knowledge that presents a single, coherent understanding of reality. Consequently, decisions shown to be consistent with scientific knowledge command acceptance. - Ozawa (17)

Scientific activity is not 'about nature'; it is a fierce fight to construct reality. - Latour (18)

Scientists studying these sites also face a high degree of scientific uncertainty. In the new and rapidly developing field of environmental science, data are limited, research methods and interpretive paradigms are still being established, and the context for research is highly politicized (19-21).

When studying the effects of toxic exposures at sites, scientists face all the areas of scientific uncertainty the community experiences. It is often difficult to determine with any degree of certainty who has been exposed, the level of exposure, or the toxic effects of exposure (19). Further, intellectual uncertainties associated with the newness of this field of scientific inquiry and the high levels of politicization of both the social and the research climates challenge scientists' own belief in the impartial certainty of the scientific method. In this context, scientists can experience the high level of social distrust of the communities as an additional, and painfully personal, assault on their

professional credibility.

Here too, uncertainty can lead to heightened responses that actually exacerbate problems with communication. Scientists cope with the uncertainty they face professionally by becoming more emotionally detached from those they are studying, more insistent on method, more concerned with professionalism (or the elitism of knowledge), and more insistent on remaining within what is certain for them, their own belief system. Scientific doubt, then, becomes a form of certainty because it insists on the primacy of scientific method (and the beliefs allied with this). Scientists will often express and insist on the limits of scientific certainty in ways that heighten the uncertainty of the community. Levine describes how scientists communicated with people at Love Canal:

After the first shocked silence, the questions began. . . the answer was a repetitious, "We don't know." The scientists were trying to communicate what they had learned but leaving open the question of interpretation. They could not communicate their own broad context of understanding. The people interpreted their action as incomprehensible and responded with fear and anger (22).

Scientists in these situations insist on evaluating the adequacy of information solely in relation to scientific values, as if this is the only value system involved. They often perceive their role in the community to be that of an impartial observer, one of whose roles is to deny the social context in which science itself takes place. The resolution to the problem of uncertainty they find within their own value system, they imply by these stances, should be sufficient for the implicated members of the community. Thus, they refuse to provide an adequate context or interpretive frame to permit the community to understand what actions they can take to reduce the level of threat they feel, a threat compounded of not only scientific uncertainty but also of broader social and philosophical uncertainty.

Communication Difficulties

Whereas the objectives of science may be to attain truth, individual scientific undertakings represent only tiny steps toward truth. Knowledge gained through the scientific method is the accumulation of bits and pieces of reality, voluminous but incomplete, and mediated by the collector. Competing versions of scientifically derived "truth" can, and often do, coexist. - Ozawa (23)

For both scientists and communities, the inability to resolve the scientific uncertainty serves to heighten normal coping responses in ways that may interfere

with communication. As already mentioned, members of the affected communities, for example, may become increasingly vigilant in their approach to their environment, requiring greater and greater proof of their safety or their degree of danger, proof that science is not able to provide (11, 12). Scientists may become more insistent on intellectual doubt and emotional detachment as appropriate and sufficient responses to the community's requests for resolution of their uncertainty (1).

In these situations, both scientists and the community experience frustration and a sense of betrayal. The community feels the scientists are not being responsive when they cannot produce information that will reduce the community's sense of dread (11, 12). The scientists feel that the community does not understand the science when the community insists that the information provided is not sufficient to permit them to regain or reconstruct some sense of certainty.

Neither side sufficiently acknowledges that safety and trust are not scientific but social constructs that cannot be answered by scientific data (24-32). Even in science, data alone do not resolve the relative validity of different interpretive frames (33,34). Here, not only do the data not exist, but the larger and more challenging implication of the community is that the scientific interpretive frame is itself not sufficient to address the central questions raised by environmental exposures (1, 25, 30-32, 35-37). Aaron Wildavsky writes, "If you want to know why we are fearful about what and whether we should be, this is equivalent to asking the cultural question: How should we live?" (38).

Stephen Klaidman expands on this, "While views of comparative risk may have a political dimension, the notion of acceptable risk is entirely value driven and therefore substantially political. 'Acceptable risk' is the answer to the question 'What is safe?' (39). 'The battle was not technical, scientific, or medical; it was political.' This, Setterberg and Shavelson write, was the central lesson learned by activist groups trying to cope with the uncertainty of their situations (12).

The central issue in these conflicts is perhaps not about power but about the power of systems of belief (11, 25-28, 30). By definition, different belief systems are difficult to integrate. They are certainly impossible to validate (34). To acknowledge the relativity of belief systems, empirical and non-empirical ones, reduces one of their central purposes--which is to reduce uncertainty to tolerable levels by providing a coherent interpretive frame to contain it. For scientists to acknowledge the limits of their interpretive frame heightens their own social uncertainty (33). Not to do so heightens the uncertainty of the community, which must clearly distinguish the limits of science as an

interpretive system if they are ever to develop mechanisms that allow them to achieve adequate psychological and social resolution for their own uncertainty

Improving Communication

Participation in the investigation of highly threatening and controversial problems, in highly politicized contexts, requires political sensitivity and awareness. There is a basis of trust and goodwill but that basis is readily ruptured. To maintain trust requires that physical scientists learn how to take into account variables, social and political, that go beyond those issues that are normally considered in approaching problems from one's own necessarily narrow disciplinary perspective. - Levine (40)

You cannot live a good, happy life always wondering....The fact is, when you listen to what the chemicals can do to you and the amount of time it takes, you cannot give a direct answer and say, "Yes, I developed cancer from it." Twenty years from now, I don't know if I develop cancer if it's from the Love Canal, but I'll feel a lot better knowing that I'm out of there. You can't face your children twenty years down the line when they both become sterile, or they have cancer, or something like that and they say, "Well, why didn't you move from there?" (41)

In their report, *Love Canal: The Social Construction of Disaster*, Fowlkes and Miller write:

The circumstances at Love Canal are such that no real evidence, either self-ascertained or expert-based, confirmed the occurrence of disaster. Neither was there evidence to disconfirm the occurrence of disaster.... Confronting either the possibility or desirability of relocation, families were required to articulate coherent perspectives about the actual or potential impact of the chemicals on their well being. The consequences of the chemicals were not only less than fully visible, there were no independent criteria on which to achieve consensus among individuals regarding what the consequences actually were. The information available to them in this decision-making process were fragmentary, evolving and sometimes contradictory. . . Of necessity their understandings and explanations had to be constructed substantially in terms of experiences, attitudes and values. It is in this

sense, then, that the construction of disaster at Love Canal was socially based.

...The salient questions become, then, what have people come to believe about the meaning of the chemicals for their lives and what are the factors that have shaped those beliefs (42).

Both scientists and the public often confound debates about interpretive frames with debates about the adequacy of the scientific information itself. The context of uncertainty for the two groups is very different. The uncertainty of the community includes broader social and philosophical questions: What has happened to me, my family, and my community? What can I do to protect us? Who is to blame? Am I to believe the world I live in is safe or unsafe? Who can I trust to help me solve this problem? These are questions that science alone cannot answer, however developed it might be. Confusions on the part of both the community and scientists about the sufficiency of science to answer such questions keep both groups from making full use of what scientific information is available to help reduce the level of uncertainty. They ask both too much of science and too little. Both groups need to more clearly delimit the role science can play in providing closure to the broader issues of social uncertainty these communities face.

Scientists need to think more in terms of persuasion than proof, to think in other words, in *relative* terms that take into account the social and cultural values that underlie their own beliefs as well as those of the people with whom they communicate. This kind of awareness is difficult. The cultural boundedness of any frame of reference is only apparent when you move outside the frame.

In the larger struggle to "define the situation" that environmental hazards pose for our society, our society ascribes great power and authority to the scientific viewpoint (6, 7, 11, 17). Scientists have a large influence in defining what is normative or acceptable, and thus the choices our society will make for our common future. Scientists are also, compared to the other stakeholders in these situations, least aware of the *social* power they wield in these debates. Again, you can only see the cultural relativity of a frame of reference when you have moved outside the frame. Only by encouraging self awareness on the parts of everyone involved can we hope to begin a true debate about the different values that underlie our social choices and begin to resolve the social conflict these situations create.

Conclusions

First, these questions are not going to go away.

The social conflict will not stop with additional scientific findings because the questions being raised address the value of science, the underlying assumptions we have about whether the course we are on as a society is harmful or beneficent, and the capacity of science, both as a method and a world-view, to make these decisions for us (25, 32, 36, 37). These questions have broad enough social resonance that public distrust is increasingly being built into many decision-making processes (32, 36). Scientists will need to learn how to negotiate their own positions, rather than declaim them. They will need to acknowledge the rationality in the public's skepticism, just as they accept the rationality that underlies their own (25, 35, 36).

Second, these shifts in perspective are not easy for anyone. Indeed, they are formidably challenging. Communication about the environment, finally, involves communication about our most basic values and beliefs. Can we assume any longer that we are capable, as a society, of managing our technologies? As individuals whose own lives may be threatened, can we responsibly entrust these decisions to others? These questions provoke powerful emotions on all sides. It is the intensity of these emotions and their valid psychological basis that need to be emphasized. This is not solely or primarily an intellectual issue. To give up any unquestioning belief--in science, in the perfectibility of human beings, in the power of our leaders to protect us, or in the exclusive authority of a single system of social values--is extremely painful. As human beings, we construct systems of belief to protect us. A group of social psychologists write about the psychological peril that moving out of accustomed frames of reference poses: "We live in a world so filled with beauty, mystery and terror that if we were ever to see it as it truly is, we would be paralyzed to act. To live in the world openly is to invite unbearable anxiety.(44)"

However, because of the degree of scientific and moral uncertainty involved in issues of toxic exposure and the highly personal implications of threat, we are brought--both professionals and members of the public--into the painful situation where our conventional frames of reference do not protect us. Together, we must construct a new one, one that incorporates the underlying values and reasoning of all actors in this drama. To do so, we will need to be able to talk together about what values organize our experience. We must, by acknowledging their relativity, also be willing to relinquish their unconscious power and the comfort it provides in order to create a conscious, common, and inclusive solution.

References

1. Levine AG. Psychosocial impacts of toxic

chemical waste dumps. *Environmental Health Perspectives* 1983;48:15-17.

2. Vyner HM. Invisible trauma: the psychosocial effects of invisible environmental contaminants. Lexington: Lexington Books, 1988.

3. Couch SR, Kroll-Smith JS. Patterns of victimization and the chronic technological disaster. In: Viano, EC, editor. *The Victimology Handbook*, New York: Garland Publishing, 1991:159-176.

4. Solomon SD, Regier DA, Burke JD. Role of perceived control in coping with disaster. *Journal of Clinical Psychology* 1989;8(4):376-392.

5. Reko K. The psychosocial impact of environmental disasters. *Bull Environ Contam Toxicol* 1984;33:655-661.

6. Levine AG. *Love canal: science, politics, and people*. Lexington: Lexington Books, 1982.

7. Kroll-Smith JS, Couch SR. *The real disaster is above ground*. Lexington: University of Kentucky Press, 1990.

8. Edelstein MR, Wandersman A. Community dynamics coping with toxic contaminants. In: Altman I, Wandersman A, editors. *Neighborhood and community environments*. New York: Plenum, 1987.

9. Schottenfeld RS. Psychologic sequelae of chemical and hazardous materials exposures. In: Sullivan JB, Krieger GR, editors. *Hazardous materials toxicology*. Baltimore: Williams & Wilkins, 1992.

10. Lazarus RS, Launier R. Stress-related transactions between person and environment. In: Pervin LA, Lewis M, editors. *Perspectives in interactional psychology*. New York: Plenum: 287-327.

11. Fowlkes MR, Miller PY. *Love canal: the social construction of disaster*. Final report for the Federal Emergency Management Agency. FEMA Work Unit Number: EMW-1-4048.

12. Setterberg F, Shavelson L. *Toxic nation*. New York: John Wiley & Sons, 1993.

13. Kroll-Smith JS, Couch SR. As if exposure to toxins were not enough: the social and cultural system as secondary stressor. *Environmental Health Perspectives* 1991;95:61-66.

14. Brown P, Mikkelsen EJ. *No safe place: toxic waste, leukemia, and community action*. Berkeley: University of California Press, 1990.

15. Levine, *Psychosocial impacts*, p.15

16. Edelstein MR. The psychological basis for the "NIMBY" response. In: Andrews J et al., editors. *Proceedings of the Fourth National Environmental Health Conference: Environmental Issues. Today's Challenge for the Future*. Atlanta: ATSDR/CDC.

17. Ozawa CP. *Recasting science: consensual procedures in public policy making*. Boulder: Westview Press, 1991:6.

18. Latour B, Woolgar S. Laboratory life: the construction of scientific facts. Princeton: Princeton University Press, 1986:243.

19. Weese CB. Are hazardous wastes hazardous? the problem with environmental epidemiology. Proceedings of the Federal Environmental Restoration III and Waste Minimization II Conference, 1984 Apr 25-29; New Orleans:876-881.

20. Abelson PH. Risk assessment of low level exposures (editorial). Science 1994;263(9 Sept):1507.

21. Abelson PH. Chemicals: perceptions versus facts. Science 1994;264(8 Apr): 183.

22. Levine, Psychosocial impacts, p.16.

23. Ozawa, p.12

24. Barber B. The logic and limits of trust. New Brunswick: Rutgers University Press, 1983.

25. Douglas, M. and Wildavsky, A. Risk and Culture. Berkeley: University of California Press, 1983.

26. Douglas, M. Risk Acceptability According to the Social Sciences. New York: Russell Sage Foundation, 1985.

27. Dake K and Wildavsky A. Theories of risk perception: Who fears what and why. Daedalus 1990: 119(4):41-60.

28. Dake, K. Myths of nature: Culture and the social construction of risk. Journal of Social Issues 1992;48(4):21-30.

29. Krinsky S and Golding D, editors. Social Theories of Risk. Westport, CT: Praeger Publishers, 1992.

30. Cvetkovich G and Earle TC. Environmental hazards and the public. Journal of Social Issues 1992;48(4):1-20.

31. Slovic P. Perceptions of risk. Science 1987;236:280-285.

32. Rayner S and Cantor R. How fair is safe enough? The cultural approach to social technology choice. Risk Analysis 1987;7(1):3-9.

33. Latour B. Science in action. Cambridge: Harvard University Press, 1987.

34. Kuhn TS. Structure of scientific revolutions. Chicago: University of Chicago Press, 1962.

35. Plough A and Krinsky S. The emergence of risk communication studies: social and political context. Science, Technology and Social Values 1987;12:4-10.

36. Kasperon RE, Golding D, Tuler S. Social distrust as a factor in siting hazardous facilities and communicating risks. Journal of Social Issues 1992;48(4):161-187.

37. Slovic P, Layman M, Flynn J. Lessons from Yucca Mountain. Environment 1991;33(3):7-30.

38. Klaidman, S. Health in the headlines. New York: Oxford University Press, 1991:4.

39. Ibid., p.10

40. Levine, Psychosocial impacts, p.17.

41. Fowlkes and Miller, p.50.

42. Ibid, pp.45-46.

43. Jones EE, Farina A, Hastorf AH, Markas H, Miller DT, Scott RA. Social Stigma: The Psychology of Marked Relationships. New York: W.H. Freeman, 1984.

44. Ibid, p.83.

Environmentalism's 'Evil Twin': The Ideological Challenge of the Wise Use Movement

by Harold P. Schlechtweg

This paper adopts a critical cultural studies perspective to examine the emergence and expansion of the wise use movement. Accounts of the wise use movement in environmental publications commonly highlight the movement's corporate financial backing and pro-industry political agenda. This paper has a different focus, addressing the *ideological* challenge the wise use movement poses to what some scholars call "New Environmental Paradigm" thinking (Cantril & Chimovitz, 1993; Jaehne, 1990) and the mainstream, institutionalized environmental movement.

The paper shows how Gramsci's (1971) theory of hegemony, when coupled with a discursive notion of ideology (Zizek, 1994), can be used to address questions raised by environmental social movements and counter movements. I use Gramsci's theory of hegemony for an analysis that argues that the chief challenge posed by the wise use movement is ideological. Above and beyond the group's political agenda, the wise use movement represents an attempt to shift the spectrum of American thought about the environment to the right. In making my argument, I rely on research from my study of the conflict over the logging of old-growth forests in the Pacific Northwest.

I begin with a discussion of the conceptual framework that guides the analysis. Gramsci's notion of hegemony is sometimes confused with the ideas of ideological domination or co-optation, giving rise to the image of the "masses" as the ideological "dupes" of the capitalist class. But the notion of hegemony is more complex, and addresses how different social groups and class "fractions" come together as a "bloc" in a struggle to become the leading social, cultural, economic and political force in a society. From Gramsci's perspective, this happens when the class elites who dominate a bloc offer intellectual and moral leadership and concessions to subordinate groups. While a hegemonic bloc is "structured in dominance" it is a *negotiated* arrangement that offers real advantages and so secures the active consent of participating subordinate groups.

Gramsci also argued that the cement which unifies or holds together a hegemonic bloc, or social force struggling for hegemony, is ideology. Gramsci's discursive view of ideology, which I adopt here, holds that people do not have direct or immediate experience or understanding of the world around them. Rather, social

knowledge and knowledge of the natural world depend upon culturally available and socially constructed sign-systems or discourse. The importance of culture, in this view, is as a storehouse of symbolic forms and themes that can be linked, or articulated, to one side or the other in ideological conflicts.

For Gramsci, then significant social conflicts are always marked by ideological struggle fought on the terrain of culture. Ideology is conceived as ideas that have material force, shaping not only laws and policies, but the way people *live* their every day lives. Zizek (1994) similarly suggests that ideology can be conceptualized as operative in three domains of human practice: as a doctrine or system of thought developed by intellectuals, as institutional practices and rituals, and as the largely unexamined, or taken-for-granted, assumptions or "logics" that underlie practical and leisure activities.

For Gramsci, the domain of every day life is crucial, because an ideology only becomes "true" when it is able to dominate social thinking in such a way as to give rise to new forms of common sense, thereby constructing a "new reality" (Gramsci, 1971, p. 348). This is the moment when a social bloc achieves hegemony. But as Stuart Hall (1988, p. 7) points out, however dominant, no hegemony ever goes unchallenged. Because of this, Hall suggests it is more precise to speak of social groups with more or less successful hegemonic *projects* and practices, rather than the hegemony of a social group over society.

The conjuncture, or historical context that shaped the emergence of the wise use movement developed over decades. The rise of the new environmental movement after World War II unleashed a host of new environmental regulations and the creation of new federal agencies and departments to enforce them (Hays, 1987). The business community perceived these new laws and regulations as constricting their profit margins, and, with the growth of foreign competition from the late 1960s on, increasingly intolerable (Harrison & Bluestone, 1988; Faber & O'Connor, 1993). With the election of New Right Republican Ronald Reagan in 1980, many in the business community looked forward to a wholesale roll-back of environmental regulations (Hays, 1987, p. 493).

This was not to be, however. Instead, the anti-environmentalist assault resulted in a pro-environment-

talist backlash by the public. The result was a stand-off (Hays, 1987, pp. 524-525). For example, Reagan and Bush political appointees in the Departments of Interior and Agriculture helped boost timber harvest levels in the Pacific Northwest to record levels during the 1980s, hastening the inevitable "fall down" of the region's timber supply (Durbin & Koberstein, 1990; Hammerstedt, 1989). On the other hand, because Reagan had no national forest management plan, environmental groups were able to lobby one wilderness area after another through Congress. As a result, by the end of his first term in office, Reagan had reluctantly signed bills creating more protected wilderness acres in the forty-eight contiguous states than any previous President in American history (Hays, 1987, p. 507).

Already by 1983, it was clear that Reagan's election would not bring the roll-back of environmental reforms sought by the business community. Public support for environmental objectives as measured by opinion polls increased during the Reagan years (Dunlap, 1992). So did the memberships, budgets and the professional staffs of the national environmental organizations (Mitchell, Mertig & Dunlap, 1992). Clearly, the business community's political strategy was not working.

At the same time, in rural, timber-dependent communities in the Pacific Northwest, the ground was being fertilized for a "populist" backlash against environmentalism. By the late 1980s, sawmills in the Pacific Northwest were beginning to suffer timber supply shortages caused by the liquidation of much of the region's private timber resources. Industry trade associations and local communities began to press the federal government to curb environmentalist protests and expand logging in the national forests (Sullivan, 1989a; 1989b). These demands collided with environmentalist efforts to preserve the last of the region's unprotected federally-owned old-growth forest. As the 1980s drew to a close, timber-dependent communities confronted a looming social and economic crisis (Foster, 1993).

The role of the wise use movement in the Pacific Northwest has been to bring together the timber companies, both the giant multinationals and the smaller, locally-based firms, with a rural, grass-roots constituency of blue-collar workers, small business-people and other residents of timber-dependent communities. Some environmentalists see the grass-roots supporters of the wise use movement as dupes of the big timber companies and argue that they are acting against their own best interests. From a discursive perspective, however, interests are socially constructed and ideological. What is crucial is how different social groups come to share the same ideology, not what outsiders believe to be its irrational basis.

The construction of a unifying ideology is a practice which requires agents. Gramsci called these individuals "organic intellectuals," and proposed that their function is to unify a social force or "bloc" ideologically. According to Gramsci, ideology is neither imposed from above nor bubbles up from below. Rather, ideologies come into being as the result of complex negotiations or articulatory practices. Organic intellectuals play a kind of mediating role, laying the necessary ideological groundwork that allows disparate social groups to adopt the same perspective on reality so as to culminate in unified collective action.

Who are the wise use movement's intellectuals? The wise use movement is a loose network of organizations and individuals, with no central leader or command structure. It has, however, produced a number of nationally and regionally recognized spokespeople and "field generals," active in particular campaigns and well-known to activists in grass-roots groups. Rather than survey all of these individuals, I will focus here on Ron Arnold who is widely acknowledged, even by his opponents within the movement, as key figure in its emergence and growth (Helvarg, 1994). Arguably, to the extent that a social movement can be said to be someone's idea, the wise use movement is the idea of Ron Arnold.¹ Arnold is particularly influential with wise use groups in the Pacific Northwest, and in 1978 worked as an industry consultant in the fight against the expansion of Redwood National Park. (Helvarg, 1994, pp. 135-136).

Arnold argues that the only way industry can defeat environmentalism is to turn the tables on the environmentalists, emulating their strategies in order to reverse their conquests. Since 1979, he has argued that industry should develop grass roots citizens' action groups of hard-core industry supporters (Helvarg, 1994, p. 126). Arnold argues that the industry loses to environmentalists on significant issues because the public perceives the industry as a special interest lobby and environmentalists as acting in the public interest. However, local citizens' groups possess credibility that the industry lacks, and can support the industry by pointing out the social consequences of environmental initiatives (Arnold 1988).

The pro-industry movement, as envisioned by Arnold, would not be a puppet of the timber companies. Rather, the industry and local citizens' groups would be united by a shared outlook on key questions that concerned the use of public and private timber resources (Arnold 1986). Although the industry had encouraged episodic mobilizations of timber communities in response to environmental initiatives in the past, Arnold's plan was new in that it envisioned a strategy of building pro-active grass-roots groups on a long-

term basis. While the movement would not receive a name until Arnold called it the "wise use" movement at a conference of activists in Reno, Nevada, in 1988, key elements of the wise use strategy were already in place by 1979.²

The novelty of grass-roots groups using activist tactics to advance a pro-business political agenda has been widely discussed in the popular and environmental press. In this discussion, I will focus on the ideological dimensions of the movement, an aspect which has been largely ignored. I pay special attention to the writings of Ron Arnold, because of all the wise use "ideological entrepreneurs," Arnold has devoted the most sustained effort to the elaboration of a distinctive wise use ideology, or as he prefers "philosophy."

In Arnold's view, because they are ideologically motivated, environmentalists operate from an "unfinished agenda," a cognate of Gramsci's hegemonic project. In pursuit of their unfinished agenda, environmentalists have expanded their influence in society, creating new institutions, and even capturing parts of the federal government itself. Arnold argues that opposing environmental legislation on a piecemeal basis isn't enough. To counter environmentalism, the business community and all Americans who recognize the threat environmentalism represents to the American economy, must develop their own unfinished agenda, or hegemonic project, moving aggressively to take back the ground lost to environmentalism (Arnold, 1988).

In Arnold's view, the success of environmentalism over the past three decades is inseparably linked to the fact that it is an ideology. Destroying it, Arnold's frequently stated objective, means that it must be eliminated as a socio-ideological force. Arnold recognizes that a purely negative anti-environmentalism cannot form the basis for a social movement because it does not connect with the way people live their every day lives. As an ideology, environmentalism's great success has been its ability to create a social imaginary in which larger numbers of people find it possible to live. The wise use movement's ideological project, in Arnold's view, has to be just as holistic (Arnold, 1986, pp. 114-120).

It is easy to dismiss wise use discourse as the uncritical repetition of ecologically destructive themes that have long been a part of western culture. But the originality of Ron Arnold and other wise use public intellectuals does not lie in the invention of something new, but in their explicit and systematic recombination of powerful cultural themes in order to enlist them in service to a political project. As Leo Marx (1970), Donald Fleming (1972) and Roderick Nash (1982) have noted, a major accomplishment of the post-World

War II environmental movement was to foreground and problematize previously taken-for-granted assumptions underlying the dominant American world view. The goal of the wise use movement is to *re-install* these assumptions, for example, human-centered views of nature, the notion that stewardship entails domination, the view that all growth is positive, and technological optimism, to the status of unexamined doxa.³

Because of our familiarity with this discourse, it is easy to forget that these are not just words and phrases. Rather, they remain widely held cultural values for many Americans. They are deeply inscribed in the practices and rituals of the religious, economic, educational, political and other social and cultural institutions that powerfully shape our identities. Criticism by environmentalists hasn't banished these values from the cultural lexicon. They are still there, still expressing the lived experience of many American citizens. While environmental advocates have subjected human-centered views of nature, the idea of stewardship as domination, the dogma of limitless growth, and boundless faith in technology to a devastating critique, the genius of wise use has been to point out our *stake* in continuing to hold tenaciously to these tenets of popular belief.

When elevated to the level of a conscious political program, these values can serve as the basis for unity because they cut across otherwise deep social divisions. In the hands of wise use movement ideological entrepreneurs, human-centered values define the difference between people like "us," the reasonable, ordinary Americans who have to face the pragmatic problem of making a living and supporting our families and communities; and people like "them," the radical environmentalists (the adjective radical is always appended) who are out of touch with such mundane realities.

By articulating widely-held cultural values, wise users such as Ron Arnold claim to position themselves in the middle of a putative spectrum of environmental thought that has "unbridled development" at one extreme and "preservationism" at the other (Arnold, 1989, pp. vii-xiii). The aim of this self-positioning is a shift in American thinking about the environment to the right so as to claim what is now the broad center (and the preserve of the mainstream environmental organizations) for the wise use movement. This is the political calculation behind the claims of wise use activists to be environmentalists, however sincere such claims may be on the part of those who make them.

Lying at the heart of the wise use social imaginary is the notion that big government is the chief enemy of both the environment and the rights of private property holders. According to Arnold, government is the

problem, not the solution. Private property, he argues is the best guarantee of the wise use of resources. Property owners will always seek to augment rather than deplete the source of their wealth. Appealing to the prejudice that sees nature as primarily a commodity, Arnold claims, "private property does not breed bureaucrats out for job security nor does it attract non-title-holding special interests out to allocate land use without paying for it" (Arnold, 1986, p 114).

This defense of property rights against government action is the linch-pin that yokes wise use to the corporate agenda. It is an iron-bound ideological guarantee that the movement, however populist sounding its rhetoric or grass-roots in its constituency, will never become a liability to its corporate sponsors. Ironically, were the wise use movement and its doctrine of property rights to prevail, it would neither empower rural communities in the Northwest, nor long preserve their cherished "way of life."

The problems posed for that "way of life" by log exports, automation, technological advances that create genetically "improved" trees and new products such as chip board, the over harvesting of industrial timberlands and the liquidation logging of the last of the Northwest's unprotected old-growth, dwarf the problems caused by environmental set-asides.⁴ The most serious threat to continuation of the rural lifestyle associated with logging and lumber mills is in fact market-driven industrial forestry, and not environmental regulations or the creation of wilderness areas. This threat to the welfare of timber communities will not be resolved or ameliorated without government action that necessarily curbs the "rights" of timber corporations to do as they see fit with their property.

What the slogan of property rights does do is put criticism of the timber companies off-limits, reinscribing timber workers and rural communities in an unequal power relationship with the timber giants who have dominated the region for generations. At the local grass-roots level, it functions to squelch objections to log exports, automation of sawmills, and the failure of the timber companies to follow sustained-yield logging practices. The doctrine of property rights is the mantra that absolves timber corporations from public censure for actions that many would agree are destructive of the common good. Beyond this, the doctrine of property rights articulates the wise use movement with a much broader rightist political current that seeks to curtail the democratic regulation of market forces while placing the government foursquare behind the reassertion of the primacy of traditional cultural values.

To summarize, the wise use movement is an ideologically-driven attempt to shift American thought about environmental issues to the right. Wise use discourse plays on common cultural themes to over-

come social divisions and harness popular discontents to a pro-business political agenda. In the process, the wise use movement undercuts the possibility of a genuinely popular and democratic response to the crisis of timber-dependent communities in the Pacific Northwest. Environmental organizations are now attempting to respond to the wise use movement by addressing the economic issues raised by environmental reform. My analysis suggests that they should also heed the movement's ideological challenge.

Notes

1. By 1988, hundreds of pro-industry, anti-environmentalist citizens' groups had been formed in rural communities across the west, enough to support the calling of a "Multiple Use Strategy Conference" in Reno, Nevada. At the conference, Arnold coined the phrase "wise use" to describe the movement and its approach to land use issues. The name stuck. While journalists usually date the formation of the wise use movement from this conference, it is important to note that organizing around what would become wise use themes actually began at least a decade earlier.

2. In 1979, Arnold wrote an eight-part series for *Logging Management Journal* that argued that industry should support the formation of pro-industry citizens' actions groups at the grass roots level to oppose and ultimately destroy the environmental movement. This series won the 1980 Jesse H. Neal Editorial Achievement Award of the American Business Press Association. In 1986, the series was updated, expanded and republished as a book, *Ecology Wars: Environmentalism as if People Mattered*. Arnold frequently speaks to industry groups and at Wise Use conferences and seminars where he commands large fees. Over the past fifteen years a number of these speeches have been published. Arnold is also frequently featured in industry trade journals and has had columns published in the popular press. A representative example of Arnold's rationale for grass-roots pro-industry activism is laid out in "Loggerheads Over Land Use" (Arnold, 1988).

3. My summary of the themes in his work, and those of the wise use movement in general, are based on a review of Arnold's writings as well as an extensive survey of local wise use literature, flyers, newsletters, newspaper columns, etc. generated by grass-roots wise use groups active in northern California between 1986 and 1991.

4. On the loss of jobs due to automation, see Keegan & Polzin (1987). For the problem of "over harvesting" or the failure to follow sustained yield forestry practices on industrial land see, Durbin & Koberstein (1990). Foreign exports of raw logs to the Pacific rim took off in the mid-1960s. By 1989, one in

four of the logs harvested in the Pacific Northwest was exported. Environmental groups estimate that stopping the export of raw logs would save all of the domestic sawmill jobs that are projected to be lost due to the protection of federal old-growth. For the facts on exports, see Forest Industries (1989, p. 6).

References

- Arnold, R. (1986). *Ecology wars: Environmentalism as if people mattered*. Bellevue, WA: Free Enterprise Press.
- Arnold, R. (1988, April). Loggerheads over land use. *Logging and Sawmill Journal*, 24-25, 30.
- Arnold, R. (1989). Introduction. In A. M. Gottlieb (Ed.), *The wise use agenda*, (pp. vii-xiii). Bellevue, WA: Free Enterprise Press.
- Cantrill, J. G., & Chimovitz, D. S. (1993, June). Culture, communication, and schema for environmental issues: An initial exploration. *Communication Research Reports*, 10, 47-58.
- Dunlap, R. E. (1992). Trends in public opinion toward environmental issues: 1965-1990. In R. E. Dunlap & A. G. Mertig (Eds.), *American environmentalism: The U.S. environmental movement 1970-1990* (pp. 89-116). New York: Taylor & Francis.
- Durbin, K., & Koberstein, P. (1990, October 15). *Oregonian special report: Forests in distress*. [Special section of the (Portland) *Oregonian*].
- Faber, D., & O'Connor, J. (1993). Capitalism and the crisis of environmentalism. In R. Hofrichter (Ed.), *Toxic struggles: The theory and practice of environmental justice* (pp. 12-23). Philadelphia: New Society Publishers.
- Fleming, D. (1972). Roots of the new conservation movement. *Perspectives in American History*, 6, 7-91.
- Forest Industries. (1989). *Forest industries 1989-1990 North American fact book*. San Francisco: Forest Industries.
- Foster, J. B. (1993, March). The limits of environmentalism without class: Lessons from the ancient forest struggle of the Pacific Northwest. *Capitalism, Nature, Socialism*, 4, 11-41.
- Gramsci, A. (1971). *Selections from the prison notebooks* (Q. Hoare & G. N. Smith, Ed. & Trans.). New York: International Publishers.

Hall, S. (1988). Introduction: Thatcherism and the crisis of the left. In *The hard road to renewal* (pp. 1-16). London: Verso.

Hammerstedt, R. (1989, January). Timber supply analysis: Harvest levels must drop. *Forest Industries*, 24-27.

Harrison, B., & Bluestone, B. (1988). *The great u-turn: Corporate restructuring and the polarization of America*. New York: Basic Books.

Hays, S. P. (1987). *Beauty, health, and permanence: Environmental politics in the United States, 1955-1985*. Cambridge, UK: Cambridge University Press.

Helvar, D. (1994). *The war against the greens*. San Francisco: Sierra Club Books.

Jachne, D. (1990, November). From polluted environment to endangered planet: Ideology and environment in *Time*, 1969-1989. Paper presented to the annual meeting of the Speech Communication Association, Chicago, IL.

Keegan, C., III, & Polzin, P. E. (1987, November). Trends in the wood and paper products industry: *Their impact on the Northwest economy*. *Journal of the Forest Industry*, 85, 31-36.

Marx, L. (1970, November 27). American institutions and ecological ideals. *Science*, 945-952.

Mitchell, R. C., Mertig, A. G., & Dunlap, R. E. (1992). Twenty years of environmental mobilization: Trends among national environmental organizations. In R. E. Dunlap & A. G. Mertig (Eds.), *American environmentalism: The U.S. environmental movement 1970-1990*. New York: Taylor & Francis.

Nash, R. (1982). Toward a philosophy of wilderness. In *Wilderness and the American mind* (pp. 238-271). New Haven, CN: Yale University Press.

Sullivan, M. D. (1989a, March). Crisis looming in western timber supply. *Forest Industries*, 33-34.

Sullivan, M. D. (1989b, May). Timber supply woes worsen as suits lock-up lands. *Forest Industries*, 24-25.

Zizek, S. (1994). The spectre of ideology. In S. Zizek (Ed.), *Mapping ideology* (pp. 1-33). New York: Routledge.

A Closer Look at Wise Use: Cognitive Dissonance, Logical Contradictions and Ideological Consistency

by Kent Goshorn

Introduction

The Wise Use Movement is a politically transparent yet socially complex resistance movement, making it difficult to disentangle the sincere (if objectionable) beliefs and fears of its grassroots supporters from the strategic, "distorted communications" of its leaders. Green scholars, journalists and activists have focused on Wise Use links to right-wing extremist groups, occasional use of intimidation and violence, and above all, have been concerned with formulating strategic political responses to the movement. The notion of "corporate front groups" supported by donations from industry has been central to the interpretation of anti-environmentalism, while the "grassroots" elements have been de-emphasized, or seen as pawns in a broader struggle among enlightened public interest groups, reluctant but awakening government agencies, and ruthless, greedy industry (Berlet and Burke, 1991; Helvarg, 1994). Yet even the most comprehensive report on Wise Use has concluded that it is "a local movement driven primarily by local concerns, not national issues" (Wilderness Society, 1992:2), and "it is foolish to lay this movement solely at the doorstep of Exxon, Georgia-Pacific or Kawasaki" (1992:27).

Given such conclusions, why the continued reliance on a monolithic portrayal of "greedy industry's front groups", perpetuating the "blame-based rhetoric" endemic to environmental conflicts? Is this just *realpolitik*? What deeper issues are avoided or obscured by this response? How, after all, did organized anti-environmentalism gain such momentum when public opinion and even the slow drift of industry (arguably) seemed pointed in the other direction?

Wise Use alleges that environmentalists have unfairly "left people out of the equation." More accurately, they have underestimated important social and psychological obstacles to environmental reform, creating rhetorical openings for Wise Use. Exploiting the cognitive and economic stresses experienced by a rural constituency as it copes with environmental reforms, Wise Use has effectively substituted a rhetoric of victimization and vilification for engaged argument, mimicking but subverting the "rhetoric-as-epistemic" (Scott 1967, Cherwitz 1977) that might unfold in a more "constructive" conflict (Deutsch 1969). The persecutory themes of Wise Use rhetoric forestall earnest consideration of environmentalist arguments

about broader, underlying causes contributing to crises in rural and resource-based economies (e.g., mismanagement, over harvesting, automation and mechanization, economic globalization and capital flight).

Wise Use persecution themes become the primary way of understanding environmental conflict; that is, the Manichean identities and relationships attributed to antagonists both infuse and supersede substantive environmental issues. Through simple denial and assertion, conspiratorial reasoning and projection, evasion and displacement, tempered with occasionally astute insights about the shortcomings of contemporary environmentalism, Wise Use rhetoric provides a logically contradictory but ideologically consistent set of explanations vindicating its adherents, while unapologetically reasserting the "dominant social paradigm." It resonates with the inherent, traditional conservatism of many rural folk while taking much of its vocabulary from the New Right, feeding into and off of other undercurrents of resentment and rebellion in contemporary politics.

Just as Wise Use rhetoric stifles debate about the true dimensions and causes of environmental crises, the "front group" explanation fails to account for the full scope of the movement. It discourages analysis of important technical, social and perceptual issues "on the ground," in the very communities where land use reforms must eventually be put into practice. Critical dismissal of the "distasteful" viewpoints of anti-environmentalism is rather surprising in light of the growing influence within communication scholarship of cultural studies, with its emphasis on *identity* as a source of meaning and determinant of experience, its role in resistance to "dominant" readings. Focusing on rhetorical persuasion or linear models borrowed from development communication, "environmental communication" scholarship has tended to ignore the *reactive* processes of "making meaning" among diverse, resistant, sometimes hostile audiences.

Scene and Setting

From a broader if also unforgiving perspective, environmental backlash has been seen as a predictable defense of outmoded ways of life, the dying gasps of a powerful but exhausted paradigm. Defenses of the ranching "lifestyle" seem little more than a selfish, even childish attachment to the cowboy mythology, the

"proud traditions" of the west a hollow legacy of personal ruthlessness, political arrogance, and ecological devastation. Timber workers have dug their own graves through decades of over-harvesting, and now must "adapt to reality" by retraining for "modern" jobs or convert to tourism and service-based economies. To the extent that communities defended by Wise Use are a product of environmentally destructive livelihoods, they too must pass--or reinvent themselves in the mold of post-materialism or the "New West." Wise Use reflects, if not simply stubbornness and material greed, attachment to 19th-Century economics, a narrow view of technological progress, absolutist notions of property rights, and above all a refusal to recognize contingencies created by new global realities of economic and ecological interrelatedness.

Thus, resistance to environmentalist agendas has generally been cast in terms of the challenge it poses to environmental communicators, not in terms of the meaning it has for its subjects. Even renewed calls for "grassroots mobilization" now heard from major environmental groups in the wake of stinging defeats on grazing and mining reform and the 1994 elections, seem more couched in the symbolic language of politics than a genuine reappraisal of what it might mean to make an ecological vision compelling to those in the resource industries and rural areas. With exceptions (Lange, 1993; Senecah, 1992; Maughan and Nilson, 1993; intermittent dialogues in Western periodicals like *High Country News*, *Northern Lights*), relatively little effort has gone into better understanding anti-environmental viewpoints in land use conflicts, where initial contact with environmental agendas likely as not has been through on-site compliance, litigation, the highly circumscribed bureaucratic dialogue embodied in the Environmental Impact Statement, or increasingly strained relations with proliferating agents of the BLM, National Forest Service, Fish and Wildlife, and National Park Service.

However sophisticated and well-grounded the arguments made by environmentalists criticizing abuses by the resource industries, they derive from abstract, complex knowledge systems and ethical frameworks seemingly inaccessible or unacceptable to many rural citizens. Moreover, the "alternatives" offered to those who "inevitably" will be displaced either by green reforms or the inexorable greed of industry, appear to fall far short of meeting their economic, social or psychological needs. Meanwhile, persistently high levels of antagonism (often exacerbated by institutional arrogance or cultural insensitivity) preclude environmentalist acknowledgment of potential contributions the "local knowledge" and skills of many rural workers, identified as they are

exclusively with "destructive" land use practices, might make to regional reforms.

The environmentalist critique of industrial society is perceived by many who work on the land not just as a rejection of progress. It is a direct repudiation of the skills, self-reliance, courage, and sacrifice many of them have displayed in providing resources to an urban consumer population they feel is out of touch with simple material realities--that is, "where things come from." Environmentalists, identified with that population, are seen as guilty of "post-gratification forgetting and devaluation" (Arnold 1993). Unaware of or rejecting environmentalism's theoretical linkage of a willful de-escalation of consumption and growth to reduction of extractive activities, Wise Users conclude that Greens are ignorant, or make familiar accusations about the hypocrisy of those who drive home from the anti-timber rally and shut their wooden doors on the real world.

The orientations and agendas of the "new environmental paradigm" do constitute a serious threat to belief systems and personal identities, if not actual livelihoods; it is this context of defensiveness in which I approach the apparent irrationality and virulence of Wise Use rhetoric. Because the movement was to some extent consciously engineered "from above," we must be cautious about psychological or sociological inferences we make from movement rhetoric. Still, where the defense of personal identity and self-interest intersect, as they do here, with the logical and rhetorical tasks of explaining complex environmental problems, the concept of *cognitive dissonance* is of considerable use. Theoretically, dissonance is experienced as subjects attempt to reconcile their own interests and beliefs with allegations that their livelihoods are implicated in various environmental "crises". In the quest "to preserve a coherent narrative of self-identity," Giddens notes, the "avoidance of dissonance forms part of the protective cocoon which helps maintain ontological security" (1991:188). Wise Users produce accounts of land use and natural phenomena which preserve their identities and justify their practices, linking cognitive ego functions to a broader defense of values.

The fabric of social relationships, economic commitments, physical and interpretive skills, the shared "common sense" developed within traditional communities and occupational subcultures such as ranching, timber, or mining are inseparable from their substantive, technical understandings of particular issues like overgrazing, soil erosion, forest health or predator control. Michael Billig observes, "common sense is a form of ideology.... In using common-sense notions, people will find themselves repeating... assumptions which confirm existing arrangements of

power" (1991:1). Potential conflicts between local cultures and larger economic forces are overcome by a shared commitment to utilitarian "common sense" about exploiting the land. The "fantasy theme" at the heart of the Wise Use "rhetorical vision" (Bormann, 1972) - a conspiratorial "cultural assault" on rural America which seeks to displace the primacy of utilitarianism - "chains out" into the technical aspects of environmental matters, providing a powerful explanatory frame that vindicates ecologically unsound land-use practices by discrediting environmentalists (and hence their claims), while absolving large companies and the economic system of responsibility for the plight of rural workers.

Van Liere and Dunlap (1983) have held that beliefs inherent in the dominant social paradigm and the "new environmental paradigm" are "intrinsically related and contradictory," hence persistent pressure to reduce dissonance and achieve "cognitive integration" of those beliefs should result in attitude change, moving toward acceptance of one or the other paradigm. Billig (1987:164) has suggested that we instead might pay more attention to how the quest for consistency may *strengthen* existing beliefs, and proposes increased attention to the rhetorical as well as cognitive mechanisms whereby this is achieved. Wise Users resolve tensions between popular support for environmentalism and their own practices by claiming to be the "real" environmentalists, and attributing ecological damage and decline to flawed or cynical environmental policies.

Dissonance and Wise Use Discourse

Inconsistency can be avoided or dissonance reduced in a number of ways, all of which are evident in Wise Use arguments. Outright denial of environmental crises is evident in the simple denial of declining wildlife numbers, riparian damage, or ozone depletion. Most profess a belief that there is nothing humans could do to irrevocably harm the earth. "Compartmentalizing" incompatible ideas or practices so that they do not "interact" is inherent in the rejection of the ecological world view with its stress on interrelatedness and contingency: how could overgrazing or clear cutting in upland areas be related to flooding, siltation or fish kills many miles downstream? How could tiny insects or "nuisance" species be vital to the functioning of entire ecosystems?

"The simplest strategy for the dismissal of a contradiction, as opposed to its resolution, is to claim that an undiscovered resolution exists." (Billig 1987:170). Pressed to respond to the hypothetical possibility of serious environmental crises, Wise Users frequently express a faith in the ability of technology, "the market," or God, to provide a solution. Drastic

declines in fish or wildlife populations are deceptive, simply the low points in natural cycles. Denial takes fascinating, if desperate forms: a California timber worker's wife asks, "How do we know all these [red-wood] trees wouldn't have just disappeared *anyway*?"

Another method of dealing with dissonance is to *devalue* one of the competing cognitions or objects. As one former timber executive told me, "Sure, red-woods are nice, but how many do you *need*?" Obviously the idea of *intrinsic value* must be vigorously rejected, not only because it upsets the hierarchical world view of anthropocentrism but because it makes devaluation more difficult. In many cases, devaluing nature extends to vilification, the venting of hostility and contempt for the "surrogates" of "control" exercised through the Endangered Species Act. Owls, rats, snails, bugs, mosquitoes, weeds, wolves, and snakes are not only feared or despised species, but words that can be spat out: "What sort of a world is it in which an owl is worth more than the life of a child?" Status may depend on context. Salmon may be a valuable economic resource and a prize for sportsmen, but when they become an endangered species interfering with economic activities, jobs and communities are "sacrificed" just "for the sake of a fish."

Seemingly insupportable claims gain plausibility, become more potent when combined to suggest some meaningful pattern of human motivations or intent. Individual instances of denial are woven into a more compelling narrative about the bad faith and bad science with which environmental agendas are allegedly executed. Or, individually accurate observations - flaws discovered in environmental data, a conservation plan that backfires - may lend support to more sweeping generalizations. The "Hofstadter hypothesis" (Smith 1977) suggests that subjects can have essentially accurate perceptions of individual events in the world and yet weave these "correct" observations into a delusional, conspiratorial whole.

Whether a deliberate rhetorical ploy, or an honest if cynical interpretation of environmentalist motives, Wise Users frequently equate the *perceived* (sometimes actual) *indirect effects* of environmental regulations with the conscious intent of those regulations' authors, supporters, or enforcers. A prototypical statement is, "Environmentalists are *using* the Endangered Species Act/spotted owl/wetlands regulation to *destroy* rural communities." *Post hoc* reasoning builds upon real occurrences to create a plausible conspiratorial scenario. Strategies like use of the spotted owl as a legal surrogate to stop old-growth logging appear to support such claims as "Environmentalists don't really care about the forest/owl, they just want control of

land/water/you," or more commonly, "It's *not about the environment*, it's about *control*." In circular or reciprocal logic, *denial* that environmental degradation is occurring elicits the idea that "it's not about the environment" and hence the notion that "they intend to harm you" (*motive*). If there is no serious environmental problem to be mitigated by regulation, then *why else* would environmentalists concoct and enforce a regulation that threatens your job or control of your property? Once a compelling framework of corrupt motives is established, it is easier to forestall evidentiary engagement on the original claim of environmental harm.

Such strategies for overcoming dissonance are closely linked to the principle of *"reversal"* which Leathers (1973) has identified in "paranoid" reactionary rhetoric. Appearances deceive, the opponent's motives are the opposite of what he claims. The attribution of blame frequently entails inversion of qualities popularly associated with environmentalists, or projects the negative associations of policies and practices favored by Wise Users back onto their opponents. "Anti-materialistic" environmentalists in fact are out to "get rich" (witness the huge budgets of major environmental organizations), driven by greed to control vast tracts of land, "trashing" the environment in the process, "polluting" the air with their lies. Ron Arnold writes of "the federal bulldozer ... stripping more private lands for parks" (1993:140). Liberal environmentalists are culturally intolerant "hate groups" and "eco-Nazis," while Wise Use groups follow the well-known practice of adopting "green" names. Moreover, nature itself, cruel and unforgiving, becomes the primary culprit damaging the environment: sea lions "destroy" more salmon than dams and logging combined, wolves decimate "valuable" wildlife, volcanoes and swamps contribute more to ozone depletion and global warming than human activities.

These rhetorical practices are not just political doublespeak, but reflect what Albert O. Hirschman has described as a historical commonplace of conservative rhetoric in periods of reform, the "doctrine of the perverse effect." It is claimed that reformist or progressive agendas, no matter how well-intentioned, will in fact have opposite the desired results, will exacerbate the conditions they seek to alleviate. Thus many environmentalist policies will in fact *harm*, not improve the environment. The conspiratorial tendencies in Wise Use discourse are absorbed within time-worn axioms of conservatism.

The oppositional structure set up by victimization and vilification supports a dichotomous, "all or nothing" logic I have found pervasive in Wise Use

discourse. The effects of environmentalism are described with verbal epithets like "devastate," "ruin," "assault," "attack". Communities are never simply "harmed" nor merely experience decline, pain, or loss of income--they are "destroyed," the economy is "trashed." When extractive use of public lands is restricted or limited in any way, these lands are "locked up." If the excessive use of pesticides and chemical fertilizers is criticized, environmentalists want to "shut down" agriculture, while organic farming is rejected whole-cloth because it would "starve us to death." Efforts at population control are equated with "genocide." When Interior Secretary Babbitt announces his desire to dismantle two or three dams in the Northwest which are impeding salmon recovery and are no longer economically critical, People for the West! respond, "What he NOW proposes is the degradation of the nation's hydro-electric, flood control and water management systems, all for the sake of fish!"

Implications of the Discourse.

Lange (1993) has imported to the study of environmental conflict a valuable model for analyzing communication patterns in disputes over "incommensurable" values; Moore (1993) followed by reminding us that "irreconcilability" is nonetheless *constructed*. We now would benefit from studies of how ideologically coherent positions are developed and sustained as persons "innocently" inhabiting a particular world view (by virtue of upbringing, e.g.) are drawn into conflict, articulating strategic responses to opposing viewpoints, forging alliances within a complex socio-political environment.

Like the New Christian Right, those leading the charge against organized environmentalism today have "ensconced themselves in a rhetoric of personal victimage and social criticism" (Pearce, et al.:174) in which mainstream America, working people, the Constitution, property rights and basic freedoms, are "under attack." The civilizing practices of managing nature and producing goods are no longer appreciated, even less so the people who do these things. Ehrenreich's (1989) analysis of how the New Right seized upon the idea of a liberal, educated, but meddling and *non-productive* "new class" elite of welfare-state professionals, as a means of uniting the estranged classes of *producers* - wealthy, powerful business interests with a resentful working class - is highly relevant here. It sheds light on the active participation in anti-environmentalism by conservative think tanks (Heritage Foundation, Cato Institute, Competitive Enterprise Institute), and identifies the sociological analysis prompting Ron Arnold's (1993) crude exhortations for us to "love" business and

industry. Environmentalists, "Hollywood," the "liberal media" and academics play almost interchangeable roles in the New Class menagerie of the Wise Use imagination.

Environmentalists, like secular humanists, are not merely advocating flawed policies; they are trying to destroy the free enterprise system, a way of life. Yet, addressing criticism of movements like the New Right, McGee suggests that scholars, rather than dismissing or denouncing the charges these movements make, "attend to such charges more carefully, listening not to the appearance of intolerance in such arguments, but to the deeper meanings, to the frustrations and fright of people who cast about their environment and sense only moral disarray" (quoted in Pearce et al:176). To the (arguable) extent Wise Use is a spontaneous grassroots movement and not simply an industry front, it deserves a similar hearing.

We might consider what many Wise Users are confronted with, their potential moral confusion, as policies and regulations developed in remote government agencies, guided by such new and "dubious" sciences as ecology and conservation biology, produce persistent but often contradictory demands for changes in established land use practices, the displacement of their experience-based knowledge by "unproven theories," asking for tolerance and, apparently, material sacrifice on behalf of "nuisance" species and predators. In popular culture, the schools, and the political arena, they see the derogation of their occupations and lifestyles. The theories of modernity put forward by Anthony Giddens and Ulrich Beck may clarify the relevance of this sense of dislocation.

Beck (1992) notes that in the reflexive systems of the "risk society," risks are as much a product of the science, knowledge structures and technologies for detecting, calculating and controlling them as of the actual dangers they represent. Hence awareness or detectability of consequences, the "chronic entry of knowledge into the circumstances of action it analyses or describes" (Giddens 1991:28) infuses many actions with ethical implications, changing our attitudes toward them. Progressively elaborate surveillance procedures and larger institutions emerge to gather information and regulate behavior. Ever-expanding notions of individual rights conflict with increasing limitations on behavior imposed to protect mounting expectations of social welfare. We should hardly be surprised that people rebel against the cumulative impact of restrictions designed to protect us (or the environment) from ourselves and from each other, such as the mandatory wearing of seatbelts or the carrying of insurance. Overnight, mandated carriers convert carrying an infant in one's arms in an automobile from an innocent act to legal "child abuse," just as over

previous decades the development of life-support systems converted a doctor's allowing a "merciful" death into an act of murder. So, too, with everyday acts like smoking, driving, lighting up the barbecue, or "improving" one's property by draining a marshy area, not to mention more dramatic activities like harvesting timber.

Thus our understanding of "externalities" has imposed a social dimension and ethical standard on many activities that formerly were seen not only as the private prerogative of those performing them, but as beneficial. This is intrinsic to the expansion of environmental awareness and responsibility, but highly problematic. Layers of meaning, pride, and habit accrue in generations of established practices. Values, the positive social meanings connected to work and livelihood, do not change nearly as fast as scientific knowledge and new, "negative" meanings accumulate. Meanwhile, "progress," the "global economy" and the promiscuity of investment capital constantly demand concessions of workers which attenuate legitimate expectations of social stability and economic security.

This produces a crisis that is as yet far more acute in the production than consumption sectors, in that miners, loggers, small ranchers and fishermen as the first cogs in a giant wheel of production and consumption, are more easily identified as malefactors than the consumer. They commonly respond that they are only fulfilling a demand (for lumber, beef, minerals), yet are being held accountable for the consequences of consumerism, and thus feel it is hypocritical as well as ungrateful for others to demand that they desist. Moreover, often living simply and frugally in rustic and scenic settings that have suddenly become desirable and worthy of "saving", they are puzzled and outraged that they are singled out for "destroying" a relatively pristine environment.

This moral gap suggests more than academic distinctions between two paradigms. The fast, relentless pace of change and the tendency toward specialization characteristic of modernization distance us from the consequences of our actions and the experiences of others, exacerbating what Giddens calls the "sequestration of experience" (1991:8). As we achieve physical or linguistic control over our respective domains, refining knowledge but winnowing out "irrelevant" information, abandoning "useless" traditions and inefficient actions, "behaviour which is not integrated [or] knowledgeably built into the mechanisms of system reproduction--becomes alien and discrete" (Giddens:150), hence vulnerable to technocratic or moralistic assault. Reflexive control--of industrial production or academic thought--achieves "large tracts of relative security in day-to-day life," but "[i]ts effect ... is to repress a cluster of basic moral and

existential components of human life" (Giddens: 167).

Presumably this applies to moral/epistemological systems like ecological thought as well as the erstwhile insularity of industrial practices and those engaged in them--common ethical and epistemological frameworks are lacking. Extrapolating to environmental conflict, environmentalists are maddened by the apparent refusal of loggers or ranchers to acknowledge the impacts of their activities on wildlife and watersheds, while Wise Users are frustrated by Greens' apparent inability to grapple with the messy processes and regrettable but necessary costs of living, let alone the social costs of a timber slowdown. Yet globalization, both the actuality and the awareness of global interrelatedness, "means that ... no one can 'opt out' of the transformations brought about by modernity" (Giddens:22). Wise Users, becoming adept at turning the rhetoric and principles of environmentalism on their heads, recognize the ecological inescapability of "problem displacement," claiming that by "shutting down" timber, mining and fishing in this country, Greens force such activities into other nations lacking our rigorous environmental controls, thus causing more environmental harm in developing nations while eliminating American jobs.

In modernity, abstract systems from science to insurance have achieved for us a great deal of security in everyday life:

"yet there is also a serious price to pay for these advances. Abstract systems depend on trust, yet they provide none of the moral rewards which can be obtained from personalized trust, or were often available in traditional settings from the moral frameworks within which everyday life was undertaken" (Giddens 1991:136).

Wise Users, arguably less integrated into the abstract systems of modernity, identify environmentalism with a bureaucracy which asks them to trust theoretical as opposed to experiential knowledge. They insist that simple self-interest and the conscience of close-knit communities in fact discourage environmentally destructive behavior.

Greens, as worldly, mobile, "international citizens" make reference to transpersonal, transgenerational obligations to the global community and to nature; yet such obligations appear to derive from abstract principles, not working relationships, from political "choices," not commitment to place. Wise Users implicitly reject the notion that social, let alone global, responsibilities inhere in the ownership and stewardship of land; yet they proclaim strong voluntary ties to neighbors and place. Greens gravitate philosophically to the primeval, the communal, yet have availed

themselves of science, centralized government, and technocracy to recuperate the remnant possibilities of a workable, earthly Eden. Grassroots Wise Users, rooted and bound to present obligations of family and livelihood, speak of tradition and a "way of life," aspiring to local political control. Yet philosophically they embrace economic and technological developments that erase traditions, feed the growth of multinational corporations, diminish the need for people such as themselves, and each year send more city dwellers in search of a "pristine" countryside.

Summary

Important new challenges are emerging, as (1) the environmental attitudes and expectations of an urban, consumer public change faster than behaviors and the techno structure; (2) engagement with environmental reforms moves from apparently "simple" issues like pollution, where the "enemy" was frequently a large industry with political and legal power but enjoying little public sympathy, to scientifically, ethically and politically complex issues of land use and biodiversity, where individual landowners and small businesses are drawn into the fray; and (3) environmental protection efforts interact increasingly with other aspects of modernization: suffocating bureaucracies, economic dislocation, the attenuation of community, numerous crises of authority.

Becoming professionalized, the counter-cultural movement of environmentalism has, ironically, allied itself with the bureaucratic regulatory structures of centralized government as means for enforcing a necessary regime of "sustainable" practices. Thus, attention is more easily given to what environmentalists are "against" than the less tangible goals they are "for." To Wise Users, the draconian future of some bleaker environmental scenarios is here today. The combative stance of the large environmental organizations, effective and necessary in fighting other large institutions, may be counterproductive in localized settings where cooperation is essential. The Wise Use Movement has capitalized on inevitable resentment of mounting restrictions and legitimate desires for cultural self-determination, locating "freedom" in an absence of regulation and a frontier ethos of self-reliance. However urgent the need for environmentalists to "expose," "discredit", and defeat the major players behind Wise Use, environmentalists also need to recover a practical role for "land-based" living in the ecological vision, as a way of ameliorating the tension between a "green" but urban consumer society and the allegedly "backward," utilitarian values of rural communities.

Sources

Arnold, Ron (1993). *Ecology Wars: Environmen-*

talism as if People Really Mattered. Bellevue, WA: The Free Enterprise Press.

Beck, Ulrich (1992). *Risk Society: Towards a New Modernity*. Newbury Park: Sage Publications

Berlet, Chip and William K. Burke. "Corporate Fronts: Inside the Anti-Environmental Movement." *Greenpeace*, Jan./Feb./Mar. 1991, 8-12.

Billig, Michael (1987) *Arguing and Thinking: A rhetorical approach to social psychology*. Cambridge: Cambridge University Press.

Billig, Michael (1991). *Ideology and Opinion: Studies in Rhetorical Psychology*. Newbury Park, CA: Sage Publications.

Bormann, Ernest G. "Fantasy and Rhetorical Vision: The Rhetorical Criticism of Social Reality." *Quarterly Journal of Speech* 58 (1972), 396-407.

Cherwitz, Richard. "Rhetoric as 'A Way of Knowing': An Attenuation of the 'New Rhetoric'" *The Southern Speech Communication Journal*, 42 (1977), 207-219.

Deutsch, Morton. "Conflicts: Productive and Destructive." *Journal of Social Issues* XXV, 1 (1969), 7-41.

Ehrenreich, Barbara (1989). *Fear of Falling: The Inner Life of the Middle Class*. New York: Pantheon Books.

Giddens, Anthony (1991). *Modernity and Self-Identity: Self and Society in the Late Modern Age*. Stanford, CA: Stanford University Press.

Helvar, David (1994). *The War Against the Greens: The "Wise Use" Movement, the New Right, and Anti-Environmental Violence*. San Francisco: Sierra Club Books.

Lange, Jonathan I. (1993). "The Logic of Competing Information Campaigns: Conflict Over Old Growth and the Spotted Owl." *Communication Monographs*, 60, 239-257.

Maughan, Ralph and Douglas Nilson (1993). "What's Old and What's New About the Wise Use Movement." Paper presented at the Western Social Sciences Association Convention.

Moore, Mark P. (1993). "Constructing Irreconcilable Conflict: The Function of Synecdoche in the Spotted Owl Controversy." *Communication Monographs*, 60, 258-274.

Pearce, W. Barnett, Stephen W. Littlejohn and Alison Alexander. "The New Christian Right and the Humanist Response: Reciprocated Diatribe." *Communication Quarterly* 35 (Spring 1987), 171-192.

Scott, Robert L. (1967), "On Viewing Rhetoric as Epistemic," *Central States Speech Journal*, 18.

Senecah, Sue (1993). "Forever Wild or Forever in Dispute: Metaphor Use in the Continuing Battle Over the Adirondacks." Paper presented to the Eastern Communication Association.

Smith, Craig Allen. "The Hofstadter Hypothesis Revisited: The Nature of Evidence in Politically 'Paranoid' Discourse", *The Southern Speech Communication Journal* 42, Spring 1977, 274-289.

Wilderness Society (1993). *Report on The Wise Use Movement*.

Environmental Justice for All: The Persuasive Campaign of Benjamin Chavis

by Stephen P. Depoe

For over a decade, a growing number of civil rights advocates, academicians, and grass-roots activists have tried to call public attention to why and how members of poor, minority communities across the nation are bearing a disproportionate health burden associated with industrial pollutants. From rural North Carolina and Louisiana to the south side of Chicago and East Los Angeles, people of color have begun to organize to protest everything from the prevalence of lead paint in public housing to the citing of toxic waste disposal sites and landfills in their communities (Alston, 1990; Bryant & Mohai, 1992; Hofrichter, 1993; Bullard, 1990, 1993).

Reverend Benjamin Chavis, a veteran civil rights activist who coined the term "environmental racism" to describe the adverse effects of pollution on communities of color, has been a leading force in efforts to mobilize a new coalition for change which merges elements of the civil rights and environmental protection movements. The goal of this emerging coalition is the establishment of *environmental justice* (Bullard, 1994a, 1994b). Chavis defines environmental justice as "the pursuit of equal justice" without discrimination based on race, ethnicity, and/or socioeconomic status concerning both the enforcement of existing environmental laws and regulations and the reformation of public health policy (1993c, p. 3). Calling environmental justice "the most cutting-edge issue for civil rights and the environment in this decade" (in Miller, 1993), Chavis has stated his intention "to build an effective multiracial, inclusive environmental movement with the capacity to transform the political landscape of this nation" (1994a, p. xii).

This essay examines Reverend Chavis' persuasive efforts to define and mobilize a new social movement. Utilizing the functional approach to studying movement rhetoric (Stewart, 1988, 1991; Stewart, et. al., 1989), the essay moves from a synopsis of the rhetorical challenges facing Chavis to an explication of the strategies Chavis has employed in his attempt to forge a new community for environmental change.

Chavis' Rhetorical Challenge

In constructing the ideological doctrine and persuasive strategies of an emerging social movement, advocates face a number of problems and pressures (Simons, 1970; Bowers, Ochs, & Jensen, 1993). For instance, movement leaders must often decide how to

reconcile the desire to confront established norms, values, and institutions within mainstream society with the need to sustain and enlarge the movement by crafting appeals which invite members of mainstream society to join a higher cause (Salvador, 1994). Advocates must concurrently persuade audiences to question the legitimacy of existing institutions while establishing their own movement as a legitimate force capable of effecting change in a community (Francesconi, 1982).

The question of how to confront the Establishment becomes particularly difficult to answer when a movement attempts to gain the support of legitimizing individuals or groups from within the Establishment (Stewart, et. al., 1989). In order to sustain or broaden support for a particular issue or to achieve legislative success, movement leaders often try to build alliances with elements of the very public or private institutions whose legitimacy they are attempting to undermine.

This rhetorical balancing act may also apply when advocates attempt to define an issue or situation in order to bring together the forces of existing movements into a coalition for change. Such a coalition may be difficult to form because of limited sources of identification among group members or because one group may define the other as an intractable part of the opposition.

Benjamin Chavis would face such rhetorical obstacles as he began his campaign to encourage supporters of the civil rights and environmental movements to join forces to combat environmental racism. For decades, the two movements have recruited members from different ethnic and socioeconomic backgrounds, have pursued different agendas, and have used different agitational strategies. On the surface, the two movements would seem to have little in common.

Much of the apparent distance between the two groups could be traced to socioeconomic factors. A 1987 report co-authored by Chavis found that while it was false to assume that "racial and ethnic communities do not care about the quality of their environment and its effect on their lives," the environmental movement to that point had "historically been white middle- and upper-class in its orientation." The lack of diversity in the environmental movement was due in large measure to the fact that many racial and ethnic communities "cannot afford the luxury of being primarily concerned

about the quality of their environment when confronted by a plethora of pressing problems related to their day to day survival" (Chavis & Lee, 1987, pp. xi-xii).

Some of the estrangement between environmentalists and civil rights activists was based on each group's perception of the other. According to Austin & Schill (1994), "the view of many people of color" has been that "environmentalism is associated with the preservation of wildlife and wilderness, which simply is not more important than the survival of people and the communities in which they live" (p. 58). This perception was illustrated by a statement made by Jean Sindab, an organizer of a 1993 conference of black church leaders concerning the environment: "We want to make sure our people know the environmental issue is about them, not about whales and trees" (Witham, 1993, p. A3). At the same time, some environmental activists saw the civil rights agenda and tactics as too confrontational. This view was illustrated by a leader of a New England-based environmental watchdog group who doubted whether civil rights activists could be merged with traditional conservationists because "the confrontational style familiar to the community groups is off-putting to those with a more noblesse-oblige approach to protecting the environment" ("Bringing," 1991, p. A-33).

Yet, for Benjamin Chavis, the merger of civil rights and environmental protection seemed a logical outgrowth of his own experience. A member of the NAACP from the age of twelve, Chavis was actively involved in the civil rights struggles of the 1960s in his native North Carolina. Chavis was influenced by both the teachings and personal ministry of Martin Luther King, Jr. and the writings of W. E. B. Dubois, and came to view economic empowerment as the key to bettering communities of color. He spent a number of years in prison as part of the "Wilmington Ten," a group wrongfully convicted of firebombing a white-owned store in Wilmington, North Carolina. Armed with a bachelor's degree in chemistry and graduate degrees in divinity and ministry, Chavis turned his attention to environmental issues in 1982, when he participated in protesting against the citing of a PCB landfill in a rural minority community in Warren County, North Carolina. As a leader of the United Church of Christ's Commission for Racial Justice, Chavis co-authored a ground breaking 1987 report on the issue of race and toxic wastes. More recently, Chavis helped to organize the First National People of Color Environmental Leadership Summit in 1991, and carried his intense interest in environmental justice with him when in 1993 he was chosen to be the Executive Director of the National Association for the Advancement of Colored People (Duke, 1993; Kotlowitz, 1994).

Since that first protest in North Carolina fifteen years ago, Benjamin Chavis has been committed to raising environmental concerns to the top of the civil rights agenda. Addressing a variety of audiences through a series of speeches, research monographs and book chapters, Congressional testimony and direct action protests, Chavis has articulated a set of arguments designed to bring civil rights and environmental activists together to in a new movement to combat environmental racism. In so doing, he has attempted to transcend apparent socioeconomic and philosophical differences between the two movements.

The Case for Environmental Justice

According to Stewart (1991), movement rhetoric can invite audiences to transform their perceptions of history and society, prescribe courses of action, mobilize audiences for action, and sustain the movement against defeats or setbacks. In addition, when facing the problem of building coalitions among divergent groups, movement advocates may attempt to find strategies of transcendence which allow each group to define issues or alliances in a more favorable light or context. Strategies of transcendence may facilitate cooperation among movement believers who are persuaded that such cooperation may attain higher goals of social betterment (Brummett, 1982; Burke, 1984).

Chavis' rhetoric has performed a variety of persuasive functions, inviting a variety of audiences to focus on the problem of environmental racism and the need for government remedies to promote environmental justice. This essay will focus on the functions of transforming perceptions of history and society, and mobilizing audiences for action. Chavis has also searched for transcendent themes which would allow for the creation of common understanding and common ground among members of the civil rights and environmental movements.

Transforming Perceptions of History. According to Stewart, movement advocates use rhetoric to invite audiences to transform their perceptions of past, present, and future reality. A central function of movement rhetoric involves the depiction of "an intolerable situation" that "demands urgent action by uninstitutional forces" (1991, p. 67).

A central persuasive task undertaken by Chavis has involved demonstrating the existence of disproportionate health risks borne by members of minority communities as a result of industrial pollution. Chavis summarized the argument in 1993: "Millions of African Americans, Latinos, Asians, Pacific Islanders, and Native Americans are trapped in polluted environments because of their race and color. Inhabitants of these communities are exposed to greater health and environmental risks than is the general population.

Clearly, all Americans do not have the same opportunities to breathe clean air, drink clean water, enjoy clean parks and playgrounds, or work in a clean, safe environment" (1993a, p. 3).

To support this claim, Chavis has cited both quantified research findings and representative anecdotes from individual locations around the country. In speech after speech, Chavis has cited the results of three research studies. The first one is a 1983 GAO report of landfills in four Southern communities. The study found that African Americans comprised the majority of the population in three of the four communities which contained the landfills (GAO, 1993). As a follow-up to the GAO study, Chavis has recently noted that as of 1993, 100 percent of hazardous wastes disposed of in EPA Region IV (Southeastern United States) "are located in zip codes where African Americans comprise a majority of the population" (1993b, p. 7).

Secondly, Chavis has cited the 1987 study he co-authored on toxic waste and race, which he touted as "the first national report to comprehensively document the presence of hazardous wastes in racial and ethnic communities in the United States" (Chavis & Lee, 1987, p. ix). The study looked at the distribution of landfills, waste dumps, incinerators, and other potentially dangerous environmental hazards, locating them by zip codes, which were in turn analyzed for demographic factors of income, race, and ethnicity. The study concluded that "race proved to be the most significant among variables tested in association with the location of commercial hazardous waste facilities," more significant than socio-economic variables such as income (Chavis & Lee, 1987, p. xiii). An example from the study demonstrating the correlation between the location of hazardous wastes and the race or surrounding populations was the finding that "three out of every five Black and Hispanic Americans lived in communities with uncontrolled toxic waste sites" (Chavis & Lee, 1987, p. xiv).

Finally, Chavis has cited the results of a 1992 study published in *National Law Journal* (Lavelle & Coyle, 1992) which found that "the federal government's Superfund program takes 20% longer to place minority communities on the priority list for Superfund cleanup, and that the EPA consistently imposes weaker penalties on those who pollute minority neighborhoods" (Chavis, 1993b, p. B-7).

Chavis has used specific illustrations to supplement the link between environmental risk and race. He has told the story of Warren County, North Carolina, a poor rural area populated primarily by African Americans which was chosen for a PCB landfill not because it was an environmentally sound choice, but because the residents "seemed powerless to resist"

(1993a, p. 3). He has pointed to the experience of residents in the Carver Terrace development in Texarkana, Arkansas as an example which proves that "escaping poverty does not provide a shield from environmental degradation for African Americans" (1993b, p. B-7). All black, middle-class residents of the development were told to relocate because of plans for Superfund cleanup of a nearby hazardous waste site, but were not given fair value for their property by the EPA compared to values given white residents in similar situations in other communities.

Completing his depiction of the reality of environmental injustice, Chavis has also emphasized the adverse health effects suffered by minorities due to undue exposure to toxic substances. In 1993 testimony before the U. S. Senate, he asserted his belief in "a direct correlation between the disproportionate presence of toxic generating, repository and/or disposal facilities and pollutants in communities where racial minorities and poor people reside and the disproportionate increase in infant mortality, birth defects, cancer, and respiratory illnesses in these communities across the nation" (1993d, p. 4).

Chavis has cited lead poisoning as "a classic example of an environmental health problem that disproportionately affects African American children at every income level. Lead affects 3 to 4 million children in the United States, most of whom are African American and Latinos who live in urban areas" (1993f, p. 2). He has also highlighted an area of Louisiana known as "Cancer Alley," an 80-mile strip along the Mississippi River between Baton Rouge which is home over 100 industries and waste dumps which dump over 900 million pounds of toxins into the environment annually. This area is also inhabited predominantly by African Americans who are, Chavis reminds us, "poor descendants of slaves," and who "suffer some of the highest cancer rates in the nation" (1993b, p. B-7).

In talking about the harmful impacts of environmental exposure, Chavis has attempted to elevate the issue of environmental equity to a moral issue, an issue of "life and death" (1993d, p. xii). In an effort to strike a transcendent theme around the protection of children, Chavis wrote in 1994: "In the south side of Chicago, *our* children are dying. Some die in their mothers' wombs. In Louisiana's petrochemical corridor, 'Cancer Alley,' it is *our* children who are dying in record numbers. In New York City, it is *our* children who are poisoned by lead-paint in old housing" (1994a, p. xii).

Chavis has admitted that argument based on empirical data as well as personal testimony and direct action "is a departure from our traditional protest methodology." However, Chavis has stated that "if we are to advance our struggle in the future, it will depend

largely on the availability of timely and reliable information" (Chavis & Lee, 1987, p. x). This comment is a recognition that in an area as technical and complex as environmental policy, information is power, and helps to account for the burgeoning amount of social science research now being conducted in search of linkages between environmental risk and demographic factors such as race (Capek, 1992).

Chavis has sought to identify with the objectivity of scholarly inquiry in order to enhance the legitimacy of his claims of environmental inequity, claims based largely on correlations. For example, in the 1987 study Chavis and co-authored Charles Lee inferred "the existence of clear patterns which show that communities with greater minority percentages of the population are more likely to be the sites" of hazardous waste facilities. "The possibility that these patterns resulted by chance is virtually impossible," the authors continued, "strongly suggesting that some underlying factor or factors, which are related to race, played a role in the location of commercial hazardous waste facilities" (Chavis & Lee, 1987, p. xv). What Chavis views as a preponderance of empirical evidence led him to conclude in 1992 that "the disproportionate exposure to minorities" of environmental hazards "has been the result of systematic policy making, not a factor of historical coincidence" (Weiskopf, 1992, p. A-25).

Transforming Perceptions of Society. A second function of movement rhetoric, according to Stewart, involves the formation and maintenance of movement identity. "Protesters attempt to transform perceptions of society by portraying, on the one hand, established orders and their surrogates as self-serving, brutish, and utterly without moral fiber and, on the other, movement members as selfless, innocent, and morally upstanding victims of evil forces beyond their control" (1991, p. 67). In the case of the emerging movement for environmental justice, Benjamin Chavis sought to depict forces of institutional racism as the enemy, and to position the environmental issue as central to the evolving identity of those struggling to promote civil rights for all.

Racism as the enemy. Chavis has moved from the claim that communities of color are disproportionately exposed to environmental hazards to the additional claim that the unequal exposures are due to underlying social motives of racism rather than to mere market forces. Like many civil rights leaders, Chavis has argued that "there's still an entrenched racist element in our society that needs to be challenged" ("News," 1993). Chavis views the underlying purpose of racism as serving "the economic interests of those who would exploit" ("A place," 1993). One indicator of such exploitation can be found in growing maldistribution of

wealth and political power in industrial societies. Chavis has articulated the need to confront "the immorality of upper- and middle-class people consuming the most energy and producing the most waste, while it is the health of the poor that is most affected by the resulting pollution" (1993b, p. B-7).

Chavis has coined the term "environmental racism" to describe the impacts of prejudicial social attitudes upon the health of communities of color. "Environmental racism," wrote Chavis in 1993, "is racial discrimination in environmental policy making. It is racial discrimination in the enforcement of regulations and laws. It is racial discrimination in the deliberate targeting of communities of color for toxic waste disposal and the siting of polluting industries. It is racial discrimination in the official sanctioning of the life-threatening presence of poisons and pollutants in communities of color. And it is racial discrimination in the history of excluding people of color from the mainstream environmental groups, decision making boards, commissions, and regulatory bodies" (1993a, p. 3).

This definition contains indictments against private industry, government policy makers and regulators, and environmental groups. Chavis' attack against business is based on the exploitation of economic vulnerability in minority communities. "Many racial and ethnic communities," wrote Chavis in 1987, "have highly depressed economies" that are "particularly vulnerable to those who advocate the siting of a hazardous waste facility as an avenue for employment and economic development" (Chavis & Lee, 1987, p. 7). Minorities who lack mobility may be forced to take jobs at the hazardous sites, thus risking additional exposure. And, once one or two hazardous facilities locate in a minority community, other businesses soon follow, creating what Chavis called a "sacrifice zone" of multiple, cumulative health risks for residents who have few resources to combat industrial growth (1993a, p. 4). In short, remarked Chavis in 1991, "as long as there are poor minority and perceptibly powerless communities to dump in or pollute, American industry will never have to clean up its act" (in Pryne, 1994, p. A-1).

Chavis has cited two manifestations of governmental neglect. First, members of minority communities often face obstacles in acquiring health and other information from government officials. According to Chavis, "institutional resistance to providing information is likely to be greater when agencies are confronted by groups, such as those among racial and ethnic communities and the poor, who are perceived to wield less political power" (Chavis & Lee, 1987, p. 7). For Chavis, the problem of lack of access to information highlights the importance of independent research data

for the new movement.

Second, Chavis has noted that government officials do not provide minorities with equal protection under or enforcement of existing environmental laws. Citing the *National Law Journal* study mentioned earlier, Chavis has asserted the presence of "an institutional attitude, as well as a systematic pattern of double standards of justice, double standards of enforcement, double standards of cleanup, double standards of explanation all based on race involving Superfund cleanup" (1993d, pp. 3-4). He cites the example of Columbia, Mississippi, where he joined the local branch president of the NAACP to protest the "awful and painfully slow process of cleaning up the Superfund site" there. "I saw with my eyes," he noted in Senate testimony in 1993, "African American families, particularly young children, living practically in the Columbia, Mississippi superfund site" (1993d, p. 4).

Finally, Chavis has criticized the mainstream environmental movement for its reluctance to join the struggle for environmental justice. In 1991, Chavis praised the National Resources Defense Council and the Sierra Club for participating in the People of Color National Leadership Summit, but also stated that "part of the problem" in forming a new coalition "is the sense of aloofness of most environmental organizations. They want to preserve wilderness areas but not communities. Both the social justice and environmental movements will be better served by their participation" (Gelbspan, 1991, p. 3). In 1993, he admitted that "even when we started talking environmental racism, the environmentalists did not hear us. These are issues of life and death" (Witham, 1993, p. A-3).

One difficulty Chavis has faced in his attempt to define an enemy against which the environmental justice movement can mount an offensive is that he has sought cooperation and support from the same forces in business, government, and the environmental movement that he has also criticized as being part of a racist society. To mitigate against this difficulty, Chavis has spent more time focusing on the magnitude of the problem and the need for government to redress injustice that on encouraging the isolation of particular scapegoats. This has particularly been the case since the 1992 presidential election put a sympathetic Bill Clinton in the White House. Chavis sees discrimination in environmental policy as one of the "lingering vestiges of institutional racism that still remain deeply embedded in our society" (1994b, p. 3).

Environmental racism as a civil rights issue. Chavis has also worked to move the issue of environmental racism to the forefront of the civil rights agenda. Chavis wants the identity of the civil rights movement in the 21st Century to be shaped by environmental

issues, and has used his leadership role within the NAACP to redirect the civil rights agenda (White, 1994).

The connection between environmental racism and the civil rights agenda has been accomplished in two steps. First, Chavis has asserted the central role of economic issues in the civil rights movement. In a 1993 speech to the National Press Club delivered shortly after becoming Executive Director of the NAACP, Chavis asserted that "the NAACP sees economic justice as a major civil rights issue as we move toward the 21st Century" (1993e). In his 1994 address to the Smithsonian Institution, Chavis explained further that "participating in a democratic society solely by political means is grossly insufficient" to insure an adequate quality of life. "We envision that the civil rights movement will of necessity have to concentrate more on economic development, economic empowerment, and on helping to insure a stronger economic infrastructure within the African-American community as well as within other people-of-color communities" (1994b, p. 9).

Chavis saw the call for environmental justice as a natural part of an economically oriented civil rights agenda. He has defined "the pursuit of environmental justice" as "a paramount priority of the NAACP since it invokes principles of social justice and equal protection" (1993f, p. 2). He has attempted to "help put the appropriate and the right frame around the issues so that people can see how housing discrimination is related to environmental discrimination, is related to infant mortality, is related to public health discrimination. All these issues are interrelated" (1993e). He has characterized "our demand for environmental justice" as "linked to our cry for economic justice." "The civil rights movement," he concluded in 1994, "cannot afford not to respond to the challenge of environmental degradation" (1994b, pp. 9-10).

Chavis has defined racism, manifested in industrial greed, government neglect, and misplacement of environmental priorities, as the source of the evil of environmental inequity. He has attempted to recast the identity of the civil rights movement by emphasizing issues of economic justice, particularly as they pertain to environmental protection. What remains is for Chavis to encourage mobilized action by disparate groups in support of the goal of environmental justice.

Mobilizing for Action. According to Stewart, another important function of movement rhetoric involves the motivation of "the discontented and disaffected of society" into action. Movement advocates "attempt to unify and organize members and sympathizers, gain the sympathy and support of opinion leaders and legitimizers, pressure the established order

into compromise or capitulation, and convince all who will listen that victory is near" (1991, pp. 67-68). Chavis' task has been to find ways to break down misconceptions between civil rights and environmental activists and to find higher ground that can motivate members of each group to rally in support of environmental justice.

It is clear that Benjamin Chavis envisions a movement on behalf of social justice as a potent force for change. He has described the new coalition as a "bridge movement, bringing diverse racial and ethnic communities together in a profound way, a way no other issue even has the potential to do" ("A place," 1993). In fact, he sees a merger of the two movements as a political and moral imperative. "The civil rights movement and the environmental movement can no longer afford to be separate," he wrote in 1993 (1993b, p. B-7). Chavis has attempted to appeal to higher purposes in each group in order to bring them together.

General transcendent appeals. Surprisingly, Chavis has not spent much time developing appeals to more abstract values within the larger society. For instance, Chavis has done little to link the environmental justice cause to spiritual or religious appeals to save God's creation. He did remark in 1993 that he admired "our Native American sisters and brothers, who have been trying to force the attention of the environmental justice movement on the sacredness of the air, the water, the land, the sacredness of the Creation. Social justice movements often leave spirituality out, but the environmental justice movement holds spirituality as a very key element" ("A place," 1993). Yet, most of Chavis' rhetoric is materialistic in nature, emphasizing the concrete aspects of environmental issues. "The discussion of environmental justice is not a philosophical debate," he wrote in 1994. It is an issue of "life and death" (1994a, p. xii). Rather than appealing to general values, Chavis has tried to link environmental justice to specific sources of motivation within the civil rights and environmental communities.

Appeals to the civil rights community. Chavis has tried to mobilize the civil rights constituency by drawing more explicit linkages and analogies to the traditional civil rights issues and approaches popularized in the 1960s. While Chavis has been quick to point out that he does not want the NAACP or other civil rights organizations to lapse into nostalgic infirmity (Terry, 1993), he has also tried to demonstrate how support for environmental justice is consistent with traditional civil rights causes. He has called upon civil rights supporters to fight as hard for environmental justice as they did during other important struggles. In 1993, he remarked that "the same level of passion we had around racial discrimination, school

desegregation, we need to have around environmental discrimination" (Campbell, 1993, p. 1). To achieve the goals of "a sustainable economy that is economically viable and environmentally sage" will "take the same type of creativity and passion that three decades ago enabled the civil rights movement and the Johnson administration to desegregate public accommodations, guarantee voting rights and forge a broad-based consensus that prodded America to live up to its Constitution" (1993b, p. B-7).

As an additional motivating argument, Chavis has made frequent allusions to the life and ideals of Martin Luther King, Jr. Chavis has drawn upon his own personal remembrances of King based on work he did as a NAACP youth coordinator during the 1960s. He has quoted King's admonition that "injustice anywhere is a threat to justice everywhere" as warrant for the "moral truth that we all have a mutual interest in promoting justice" (1993b, p. B-7). He has reminded audiences of King's recognition of "the importance of the interrelationship of economic and social justice," and of King's vision of a "beloved community" of "mutual peace, harmony, and justice distributed among all peoples and nations" (1994b, pp. 9, 2).

For Chavis, environmental degradation was eroding the dreams of children living in polluted neighborhoods: "The same forces that callously degrade the ozone layer in the heavens are the same forces that degrade the quality of life in the hood" (1994b, p. 10). Echoing King's dream articulated thirty years earlier, Chavis predicted that civil rights activists will continue to march into the 21st Century "until every child of God has an equal chance in life" (1994b, p. 13).

Appeals to the environmental community. In order to mobilize the environmental community, Chavis had to begin by muting some of the criticism he had leveled against those who had a narrow concern with preservation of nature. During a 1993 roundtable discussion with a variety of environmental activists sponsored by the Sierra Club, Chavis made it clear that he viewed the "bifurcation between wanting to protect animal species and protecting the human species" as "a false bifurcation" ("A place," 1993). He has stated a belief that the environment should be seen as a whole, including human, plant, and animal habitats. "That we share our interdependent planet," he wrote in 1993, "ultimately means that a threat to anyone's environment is a threat to everyone's environment" (1993b, p. B-7).

He has also attempted to reassure environmentalists that the movement for environmental justice "is not a movement of retribution. It is a movement for justice. You can't get justice by doing an injustice on somebody else" ("A place," 1993). Crucially, Chavis has stated that communities of color do not advocate the simple transferral of environmental burdens to white

communities: "We are not saying, 'Take the poisons out of our community and put them in a white community.' We are saying that no community should have to take these poisons" (Krajick, 1994, p. 5-D). This position allows for the possibility of common ground to be found in the area of strategies for pollution source reduction. "If you really want to conserve the earth," Chavis told participants at the Sierra Club roundtable, "then join the environmental justice movement, because this is the movement that is going to constrain the destroyers of the earth, because the destroyers of the environment are also the destroyers of our neighborhoods and communities" ("A place," 1993).

Assessing the State of the Environmental Justice Movement

As of the beginning of 1995, the environmental justice movement is in full swing and has secured some successes and suffered some setbacks. On a positive note, civil rights and environmental activists are participating in constructive dialogue at the local level throughout the country. Mainstream environmental organizations are now paying more attention to the urban environment, and are trying to expand minority participation. "It's a two-way trade," according to George Coling of the Sierra Club. "We offer them the strengths of the white, middle-class groups: money, scientific expertise, and lobbyists in every statehouse. And in return, the community groups have brought us grass-roots organizing abilities and new priorities" (Krajick, 1994, p. 5-D).

In addition, President Clinton has called attention to the issue of environmental justice by signing an Executive Order which requires federal agencies to 1) ensure that minority and low-income people have access to information related to human health and the environment; 2) conduct activities related to health and environment in a manner that does not discriminate against low-income and minority groups; and 3) consider disproportionate health effects in conducting research and collecting data ("Environmental justice," 1994).

On the negative side, a growing body of research is being produced which questions both the methodology and outcome of initial studies which declared race as a significant factor in hazardous waste siting and other environmental policy decisions (Been, 1994; Anderton, 1994). At the same, additional evidence is accumulating that indicates that environmental conditions for communities of color are not improving (*Toxic Waste Revisited*, 1994).

Benjamin Chavis' career as civil rights leader and champion of environmental justice has been thrown into doubt during the past twelve months. Some

questionable political decisions and financial scandal led the NAACP to relieve him of duties as Executive Director (Holmes, 1994). Chavis has since left the organization.

During the past few years, Chavis had worked with business and insurance executives in an attempt to reform Superfund legislation. Chavis advocated a replacement of the "polluter pays" concept of funding site cleanup with a broad-based fund to be paid for with business and corporate taxes. This reform, according to Chavis, would reduce the amount of time and money wasted on litigation over responsibility for waste production and would focus more effort and money of site cleanup. Once adopted, the reform would make Superfund what it should be, "a public health and environmental protection program" (1994c, p. B-7). Chavis' proposal has won support from many business leaders but criticism from environmental groups who want to retain retroactive liability as a deterrent against corporate polluters ("Chavis takes heat," 1994).

Despite some recent setbacks, it seems that Ben Chavis' rhetorical goal of creating a merger between the civil rights and environmental movements has been successful, at least in terms of helping to establish a dialogue and mobilizing active participants from each movement is concerned. Chavis' strategies of featuring both empirical data and personal stories, constructing a version of a racist society without stark scapegoats, and appealing to higher values within each movement have facilitated the beginning of a genuine collaboration among elements of the two movements.

In his discussion of the problem of environmental racism and attempts to mobilize members of traditional civil rights and environmental movements in support of a new agenda for social change, Benjamin Chavis has articulated the major themes of the environmental justice "frame" as described by Capek (1993): "a strong emphasis on citizenship rights, democratic process, and respect for 'grass-roots' knowledge" (p. 8). Chavis has attempted to blend his interpretation of scientific evidence with personal anecdotes in order to provide economically and politically disenfranchised citizens with the information and understanding necessary to participate more fully in the process of environmental policy-making at the local level. In so doing, he has established a rhetorical trajectory for other environmental justice advocates to follow.

Bibliography

Alston, D. (1990). *We speak for ourselves: Social justice, race, and environment*. Washington, D. C.: Panos Institute.

Anderton, D. L. (1994). Hazardous waste facilities: Environmental equity issues in metropolitan areas.

Evaluation Review, 18, 123-140.

Austin, R., & Schill, M. (1994). Black, brown, red, and poisoned. In Bullard, R. D., Ed. (1994a). *Unequal protection: Environmental justice and communities of color* (pp. 53-74). San Francisco: Sierra Club Books.

Been, V. (1994). Locally undesirable land uses in minority neighborhoods: Disproportionate siting or market dynamics? *Yale Law Journal*, 103, 1383-1406.

Bowers, J. W., Ochs, D. J., & Jensen, R. J. (1993). *The rhetoric of agitation and control*. Second Edition. Prospect Heights, IL: Waveland Press.

Bringing Earth Day back down to earth; Grass-roots activists tweak "elitist" brethren (1991, April 21). *Boston Globe*, p. A-33.

Bryant, B., & Mohai, P. (Eds.) (1992). *Race and the incidence of environmental hazards*. Boulder, CO: Westview Press.

Bullard, R. D. (1990). *Dumping in Dixie: Race, class, and environmental quality*. Boulder, CO: Westview Press.

Bullard, R. D., (Ed.) (1993). *Confronting environmental racism: Voices from the grassroots*. Boston: South End Press.

Bullard, R. D., Ed. (1994a). *Unequal protection: Environmental justice and communities of color*. San Francisco: Sierra Club Books.

Bullard, R. D. (1994b, May). Overcoming racism in environmental decision making. *Environment*, 36, 10-20, 39-44.

Campbell, L. P. (1993, July 25). Environmental-justice force arrives. *Chicago Tribune*, p. 1.

Capek, S. M. (1993). The "environmental justice" frame: A conceptual discussion and an application. *Social Problems*, 40, 5-24.

Chavis, B. F., Jr. (1993a). Foreword. In Bullard, R. D., (Ed.) (1993). *Confronting environmental racism: Voices from the grassroots* (pp. 3-5). Boston: South End Press.

Chavis, B. F., Jr., (1993b, January 19). Environmental justice is social justice. *Los Angeles Times*, p. B-7.

Chavis, B. F., Jr. (1993c, April 28). Superfund: The need for environmental justice, equal protection, and the environment. Testimony before the Committee on Government, U. S. House of Representatives. Transcript courtesy of National Association for the Advancement of Colored People.

Chavis, B. F., Jr. (1993d, May 6). Superfund: The need for environmental justice, equal protection, and enforcement. Testimony before the Subcommittee on Environment and Public Works, U. S. Senate. Transcript courtesy of the National Association for the

Advancement of Colored People.

Chavis, B. F., Jr. (1993e, June 3). National Press Club luncheon address. Federal News Service (NEXIS).

Chavis, B. F., Jr. (1993f, June 24). Statement on the introduction of the Environmental Justice Act of 1993 in the U. S. Senate. Transcript courtesy of National Association for the Advancement of Colored People.

Chavis, B. F., Jr. (1994a). Preface. In Bullard, R. D., Ed. (1994a). *Unequal protection: Environmental justice and communities of color* (pp. xi-xii). San Francisco: Sierra Club Books.

Chavis, B. F., Jr. (1994b, January 15). "The beloved community": The postmodern struggle for racial, socioeconomic, and environmental justice. Smithsonian Institution lecture. Transcript courtesy of National Association for the Advancement of Colored People.

Chavis, B. F., Jr. (1994c, February 6). Bring fair play to toxic cleanup. *Los Angeles Times*, p. B-7.

Chavis, B. F., Jr., & Lee, C. (1987). *Toxic wastes and race in the United States*. Report prepared for Commission for Racial Justice, United Church of Christ.

Chavis takes heat over Superfund lobbying (1994, July 11). Greenwire News Service (NEXIS).

Duke, L. (1993, May 16). As NAACP baton passes, Chavis vows to pick up pace, "win the race." *Washington Post*, p. A-11.

Environmental justice; Clinton signs executive order, activists protest (1994, February 14). Greenwire News Service (NEXIS).

Francesconi, R. A. (1982). James Hunt, the Wilmington 10, and institutional legitimacy. *Quarterly Journal of Speech*, 68, 47-59.

Gelbspan, R. (1991, October 22). Group rakes the EPA on minority concerns. *Boston Globe*, p. 3.

General Accounting Office (1993). *Siting of hazardous waste landfills and their correlation with racial and economic status of surrounding communities*. Washington: GAO.

Holmes, S. A. (1994, July 29). Leader used NAACP money to settle a sex harassment case. *New York Times*, pp. A1+.

Kotlowitz, A. (1994, June 12). A bridge too far? Benjamin Chavis. *New York Times Magazine*, p. 41.

Krajick, K. (1994, April 17). Minorities take aim at "environmental racism." *St. Petersburg Times*, p. 5-D.

Lavelle, M., & Coyle, M. (1992, September 21). *Unequal protection: The racial divide in environmental law*. *National Law Journal*, pp. S1-S19.

Miller, K. (1993, June 24). NAACP lauds latest try to cure "environmental racism." *Gannett News Service*

(NEXIS).

News conference with organizers of the upcoming 30th anniversary March on Washington (1993, August 19). Federal News Service transcript (NEXIS).

A place at the table: A Sierra roundtable on race, justice, and the environment (1993, May). *Sierra*, 78, n. p. (NEXIS).

Pryne, E. (1994, February 24). The search for environmental justice--Tackling a toxic issue. *Seattle Times*, p. A-1.

Salvador, M. (1994). The rhetorical subversion of cultural boundaries: The National Consumer's League. *Southern Communication Journal*, 59, 318-332.

Simons, H. W. (1970). Requirements, problems, and strategies: A theory of persuasion for social movements. *Quarterly Journal of Speech*, 56, 1-11.

Stewart, C. J. (1988). A functional approach to the rhetoric of social movements. *Central States Speech Journal*, 31, 298-305.

Stewart, C. J. (1991). The internal rhetoric of the Knights of Labor. *Communication Studies*, 42/1, 67-82.

Stewart, C. J., Smith, C. A., & Denton, R. E., Jr. (1989). *Persuasion and Social Movements*. Second Edition. Prospect Heights, IL: Waveland Press.

Terry, G. P. (1993, April 18). New head of NAACP sets an impassioned agenda (interview with Benjamin Chavis). *Los Angeles Times*, p. 3.

Toxic wastes and race revisited (1994). Center for Policy Alternatives.

Weiskopf, M. (1992, January 16). Minorities' pollution risk is debated; Some activists link exposure to racism. *Washington Post*, p. A-25.

White, B. (1994, July 10). NAACP takes civil rights into '90s. *Chicago Tribune*, pp. 1, 6.

Witham, L. (1993, December 2). Blacks blast "racist" polluters; Churches claim bias in dumping. *Washington Times*, p. A-3.

The Status of Natural Resource Management Related Environmental Education and Communication in Africa

by Ben Tyson, Irma Allen, Ted Fields, Richard Grieser, and Martha Monroe

Introduction

Much of the information used in writing this paper was obtained from four country specific reports written for the USAID funded GreenCOM Project during 1994. These reports assessed the status of environmental education and communication (EE&C) activities in The Gambia, Madagascar, Namibia, and Uganda. Methods of information collection were primarily qualitative. Open-ended interviews, focus group discussions, on-site visits, and document reviews were employed by contracted consultants. Findings were cross checked with different sources to confirm validity when possible. It should be noted that the interpretations and conclusions expressed in this paper are entirely those of the authors and should not be attributed in any manner to the GreenCOM Project, the Academy for Educational Development (the project's prime contractor), or USAID.

Definitions

Environmental Education (EE) can be defined as "a process aimed at developing a world population that is aware of, and concerned about, the total environment and its associated problems and which has the knowledge, attitudes, skills, motivation, and commitment to work individually and collectively towards solutions of current problems and the prevention of new ones" (UNESCO, 1978). This definition is broad enough to encompass three distinct areas of EE and "C" (communications)--formal, nonformal, and community based.

Formal EE&C for the sake of this paper pertains to primary and secondary level formal education curriculum design and instructional materials development. The objective of formal EE&C is to develop in school based individuals the capacity and commitment to engage in inquiry, problem solving and decision making on a broad range of environmental issues; including those that are not acute. Formal EE&C generally takes a long-term focus. Interpersonal channels and print media are most commonly employed (adapted from Archie, M., Mann, L. and Smith, W., 1993).

Non-formal EE&C for the sake of this paper consists of three tools: a) adult and out-of-school youth continuing education programs, b) programs conducted by public sector extension education systems, and c)

multi-media social marketing campaigns. Continuing education programs seek changes in knowledge and skills in fairly broad audiences, are generally mounted in response to perceived needs, but rarely advocate specific solutions for acute issues. Programs launched by extension education systems seek changes in knowledge and skills for targeted groups of individuals and often advocate specific answers for topical issues. Social marketing campaigns generally deal with critical issues, seek change in behavior, target specific audience, and advocate specific messages. All three types of non-formal EE&C utilize a combination of interpersonal communication methods and mass media.

Community based EE&C for the sake of this paper refers to participatory communication methods that empower communities to take control of their own future. Community based EE&C is often launched by local and international NGOs working in consort with community development committees or similar organizations. These activities are often framed by borders of a watershed or peripheries of national parks. An ecosystem approach is often followed that seeks to integrate the economic and ecological concerns of the whole community in a sustainable fashion. Communication methods rely heavily on interpersonal and small group channels to deliver messages on organizational issues, leadership, decision making, and program planning.

Status: Formal EE&C

Curriculum development. Environmental curricula can take two forms: an "infusion method" whereby environmental issues are dealt with throughout the total curriculum by being infused into any subject matter and a "block method" whereby separate and distinct environmental education courses are created (Braus and Wood, 1993). Both forms have associated pros/cons. Ultimate effectiveness probably comes from a blend of both methods.

Across the four countries studied, primary and secondary environmental curricula can be considered the strongest in The Gambia and Namibia. Both countries employ a blend of infusion and block methods. Pertaining to Namibia, prior to independence the exiled Southwest Africa People's Organization (basis for present government) received Danish assistance in the form of formal education support.

Agriculture and sustainable use of natural resources were an initial focus of this work. These early efforts helped to jump-start a recent and more thorough curriculum reform process. Now, environmental issues are infused in grade 1-3 social science curriculum and grade 4-7 science and health curriculum; the grade 8-10 "Life Science" curriculum deals with environmental issues when addressing blocks on health, biology, ecology, and agriculture; and the senior secondary "Natural Economy" curriculum, geared for students who will sit Cambridge exams, deals with regional and global issues of relevance.

Uganda and Madagascar are in the midst of a national curriculum reform process; each for different reasons, each with different goals. In Uganda present efforts are concentrating on primary curricula. It is not clear to what extent environmental studies will be incorporated. Efforts to infuse environmental issues need to be supported now.

In Madagascar the new government has initiated a broad educational reform process and hopes to have a new secondary curriculum in place by 1996 and new primary curriculum by 2000. Historically, curriculum development activities received fundamental assistance from NGOs. In the past, the World Wildlife Fund played such a role and because of this, environmental issues were insured inclusion. The ongoing educational reform process has not yet sought this type of support. Special efforts need to be exerted to maintain the infusion of environmental issues in basic curricula.

Instructional materials development. The development of instructional materials is fairly strong in The Gambia and Namibia where the process is truly a collaborative effort between NGOs and Ministries of Education. In The Gambia, the ministry's Book Production and Materials Resource Unit, a modern and well equipped facility, services all grade levels. And pertaining to NGOs, the nongovernmental Chimp Rehabilitation Project produces activity booklets for grade four and five students in villages that border the River Gambia Park; and the Training and Information on the Protection of the Environment (TIPE) Project produces activity booklets and teacher guides for grades four and five students nationwide. There are quite a few other examples of private sector ad-hoc production of materials in The Gambia. As a general rule, this work is untested and unevaluated. In addition, these materials are dispersed and hard to access. The U.S. Peace Corp's environmental education program is in the process of setting up multimedia educational resource centers to facilitate collection and dispersal of materials.

A nearly identical situation is found in Namibia where the Ministry of Education maintains general resource centers and NGOs assist in developing

materials; e.g., the Cheetah Conservation Fund, the Desert Resource Foundation of Namibia, and the Namibia Animal Rehabilitation, Research, and Education Center (NARREC). The Madagascar situation, until recently, was also similar and EE&C related instructional materials were readily produced in Malagasy language. Now the educational system is switching to French language and new materials will be required. In Uganda, few EE&C resource materials exist.

Status: Nonformal EE&C

Adult/out-of-school continuing education programs. Continuing education programs for adults and out-of-school youth are generally mounted in response to a perceived need for specific knowledge or skills; e.g., literacy, health, vocational needs. Most of these programs are natural vehicles for EE&C. Literacy education can employ environmental examples to illustrate lessons; health issues are frequently aligned with environmental topics; and vocations that are tied to natural resources, such as agriculture and eco-tourism, inherently incorporate EE&C. Because of the high number of out-of-school youth in the four countries studied this form of non-formal education is very important.

In The Gambia, the Ministry of Education's Department of Nonformal Education conducts a literacy education program. The Gambia Technical Training Institute offers a bird guide training course to support eco-tourism. And two NGOs, Action Aid and Save the Children, as part of their community development efforts, conduct literacy, health, and vocational training workshops.

In Namibia the Ministry of Education's Department of Adult and Continuing Education conducts a well designed National Literacy Program that unfolds in three stages: 1) read and write in mother tongue, 2) functional literacy in mother tongue, 3) functional literacy in English language. The program employs District Literacy Officers who teach and oversee the work of local Literacy Promoters who conduct classes for fellow community members. Support for environmental issues is one of the ten stated aims of the program. Pertaining to private sector activity, the Rossing Foundation and the Nyae-Nyae Foundation, include literacy, health, and vocational training in their development assistance portfolios. Similar types of activity can be found in Madagascar.

In most cases, the infusion of environmental issues into continuing education programs is rudimentary and instructional materials to support these programs go untested and unevaluated. In addition, because of the idiosyncratic nature of message development by individual institutions and the lack of coordination

among these institutions across the various forms of continuing education, there is a risk of passing conflicting messages. And importantly, across all four countries studied, there is an issue of access based on gender. It is evident that special efforts are needed to tailor programs to accommodate the many factors that compete for women's time.

Public Sector Extension Education Systems. The objectives of public sector extension education systems are wide ranging; e.g., awareness building via mass media, knowledge and skills transfer through training workshops and demonstrations, and technology diffusion through opinion leaders and community organizations. Like continuing education, extension programs are generally mounted in response to a predefined need. The need may be identified and dealt with in a top-down (expert driven) fashion or more participatory (interactive) way.

Historically, when speaking of public sector extension education, one is often referring to Ministry of Agriculture support systems comprised of research, education and field-based departments. Yet, environmental issues are dealt with by various ministries and departments (e.g., conservation, rural development, tourism, health) and these groups often operate through a similar type of system.

Extension activities are often defined by the boundaries of a watershed or the peripheries of national parks and development communication is often coordinated by village conservation committees. Village meetings and demonstrations are commonly perceived as effective teaching methods; peers, friends, and radio are commonly perceived to be important channels. To varying degrees, this is the case in the four countries studied.

General constraints identified across the four countries studied relate to the need for those involved with extension activity to: a) better target their efforts and messages for specific audiences so as to achieve higher levels of effectiveness and efficiency; b) become more familiar with the activities of all parties practicing EE&C so as to achieve higher levels of cooperation and collaboration; and c) shift away from top-down strategies and become better versed in participatory methods given the growing realization that interactive approaches yield more sustainable results.

Multi-Media Social Marketing Campaigns. As defined earlier, social marketing campaigns generally deal with critical issues, seek changes in specific behaviors and advocate specific messages. Across the four countries studied, this highly targeted style of EE&C is rarely practiced. In some cases there appeared to be resistance to the idea of targeted

advocacy. In these cases it was felt that more objective messages would allow recipients the freedom to choose the attitudes and behaviors best suited to their needs. There appeared to be a misunderstanding--social marketing messages are carefully targeted based on defined audience needs as determined by formative research, but recipients still retain the ability to accept or reject the message (Tyson, 1993).

Social marketing methods, though a relatively new concept in the environmental arena, have been commonly practiced in the health sector for some time (e.g., disease prevention, nutrition, family planning) and have proven effective in changing targeted behaviors. Social marketing is characterized by a) intensive formative research, b) audience segmentation, c) programs formulated as an exchange of costs and benefits, d) use of all communication channels (especially mass media), and e) constant monitoring and adjustment of program strategies. Audience segments can be primary audiences (e.g., the family), secondary audiences (e.g., suppliers of support services), and/or tertiary audiences (e.g., policy makers).

In The Gambia, the Ministry of Health and the nongovernmental Family Planning Association have solid social marketing experience and years of data on what works for who, how and why. Over the years social science research capability has been developed by the Foundation for Research for Women Health and Production and by the government's Women's Bureau. In addition, the capacity for media support by the government's Public Information Unit has grown. This unit, which services both public and private sector clients, runs Radio Gambia, a press and publication section, and an audio-visual unit including mobile video. Capacity exists in The Gambia for environmental social marketing.

The other countries that were studied have varying degrees of social marketing and media capability; again, primarily based on work in the health sector. The ability to contract good social science research varies widely across these countries.

In Uganda the Ministry of Information and two private sector firms, Media Consultants Ltd. and Bakayimbira Dramactors, are key sources of media support. In Madagascar, a parastatal public relations agency (CIDST) provides media support for government policies using high frequency centralized radio. And in Namibia centralized radio is also a key channel for public information.

Just as there are circumstances that demand highly objective types of EE&C that teach people to think critically and determine what is right for themselves, there are also circumstances that demand more targeted

types of EE&C. These more targeted strategies can promote immediate changes in primary audience behaviors in response to acute environmental issues and/or promote behavior change in secondary and tertiary audiences that are an identified need. There is need to build research and program development capacity within the public and private sector to support social marketing capability. Of the four countries studied, little social science research capacity was found outside university confines. And as relates to media support for these activities, there is a need to develop lower frequency decentralized radio that can carry a more targeted and localized message.

Status: Community Based EE&C

Community based EE&C refers to education and communication methods that are fundamentally participatory. The objective is to equip communities with the decision making skills to manage their own natural resources. An ecosystem approach, that tries to integrate economic and ecological concerns is most always followed and effort is generally expended to teach organizational and program planning skills. This type of EE&C is frequently supported by local and international NGOs working in consort with community development committees. These efforts are often framed by the borders of a watershed or peripheries of national parks.

The Gambia Ministry of Agriculture's Soil and Water Unit effectively organizes its multi-village conservation activities around districts defined by watershed borders. From an NGO perspective, the Chimpanzee Rehabilitation Project works with villages on the periphery of the River Gambia National Park and Action AID concentrates their activity in the Lower River Division. All groups employ participatory methodologies in their work (i.e., methods that encourage community participation).

In Namibia a community based approach to natural resource conservation that relies heavily on participatory methods is supported by German and American donors (GTZ-SARDEP project/USAID-LIFE project) and by the NGO Nyae-Nyae Foundation. These efforts address issues pertaining to rangeland, forest, wildlife, and/or water resources. In general, help in developing community management committees is first offered. These committees later facilitate the community's learning of self-governance concepts, decision making/problem solving skills, and methods of sustainable management and income generation. Public sector organizations that are counterpart to these efforts (e.g., the Ministry of Agriculture, Water and Rural Development and the Ministry of Environment and Tourism) are cognizant that their staff need to learn and employ

more participatory methods.

In recent years, the Uganda National Park system expanded from three to ten parks and work with communities in the buffer zones of these parks became an important focus. NGO and community collaboration have become the vector for much of this work. The Wildlife Conservation Society works with communities in the buffer zone of Kibale Forest National Park assisting with the development of ecotourism opportunities and outreach activities for teachers and students. The World Wide Fund for Nature works with communities in the buffer zone of Rwenzori Mountains National Park to curb threats to the natural resource base that stem from cultivation, hunting, grazing, and fuelwood collection. A portion of the revenue obtained from park admission fees is used to support community initiated programs. The use of these funds is coordinated by community based Park Management Action Committees (PMACs). The Africa Wildlife Foundation's work with communities in the buffer zone of Lake Mburo National Park; CARE's work with communities at Bwindi National Park; and IUCN's (The World Conservation Union) work with communities at Kibale, Semliki and Mount Elgon are very much like that at Rwenzori--where local governing committees serve to facilitate program planning and revenue sharing.

In Madagascar, a specific parastatal organization, The Madagascar National Association for the Management of Protected Areas (ANGAP), has been set up to coordinate integrated conservation development projects (ICDPs) supported by NGOs such as CARE, World Wildlife Fund, Volunteers in Technical Assistance, and Duke and North Carolina State Universities. ICDPs are similar in concept to Ugandan buffer zone work in that a focus on sustainable development within a whole ecosystem via participatory methods is followed.

The institution of ANGAP needs strengthening. EE&C methods, particularly participatory methodologies, a relatively new and somewhat divergent concept from past top-down approaches, need to be taught and program planning, research and evaluation capacity needs to be developed. At present each ICDP tends to address its own EE&C needs in a vacuum. Few resources or lessons learned are shared. A strengthened ANGAP could effectively facilitate coordination and increase the efficiency of efforts.

The needs of ANGAP can be interpreted as generalized needs across all four countries studied. Participatory methodologies that equip and empower communities are new to many. The integration of economic and ecological concerns is often contentious. Communities often need assistance in dealing with

these dilemmas. NGOs, the principal vectors for this assistance, need EE&C training for their staff in participatory methods (i.e., self-governance concepts, decision making, problem solving, conflict resolution, formative research, program planning and evaluation techniques, revenue sharing procedures, income generating activities, and ways of mobilizing external support for selected initiatives).

EE&C Issues

Opportunities for EE&C exist across the four countries studied. In The Gambia, a National Environmental Agency has been set up and is actively working to achieve synergy of effort among those doing EE&C. Similarly, in Namibia, the present focus is on coordination and collaboration among the many excellent public and private sector groups. Uganda could be no less dynamic as it works to define original approaches to EE&C; and Madagascar is evolving as a case study in how EE&C can be employed to rationalize economic and ecological interests. Yet, environmental problems are often not obvious, economic hardship are, and effective incentives for supporting environmental issues are therefore frequently tough to define. Past protectionist strategies by some environmentalists have generated resistance among many to the basic tenets of conservation. EE&C is an important strategy for overcoming this resistance and mobilizing support but it is universally the weakest component of national environmental policy. Critical issues for strengthening EE&C, common to the four countries studied, are discussed below.

Coordination among all players and all types of EE&C is essential. Varying definitions of EE&C exist. Many individuals do it and for different reasons. Issues address agriculture, biodiversity, health, population, ecotourism, and literacy. Methods include formal, nonformal, and community based strategies. Ministries, schools, NGOs, national parks, and community organizations do it. Youth, adults, community groups, and policy makers serve as audiences. Activities for the most part are very individualistic across this myriad of effort. A shared understanding of EE&C, what is practiced, by whom, and for what reasons is needed to achieve higher levels of efficiency and effectiveness. Examples of coordination do exist, but much more is needed so that duplication can be decreased, collaboration increased, coverage of EE&C expanded, funding facilitated, and the frequency and quality of professional development activities improved.

Greater capacity for designing and implementing development programs is needed among groups doing EE&C. Program development in all three EE&C areas (formal, nonformal, community based) can be viewed

as an iterative process of formative research and analysis; planning, developing, pretesting, and refining concepts; and implementation and monitoring (adapted from: Novelli, 1984). Across the three EE&C areas, four countries studied, and the ministries, schools, NGOs, national parks, and community organizations doing EE&C, it was found that skills pertaining to each stage of the process need strengthening. Formative research, pretesting, and monitoring capabilities were especially weak.

For the most part, an adequate mix of instructional media exists. But, instructional and promotional materials are dispersed and few are adequately researched, tested and evaluated. There is a need for resource centers to facilitate planning, production and exchange among public and private sector groups across most forms of EE&C. And there is a general need to encourage use of traditional media and develop low frequency decentralized radio to ensure grassroots programming.

Because of the close association between environmental issues and agricultural development, and the known gender biases inherent in much past agricultural work, it can be expected that a special focus on gender issues is warranted across all manner of EE&C. Additionally, because formative research has been weak and many issues have gone unaddressed, there is a tendency for societal biases to proliferate. There is a need to look more closely at how competing interests for women's time affect message access and at how biases inherent in message content prejudice their relevance.

Concerning formal EE&C, integration of environmental issues within all subjects and coordination across various curricula is required. Teacher training to support these efforts needs to be bolstered and pretesting, systematic monitoring, and evaluation of curricula and instructional materials needs to be instituted. In addition, private sector support for formal EE&C initiatives requires that NGOs become familiar with established curricula so as to optimize the efficiency and effectiveness of their efforts.

Continuing education programs are especially important for reaching adults and the high percentage of out-of-school youth found in most developing countries. Literacy programs are especially promising vehicles for environmental and civic education issues. Individual literacy instructors can be trained to blend literacy training with community empowerment and environmental conservation objectives. In the context of continuing education, coordination among public and private sector agencies, program development and implementation capacity, instructional materials development, and gender issues are associated

concerns.

Public sector extension has great potential as a form of EE&C if stated objectives can be more closely aligned with national environmental policy. Extension activities could prove an effective complement to community based participatory EE&C strategies. Extension staff must become aware of lessons learned from community based EE&C and be trained in bottom-up participatory methods that can help communities rationalize economic and ecological concerns.

There is often a need for a) community members to concentrate on solving specific and acute environmental problems, b) media gate keepers and agents to provide coverage of a specific environmental issue, and c) decision makers to act on a specific concern of their constituents. These are three examples of a need for sharply focused action. Social marketing techniques that promote specific actions, advocate carefully formulated messages, and target well defined audiences need to be learned by public and private groups. Empirical knowledge needs to be gained concerning: a) primary, secondary and tertiary audiences, b) important socio-economic, psychological, and resource factors affecting these audiences, and c) their favored communication channels. Lessons learned from social marketing experiences in the health sector may prove helpful.

Given that an ecosystem approach that a) strives to rationalize community economic and ecological concerns and b) relies on community participation and empowerment strategies to do so is a key to solving many environmental problems, integrated conservation development projects and work with communities in watersheds or buffer zones of parks deserves conscientious attention. Traditional top-down development strategies need to be amended and participatory methods need to be learned and adopted by sponsoring agencies. In this regard, coordination among public and private sector agencies, program development and implementation capacity, and gender issues are again relevant concerns.

References

- Archie, M., Mann, L., & Smith, W. (1993). *Partners in action - environmental social marketing and environmental education*. Washington, DC: Academy for Educational Development.
- Allen, I. (1994). *Environmental education and communication in The Gambia*. Washington, DC: GreenCOM/Academy for Educational Development.
- Braus, J., & Wood, D. (1993). *Environmental education in the schools - creating a program that works*. Washington, DC: Peace Corps Information Collection and Exchange.
- Field, T. (1994). *Environmental education and communication in Uganda*. Washington, DC: GreenCOM/Academy for Educational Development.
- Grieser, R. (1994). *Environmental education and communication in Madagascar*. Washington, DC: GreenCOM/Academy for Educational Development.
- Monroe, M. (1994). *Environmental education and communication in Namibia*. Washington, DC: GreenCOM/Academy for Educational Development.
- Novelli, W. (1984). Developing marketing programs. In L. Frederiksen, L. Solomon, & K. Brehony (Eds.), *Marketing health behaviors*.
- Tyson, C. B. (1993). The Potential Contribution of Marketing Concepts for Improving the Effectiveness of International Development Extension Education Programs. *Proceedings of the Annual Conference of the International Agricultural and Extension Education*. Arlington, Virginia.
- United Nations Educational Scientific and Cultural Organization (Unesco) (1978). *Final report on intergovernmental conference on environmental education*. Tbilisi, USSR: UNEP.

"Talking Trash": Using Applied Social Research to Inform a Communications Program for Maximum Recycling in Rhode Island

by Christina Zarcadoolas, Lori M. Hunter, and Erica Guttman

As recycling programs have established themselves in American communities, social researchers and public officials have attempted to determine what types of programs, with what types of public education/communications campaigns, best accomplish their goals. These goals might include diversion from landfills, cost reduction to municipalities and/or greater awareness of solid waste issues at the household level.

The present study demonstrates a cooperative effort between environmental planners, public officials and social researchers in developing a new Maximum Recycling Program and public communications campaign in a Rhode Island community. We argue that effective recycling programs can be developed when the perceptions, attitudes and behaviors of the target audience are identified and communicated back to the audience. The recycling program outlined here included a high level of public communication in its initial phases. Further, the communication was developed with the public's needs in mind, as well as including public opinion and behavioral data collected from the audience themselves. We argue this strategy creates a level of "informed public opinion" (Yankelovitch 1991) and that the target audience is transformed into "stakeholders" (West et al. 1992).

Our central question regarding environmental communications is whether this social research data can be used by the public in a self-reflective, self-illuminating manner, thereby creating greater informed consent and a fundamental transformation of attitudes and behaviors, in this case, specifically regarding solid waste management and source reduction at the household level.

Specifically, this paper presents a cooperative effort by the Rhode Island Solid Waste Management Corporation (RISWMC) and Brown University's Center for Environmental Studies (CES) to develop a "Maximum Recycling Program" for Foster, Rhode Island. First, we provide a brief historical background on recycling and the impact of communication upon program success. Second, an explanation of the present study is provided. We conclude with a discussion about the usefulness of combining applied social research with environmental planning with a focus on public communications, as well as the implications for

ongoing recycling program development.

Recycling and Communication Strategies

Although most Americans express concern regarding environmental issues, these concerns do not always translate into behavioral changes. Recycling, however, is one area of environmental perceptions and behavior where Americans have shown a willingness to adapt. Recycling research indicates that convenience (Derksen and Gartrell 1993), communication/education (Burn and Oskamp 1986; Simmons and Widmar 1989-90) and persuasion (Burn and Oskamp 1986; Hopper and Nielsen 1991) all play significant roles in the willingness of the public to recycle.

Recycling Communication Strategies. Recycling communication strategies may take several forms; they may be designed simply to provide general information about recycling, specifics about a particular program, or be designed with the intention of actively persuading the public to participate. Simmons and Widmar (1989-1990) argue that comprehensive public education programs (promoted by public institutions, schools and service organizations) are an important encouragement for recycling participation. Several social scientific studies imply that a lack of knowledge about the specific "how to's" of recycling inhibits behaviors (for instance, DeYoung 1988-1989). Accordingly, the simple provision of information may increase recycling participation.

Some communication campaigns have provided information on particular aspects of a recycling program, such as pickup dates, sorting requirements, etc. As argued by Derksen and Gartrell (1993), "a systematic, well-advertised program could create a new community norm favoring recycling" (p. 435). Jacobs et al. (1984) also examined the impact of door-to-door campaigns to promote a particular program, and found that the distribution of brochures was more effective than soliciting recycling participation through newspaper ads (Jacobs et al. 1984). More specifically, the impact of a New York recycling campaign was recently reviewed in the *New York Times* (Sunday, November 27, 1994: B4). Joseph S. Kassis, the owner of an apartment complex within the recycling community is quoted as saying "It's just a matter of

communication." Mr. Kassis created and distributed flyers to his tenants asking them to post the information in their kitchens. The success of the intensive recycling program is partly credited to this personal communication.

Communication campaigns have also sought to persuade. Burn and Oskamp (1986) argue that persuasive communication is one "possible way to stimulate ecologically responsible behaviors, and one that is relatively inexpensive and easy to administer" (p. 30). Their research examines the impact of three treatments: 1) a persuasive communication appealing to the householders to recycle, 2) a public commitment treatment consisting of a pledge card and sticker given to participating households, and 3) a combination of both treatments. The researchers found that the three treatment groups recycled significantly more than control groups with no treatment, although the impact of the treatments themselves did not significantly differ.

Some success has also been achieved in developing appropriate communications programs by using applied behavior analysis to study the impact of various program components, including communication strategies. By conducting several comparative programs using different pickup times, notification procedures, and container types, researchers were able to determine the relative effectiveness of different strategies (Jacobs et al. 1984).

At the policy level, West et al. (1992) demonstrate the benefit to public administrators of taking into account the opinions of local environmental groups in the process of developing waste management policies. Analyzed within the concept of "stakeholders," the authors argue environmentalists are stakeholders since they help determine whether a local government will achieve its policy objectives.

For the purposes of this research, we are interested in public opinion regarding solid waste and recycling, and how this public opinion can be positively influenced. As Yankelovitch states, Americans are highly opinionated people. A truly informed public moves from opinion to informed judgment: "... a state of highly developed public opinion that exists once people have engaged an issue, considered it from all sides, understood the choices it leads to, and accepted the full consequences of the choices they make" (p. 6).

While we do not contend that in a short period of time, and with a focus on one environmental issue, we have affected the ultimate informed public judgment, we do argue that a model of sharing public perception with the target audience enhances the effectiveness of more traditional public education/communications campaigns. Further, this process may also eventually lead to greater public commitment. Therefore our task as social researchers, is, in part, captured by the

question, "How can we create greater informed public judgment about recycling?"

In order to answer this question, rather than assessing the impact of different strategies after implementation, we attempt to build the program mindful of existing public perceptions, opinions and needs as determined through pre-implementation and in-process social research. Further, this data is shared with the target audience. We argue that applied social research is a critical tool which should be utilized throughout the program- and policy-making process. As implied by earlier recycling research, communication is an important tool in encouraging public participation. Specifically, in order to encourage local participation, not only environmentalists, but the larger community must be considered or transformed into "stakeholders" through appropriate communication strategies.

The Study

The Program: This paper presents results of Phase I of the Foster recycling project, an intensive, 19-week, pilot program aimed to test new strategies in public communications, recyclables separation, collection, and processing. The primary goals of the project were to greatly increase the amount of material recycled or diverted from the landfill, and to do so more cost-effectively than the traditional "blue bin" recycling programs found nationwide. Approximately 15% of household waste is diverted with the traditional programs. The Maximum Recycling Project aimed to divert approximately 50% of total household waste from the landfill, with backyard composting of yard waste included.

The Sample: A cluster of 96 single-family, contiguous homes was pre-selected by RISWMC for the pilot Maximum Recycling Program. The sample households are located in Foster, Rhode Island, a rural area in the western portion of the state. The Foster Town Council agreed to endorse the project, and a Foster Recycling Steering Committee was established to work with RISWMC.

Foster residents were chosen for the pilot project since the community had not yet implemented a recycling program, and as a result, the researchers were able to determine general perception of recycling without having the results contaminated by prior recycling experience. Relative to Rhode Islanders in general, Foster residents tend to have slightly higher incomes, are slightly more educated and are more likely to be homeowners rather than renters. In addition, nearly all of Foster is characterized as rural, as opposed to only 15% of the state as a whole.

Step I: Baseline: The initial research activities were conducted in the Fall, 1993, with the general goals of determining public perception of household waste

composition, disposal practices, source reduction, recycling and effective methods of public education. Simultaneously, RISWMC collected baseline data on trash composition and volume.

Step I research activities included two Focus Groups, two evening town meetings, and a telephone survey (N=81). The Focus Groups consisted of one group of homeowners from the target community and one group from the an adjacent cluster of homes. Input from the social research was then used to refine the Maximum Recycling Project and develop communication strategies. In addition, we monitored incoming phone requests and comments to RISWMC and conducted debriefings with various town officials.

Step II: Follow up: Following implementation of the Maximum Recycling Plan in late-January 1994, a follow-up telephone survey was conducted in mid-April. Step I identified community response to the Maximum Recycling Plan (convenience, staff contact, communication strategies, response to bins and bags). In addition, attitudinal and behavioral questions were repeated from Step I, allowing the researchers to track attitude change during program implementation. RISWMC continued to collect trash and recyclables volume, as well as composition data.

Step I: Baseline Findings

Household Waste / Source Reduction: Both the survey respondents and Focus Group participants had already developed "systems" in their households to deal with waste. Nonetheless, it was apparent that the composition of household waste was not understood; study participants were especially surprised at the high percentage of household trash which is composed of newspaper and food waste, and it was generally agreed that most individuals do not have a good understanding of what makes up their trash: "Something gets thrown in there, it's garbage, you throw it out." Related to this, source reduction had not yet become a salient issue. Participants noted that if more concern were placed upon trash composition, individuals may be more motivated to reduce at the source.

- **Implication for Communication Strategy:** Highlight trash composition to increase recycling participation as well as source reduction behaviors.

Yard Waste: The survey revealed that very few residents (only 1.2%) put their grass clippings and yard waste out for curbside pickup. This is largely due to yard debris specifically being excluded for collection by the Town's hauling contract. Most leave clippings on the lawn (30%), use them in a compost pile (43%) and/or throw them into the woods (35.4%). Others mentioned they leave clippings in their gardens (15.2%) or use a mulching mower (9%).

- **Implications for Communication Strategies:** Provide a minimal amount of information on yard waste recycling.

Recycling Generally: Both the survey and Focus Group discussions indicated that Foster residents were anxious to begin a recycling program. Unanimously, the Focus Groups' initial response to a proposed recycling program was "It's about time." Some stated they felt "bad" that other communities had been recycling for some time, and that they've responded by attempting to reduce the amount of household waste produced or by taking recyclables elsewhere.

Regarding the overall impact of recycling, the majority of survey respondents believed recycling is beneficial for the environment. Nearly half (49%) believe recycling is *very* effective, 27% stated it is "effective," and 11% responded that recycling is "somewhat effective" in helping the environment. Only a small proportion (3.7%) stated recycling is not at all effective. Respondents tend to believe recycling is necessary primarily in order to save valuable landfill space.

- **Implications for Communication Strategies:** A strong rationale for the benefits of recycling was not needed in the communications effort, rather we chose to focus on reporting findings back to residents and providing the "how-to" information requested.

Recycling in Foster: When asked how enthusiastic other Foster residents would be about a recycling program, the largest portion (41%) of survey respondents stated residents would be "somewhat" enthusiastic. A slightly smaller portion (36%) believed their community would be "very" enthusiastic, while 14% did not believe residents would welcome a recycling program. Both the survey respondents and Focus Groups participants tended to characterize Foster residents as appreciative of the land.

- **Implications for Communication Strategies:** These findings suggest that the community is ready to recycle and that education on program specifics might be most useful. In addition, appeals should be made to the "environmental-friendliness" of Foster residents.

RISWMC Pickup Schedule: Of particular interest was public opinion of the proposed alternate week pickup schedule of trash and recyclables. Focus Group I (those neighboring the 'target' community) mentioned concerns with bi-weekly trash collection only in a somewhat joking manner. On the other hand, Focus Group II (the 'target' group) was fairly critical about the plan and voiced several complaints. The first question regarding the plan involved the estimated cost reduction (although the individual stated "it's not a

prime consideration. . . I'm just curious . . ."). Other questions involved storage (outdoor and indoor odor), sorting ("what's gonna be trash?") and motivation/education ("how are you going to get people to do this?"). Participants were also interested in learning what exactly happens to the recyclable materials - are there markets for them? Generally, the participants were most concerned about odor and pests which may result from accumulating trash, particularly in the summer months.

- **Implications for Communication Strategies:** Reassure residents of the convenience of alternate-week pickup, educate on sorting on available markets for recycled products. Also provide ongoing feedback on levels of community participation and community concerns. The concern about bi-weekly pickup was a strong "red flag" during Phase I which impacted the content of subsequent newsletters and compelled us to carefully consider this issue in the restructuring of the recycling program during Phase II.

Modes of Communication: Residents were asked how they would like to receive program information. In general, the research indicates they would prefer learning of the program through the mail via newsletters, flyers and/or brochures. Newspaper notices were also mentioned as a possibility for public education. When asked what were the most important messages which must be conveyed to the public, participants responded (in decreasing order of agreement): cost, sorting, details of the plan, and information regarding the waste stream. It was also suggested that RISWMC address the issue of animals breaking through plastic bags (Figure 1).

Implications for Program Communications

When Step I research was completed, the researchers took part in planning sessions with RISWMC staff to design a communications/ community outreach program. In addition, RISWMC presented a final research report to the Foster Town Council at the conclusion of this phase. The presentation was designed to further increase public understanding of, and commitment to, the Maximum Recycling Program. In addition, we hoped to elicit support for future expansions of the program with a few modifications. Following are some of the recommendations made for communicating the recycling program.

RISWMC Plan.

Position the plan as being an improved version of existing programs.

Appeal to community spirit and pride.

Appeal to resident's desire to do the right thing.

Much of the state is already recycling.

Position the plan as appealing to the 'ecology-minded' Foster residents.

Share some of the attitude and perception data collected from the survey and Focus Groups.

Appeal to rural environmental-consciousness.

Household Waste/Source Reduction.

Educate the public regarding the composition of household waste.

Increased awareness is likely to lead to source reduction.

Sorting/Storage.

Clearly explain sorting.

Decrease public concern regarding difficulties of recycling.

Promote the ease of mixed recycling versus sorting.

Assure maximum convenience.

Choose and promote recycling bin as a non-invasive component of household waste 'system'.

Appeal to residents' desire to maintain control of household waste management.

Present pickup plan as efficient.

Directly address public concern regarding bi-weekly pickup.

Address concerns regarding animals.

Most residents presently use plastic bags; assure strength of recycling bags.

Education.

Educate the public regarding the target of 50% recycling.

Increase individual involvement in reaching a community goal.

Provide ongoing feedback on the program and public's perception.

Educate the public regarding participation levels, trash quantities and potential cost savings.

Provide information through several channels.

The public is interested primarily in informative mailings.

Initial Public Education: News of the upcoming Foster Maximum Recycling Program was spread via the town newsletter, mailings from SWMC and newspaper articles. Through these communications, the residents learned about the recycling route, what to recycle, how to sort materials and when to place materials out for pickup. A number of different types of in-home storage bins were offered to residents, with the bins being a prime focus of two Focus Groups as well as two evening open town meetings. Residents were requested to come and select bins of the type they preferred from several options. This personal choice and experimentation, we believe, made residents more receptive.

Step II: Evaluation

In April, 1994, a program evaluation telephone survey was conducted of the 19-week pilot project. The objective of the evaluation was to obtain data to further tailor the program to community needs for Phase II which would expand to 500 adjacent homes by August of the same year.

Participation Rates: The pilot Maximum Recycling Program experienced high levels of program participation resulting in the recycling of 26,688 pounds of material. This translates into a 40.6% diversion rate of material going to the landfill.

Of the 96 households on the route, 95% (91 households) had participated in the program (i.e., set recyclables out for at least one of nine bi-weekly recycling pickups); and of those participating, 73% (66 households) had been actively participating (i.e., setting recyclables out at least seven times). Those households which did not participate in the program also never set out any trash during the 19 weeks, indicating that they may have private haulers, burn their trash, have a second household elsewhere or have moved. Thus, the pilot Maximum Recycling Program achieved full participation among those houses setting out trash for town collection.

Household satisfaction: Overall, the majority of respondents (79%) were either "satisfied" or "very satisfied" with the Foster recycling project. Most respondents (68%) did *not* find the program difficult and also actually found it "somewhat" (59%) or "very" (25%) convenient.

Opinions regarding the general effectiveness of recycling appeared to be related to program satisfaction. Those who expressed belief in the effectiveness of recycling in helping the environment were slightly more likely to express high levels of satisfaction with the program. Relatedly, those who earlier reported Foster residents would not be enthusiastic about a recycling program were slightly less likely to report high levels of program satisfaction.

Rating of RISWMC: Most of the respondents (64%) had a "fair amount" or "a lot" of contact with the staff, with the vast majority (98%) of them finding the staff "somewhat" or "very" helpful. In order to determine if contact with RISWMC staff levels influenced residents' attitudes and/or behavior, we examined levels of contact in conjunction with levels of satisfaction with the program and perceived disruption. Higher levels of contact with RISWMC staff was, indeed, correlated with higher levels of expressed satisfaction with the program, in addition to slightly lower levels of perceived disruption.

Public Education and Communication: Both the brochure and newsletters were perceived as useful by

the Foster residents, although the brochure received slightly more favorable ratings. Specifically, a high percentage of residents (84%) stated they found the brochure "very" useful, with the calendar and sorting breakdowns being noted as particularly helpful. In addition, the vast majority of respondents (92%) continue to refer to the brochure.

An important part of the communications campaign involved the actual reporting of public perception data gathered during Step I of the Maximum Recycling Project. In addition, RISWMC used the data on trash volume and public perceptions to encourage participation among the target audience, as well as to propose adjustments to the program. Sharing this information with the public assists in assuring them that their needs and concerns are being considered within the development of the program. Table 1 displays examples of the presentation of research results to the target audience (Table 1, Figures 2 & 3).

Nearly half (46%) of the respondents believe "education" is the best way to encourage recycling, although a large percentage (40%) state financial incentives/fees must be used. A few mentioned recycling must be mandated or made very convenient in order to encourage such behavior. Most respondents are not interested in attending seminars on source reduction (54%) or composting (59%). Apparently, the "education" needed for the encouragement of recycling does not imply seminars (as noted earlier, newsletters and brochures ranked high among methods to educate people about recycling in general and the program specifically). This type of insight proved useful as the Maximum Recycling Program moved forward to Phase II.

Conclusions/Implications for Phase II

The primary goals of the Foster Maximum Recycling Program were to create a more informed, involved citizenry and to cost-effectively increase the amount of material recycled. In order to accomplish these goals, RISWMC staff and CES researchers conducted pre- and post-program surveys and Focus Groups and designed an ongoing communications campaign that incorporated the public's perceptions, knowledge and actual behaviors into the communication to households. The data collected in Step II of the research project indicated that the residents found the communications material useful and continued to refer to them as the program progressed. The high participation rates, and the large volume of household waste recycled, suggest the program was a success.

Overall, the present study demonstrates the usefulness of coordination between environmental planners, public officials and social researchers in developing a recycling program, especially in regard to the design of

communication strategies. Community members were recruited early in the planning of the project and the ongoing research promoted the efforts of RISWMC. An important aspect of the communications program involved sharing both public opinion data and solid waste volume data with the residents. This allowed those involved to monitor their own participation as a community, and further creates a "stakeholder" mentality. The importance of this cannot be underestimated.

Phase II of the project, not discussed in this paper, began in August 1994, 10 months after the pilot study. Phase II expanded the target area to 502 households inclusive of the original ninety-six. The communications tools were re-applied to this population with some further enhancements. The fundamental strategy of "letting the public in" on their own collective perceptions, attitudes and actual behaviors has continued.

Phase II attained a 92% overall participating rate with a diversion rate currently slightly over 30%. Only 3.2% of the setouts of recyclables each week were put out on the wrong day (16 households out of 502) and only 4% have found the new program "difficult" to learn and only 2% have found it "too difficult for people to follow."

Regarding the environment, closing the gap between the public's generalized concern and their specific individual behaviors is an important focus. We believe that partnerships between social researchers, planners and communities can be a very effective way of creating environmentally sound practices and programs. Specifically, we argue that an effective recycling program can be developed when the perceptions, attitudes and behaviors of the target audience are identified, shared with the public, and responded to in program communications and planning.

End Note

This research would not have been possible without the assistance of Edward F. Connelly, James O. Daley and Charles Q.A. Pratt of the RISWMC.

References

- Arbuthnot, Jack. 1977. "The Roles and Attitudinal Personality Variables in the Prediction of Environmental Behavior and Knowledge." *Environment and Behavior*. 9, 2, June: 217-232.
- Burn, Shawn M. and Stuart Oskamp. 1986. "Increasing Community Recycling with Persuasive Communication and Public Commitment." *Journal of Applied Social Psychology*. 16, 1: 29-41.
- Derksen, Linda and John Gartrell. 1993. "The Social Context of Recycling." *American Sociological Review*. 58, June: 434-442.
- DeYoung, Raymond. 1985-86. "Encouraging Environmentally Appropriate Behavior: The Role of Intrinsic Motivation." *Journal of Environmental Systems*. 15: 435-449.
- DeYoung, Raymond. 1986. "Some Psychological Aspects of Recycling." *Environment and Behavior*. 18, 4: 435-49.
- DeYoung, Raymond. 1988-1989. "Exploring the Difference Between Recyclers and Non-Recyclers: The Role of Information." *Journal of Environmental Systems*. 15, 4: 281-92.
- Diamond, William D. and Ben Z. Loewy. 1991. "Effects of Probabilistic Rewards on Recycling Attitudes and Behavior." *Journal of Applied Social Psychology*. 21: 1590-1607.
- Dunlap, Riley E. 1987. "Polls, Pollution, and Politics Revisited: Public Opinion on the Environment in the Reagan Era." *Environment*. 29, 6, July/August.
- Dunlap, Riley. 1991. "Public Opinion in the 1980s: Clear Consensus, Ambiguous Commitment." *Environment*. 33, 8, October.
- Dunlap, Riley E. and Rick Scarce. 1991. "The Polls-Poll Trends: Environmental Problems and Protection." *Public Opinion Quarterly*. 55: 651-672.
- Ester, P., and Winett, R.A. 1981-82. "Toward More Effective Antecedent Strategies for Environmental Programs." *Journal of Environmental Systems*. 11: 201-222.
- Guttentag, R.M., T.S. Pytlar and N.A. Kutchukian. 1987. "Using Public Opinion Surveys to Design Recycling Programs." *Resource Recycling*. 36, September/October: 30-31, 36.
- Hopper, Joseph R. and Joyce McCarl Nielsen. 1991. "Recycling as Altruistic Behavior: Normative and Behavioral Strategies to Expand Participation in a Community Recycling Program." *Environment and Behavior*. 23, 2, March: 195-220.
- Humphrey, Craig R., Richard J. Bord, Margaret M. Hammond, and Stuart H. Mann. 1977. "Attitudes and Conditions for Cooperation in a Paper Recycling Program." *Environment and Behavior*. 9, 1, March: 107-124.
- Jacobs, Harvey E., Jon S. Bailey, and James I. Crews. 1984. "Development and Analysis of a Community-Based Resource Recovery Program." *Journal of Applied Behavior Analysis*. 17, 2, Summer: 127-145.
- Katzev, R.D. and A.U. Pardini. 1987-1988. "The Comparative Effectiveness of Reward and Commitment Approaches in Motivating Community Recycling." *Journal of Environmental Systems*. 17: 93-113.
- Simmons, Deborah A. and Ron Widmar. 1989-90. "Participation in Household Solid Waste Reduction Activities: The Need for Public Education." *Journal of Environmental Systems*. 19, 4: 323-330.

Spaccarelli, S., Zolik, E., and Jason, L.A. 1989-90. "Effects of Verbal Prompting and Block Characteristics on Participation in Curbside Newspaper Recycling." *Journal of Environmental Systems*. 19: 45-57.

Stern, P.C., Dietz, T. and J.S. Black. 1986. "Support for Environmental Protection: The Role of Moral Norms." *Population and Environment*. 8: 204-222.

Thomas, Jo. 1994. "Park Slope Experiment Takes Recycling to Its Outer Limits" *New York Times*. November 27: B4.

Van Liere, Kent D. and Riley E. Dunlap. 1980. "The Social Bases of Environmental Concern: A Review of the Hypotheses, Explanations, and Empirical Evidence." *Public Opinion Quarterly*. 44: 181-97.

Vining, Joanne and Angela Ebreo. 1990. "What Makes a Recycler? A Comparison of Recyclers and Non-Recyclers." *Environment and Behavior*. 22: 55-73.

West, Jonathan P., Stephanie J. Lee and Richard C. Feiock. 1992. "Managing Municipal Waste: Attitudes and Opinions of Administrators and Environmentalists." *Environment and Behavior*. 24, 1, January: 111-133.

Yankelovich, Daniel. 1991. *Coming to Public Judgment*. Syracuse University Press: Syracuse, NY.

Table 1: Examples of Newsletter Presentation of Research Results

Now that you've had a chance to settle into the New Year, it's time for an update on the Maximum Recycling Program:

- During the first 26 weeks of the Program, 171,665 pounds of material have been recycled, which on average means that every household participating has diverted about 378 pounds of trash from the landfill;
- The overall recycling rate continues to be strong at 30%.

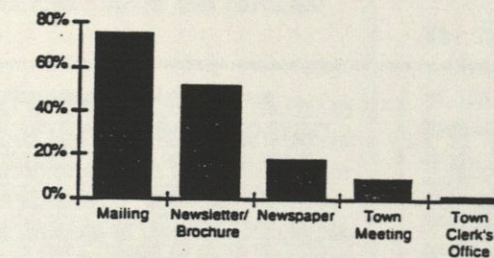
Many thanks to all who took the time to complete our telephone survey in April! We were able to get in touch with 85 (93.5%) of the 91 participating households. Here are some of the findings:

- Only 7.4% of those who responded found that the program takes "a lot" of time and effort to participate in, or that it was "very" difficult to learn the details of the program;
- 79.3% of the respondents are "very satisfied" or "satisfied" with the project overall;
- In terms of the bi-weekly trash collection system, about 50% of the respondents do not find it a disruption; 32% think it is "somewhat" of a disruption; and 16% find it a "major" disruption (2% didn't have an answer);
- With the onset of recycling, many residents have become more aware of the amount of packaging on products and whether or not packaging is recyclable.

About 33% of households have problems of one sort or another with the ... bins -- mostly concerning their size, or problems with setouts of extra materials that can't fit in the bins. To address this problem, we are looking into possibilities of printing up large, official stickers to give out upon request. Residents could put the stickers on extra durable containers ... this would make it easier ... to spot extra setouts of materials.

Figure 1. Responses to Step I Baseline Survey Question:

"In your opinion, what is the best way for people in Foster to get information about recycling?"



percentages represent those mentioning this information source among their maximum of three preferences. As a result, percentages total over %100.00.

Figure 2. Responses to Step II Evaluation Survey Question:

"How Useful was the Brochure to You?"

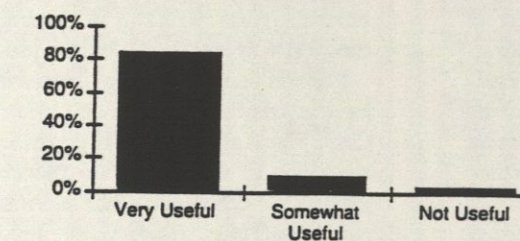
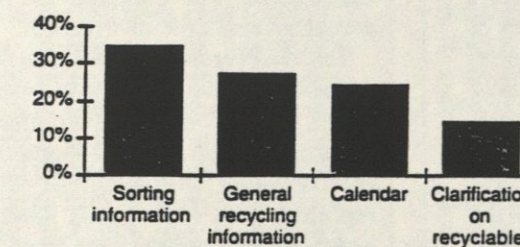


Figure 3. Responses to Step II Evaluation Survey Question:

"What Was Most Useful to You ?" *



* percentages based on those who responded that the brochure was "useful" or "somewhat useful"

From Government-as-Solution to Sounding the Alarm: Rising Consciousness in China's Environmental Press

by Jian Wang and Judy Polumbaum

Background

Mainland China faces a formidable array of environmental ills and challenges, many with global implications. Chinese and foreign scholars have examined and described the problems in great detail: Among them, He Bochuan has sounded the alarm in China¹ and Smil has done the same for Western audiences;² Schaller has focused on biodiversity and inadequacies of China's nature preserve programs;³ and Ross has meticulously documented the evolution of Chinese environmental awareness, the development of environmental legislation, and different modes of environmental policy implementation.⁴

By now the litany of ecological afflictions is familiar: relentless desertification and deforestation, industrial and residential encroachments on arable land, air and water pollution, water shortages, excessive reliance on coal-burning, patterns of waste and inefficiency in resource consumption, bureaucratic rivalry and bungling, all against the backdrop of an ambitious modernization program and intense competition for resources in the most populous country on earth.⁵ The Chinese are no strangers to ecological questions: Chinese philosophers, rulers and commoners have long concerned themselves with the balances and imbalances between human society and the natural world, and China has long experience with resource management, notably in the area of water conservancy and control. But the modern-day push for rapid economic development, begun in the late 1970s, carries new environmental implications and challenges that are impossible to ignore.

By the early 1980s, concern among China's domestic scientific community as well as international pressure prompted the nation's political leaders to begin addressing environmental issues in a systematic way. Government actions have included the establishment of specialized agencies charged with environmental protection work; the formulation and proliferation of environmental policies, laws and regulations addressing everything from resource conservation and protection of endangered species to industrial and agricultural pollution; and public education efforts through the school systems and mass media.⁶ And in the 1990s, the commitment to environmental protection in principle, if not always in practice, is being restated with a new sense of urgency. Since the 1992 Earth Summit

in Rio de Janeiro, a number of leading officials have become especially blunt and candid about the scope and gravity of the nation's environmental ills.⁷

China's growing environmental awareness and activity are reflected in growing mass media attention to problems, greater sophistication in explanations, and more complex approaches to solutions. The media have become important conduits for setting certain environmental issues, projects and policies before the Chinese public, at times providing forums for lively debate and even dissension. Journalists have begun to go beyond facile pronouncements about the necessity of environmental protection, and to confront some of the difficult choices and challenges of sustainable development. And in the past few years, a new brand of aggressive investigative reporting on environmental dangers and conflicts has begun to emerge. Gradually, environmental reporting is coming into its own as a distinctive specialty in Chinese journalism.

Politics and journalism, intertwined in any society, have a particularly close and obvious relationship in China which simultaneously constrains and encourages advances in environmental reporting. Structurally, China's government-owned news media belong to the state apparatus; functionally, they are expected to promote official ideology, programs and policies while also giving voice to grass-roots concerns and complaints.⁸ In practice, service to political authority usually takes precedence over service to general public interest. Yet at times the two can work in tandem, and environmental reporting may be the best illustration of this possibility. The high-level alarm over environmental problems has given a crucial boost to journalistic efforts; and conversely, media attention to a wide array of environmental dilemmas in urban and rural communities has bolstered the work of officials concerned about the environment.

This rise of environmental concerns on both political and media agendas has led to noteworthy collaborative efforts. In the fall of 1993, four ministry-level Chinese government agencies co-sponsored a nationwide environmental news campaign which sent teams of reporters from ten national news organizations to investigate environmental hot spots.⁹ In addition, nine provinces conducted corresponding reporting drives involving provincial and local government agencies and media units. In 1994, the second year of the

project, four more government agencies joined as sponsors and a total of 19 national news organizations were involved.¹⁰ This time, more than 20 provinces held similar drives. Participation will broaden further in 1995, the third and final year of this particular project.¹¹

China's National Environmental Newspaper

How mass-mediated education and discussion about the environment are evolving in China, and what media coverage of environmental affairs might mean for public input and participation in policy processes, are topics ripe for study. A good place to start is with China's most prominent environmental publication, the newspaper *China Environment News* (CEN). Launched in 1983, CEN is published under the auspices of the National Environmental Protection Agency and distributed nationally. The newspaper is headquartered in Beijing, employing about 60 editors and reporters in the main office and another 80 at 41 bureaus around China, plus a network of more than 300 part-time correspondents.¹²

The paper's target audience, according to editors, is a diverse mix of functionaries working in national, provincial and local environmental protection departments, industrial managers, scientists and technical workers, secondary school teachers and students, journalists, and opinion-leaders at all levels of the Communist Party and government. Circulation reached a peak of 600,000 in the late 1980s, falling to 450,000 when the paper went from two issues a week to three in 1988, with a corresponding increase in subscription price, and rising again to about half a million by mid-1993. In 1994, the paper added a fourth publication day with a Sunday edition. CEN also puts out a weekly version in English and a literary magazine of stories, poetry and essays on environmental themes. Editors were planning to start a children's environmental newspaper during 1995.

Each four-page broadsheet issue of the Chinese-language CEN follows an organizational formula which is fairly typical of mainland Chinese newspapers: The front page usually carries stories on major domestic policy issues and news events, news or texts of important speeches, and sometimes international news; the second page carries features, often with an economic emphasis; the third page commonly has columns, articles by specialists, or letters to the editor; and the back page offers a literary or artistic take, in forms such as essays, poetry, or series of photographs. In CEN's case, considerable attention is given to international and Greater China environmental affairs, including a weekly section on Hong Kong and Taiwan. Another weekly feature, a section entitled "from the readers," revolves around

readers' letters. Much of this material discusses specific environmental problems and controversies in Chinese localities which otherwise might not reach a national readership.

The Study

This paper reports on an exploratory content analysis of the Chinese-language CEN, using a purposive sample consisting of three months' issues of the paper from three different years--August 1989, October 1992, and November 1993. We conducted this study mindful of the most obvious limitations of content analysis, namely, that content in itself does not necessarily reveal hard evidence about how news is produced or received. In other words, content is not proof of the conscious or unconscious activities and intentions of the individuals and organizations who assembled the news, nor of how audiences interpret and use the information. Nevertheless, content studies are a crucial starting point for understanding the construction, dissemination and impact of environmental news in China and can lay the basis for important inferences about these processes.

Our study sought preliminary answers to the following questions: What topics and issues are represented as important in China's national environmental newspaper? What aspects of these subjects are emphasized? What thematic messages recur across topics and issues? What approaches or tone toward readers are implied? Are any trends or changes evident over the past several years?

We selected August 1989, October 1992, and November 1993 as sampling months because they promised to yield reasonable indicators of trends in environmental news coverage during the early 1990s--the period since China's political upheavals of spring 1989, which culminated in the military crackdown at Tiananmen Square in June of that year. Since our objective was to identify evolving patterns in environmental coverage, we did not consider coverage from the immediate aftermath of the crackdown, when China's news media were under particularly tight controls.¹³ Thus, August 1989, by which time the most strident official insistence on political rectitude had abated, represents a rough baseline for our study.

By the fall of 1992, economic reform once again had become the main thrust of national policy. In addition, China had been a major voice at the Rio summit--indeed, China subsequently became one of the first nations to respond to the summit's call for each participating country to adopt a comprehensive plan for sustainable development.¹⁴ October 1992 environmental coverage therefore should be indicative of how environmental reporting was being conducted in the context of the resumption of economic reforms and

heightened international attention to environmental affairs.

The following year, ten national news organizations, including CEN, participated in a special government-sponsored environmental reporting campaign. November 1993 environmental coverage included some of the results of that campaign. The issues from this month therefore suggest how particularly vigorous support for environmental reporting might be reflected in media content.

CEN published 14 issues in August 1989, 13 in October 1992, and 13 in November 1993, meaning we examined a total of 40 leading front-page articles. The great majority of CEN top stories can be categorized as news reports or news features, although editorials, investigative reports, and texts or excerpts of official speeches and documents sometimes constitute the page-one lead. We identified the format of each top item and then described it in terms of topic and theme, using an open-ended, qualitative approach.

Findings

Some consistencies in topics emerge over all three months. Reports extolling government successes in environmental monitoring and problem-solving, as well as government-sponsored events and official pronouncements, commonly constitute the front-page lead. For example, the governor of Heilongjiang Province is portrayed as a successful mediator of environmental problems in the city of Harbin (Aug. 1, 1989). Other lead items commend leaders in the municipality of Tianjin for successful environmental protection work (Aug. 29, 1989); highlight a government-sponsored energy conservation week (Oct. 10, 1992); and describe how environmental workers are studying the works of Deng Xiaoping (Nov. 18, 1993).

These stories are overwhelmingly positive in tone and suggest a top-down orientation to environmental protection. Underlying assumptions of these stories are that environmental protection and economic development can proceed smoothly hand-in-hand, and that the activities of benevolent government agencies and officials are the key to ensuring this harmony.

However, as table 1 shows, there is a clear downward trend in the proportion of front-page lead stories of this nature during the span of our sample (see table one). In August 1989, there are nine such top stories, typically celebrating achievements of provincial or local officials, governments or government agencies in helping to solve environmental problems. In October 1992, there are six. Among all the front page leads from November 1993, there are only two.

By contrast, qualifications or exceptions to the unreservedly positive approach become more prevalent over time. We identified three basic categories of

stories departing from the model of extolling official pronouncements, activities and achievements in environmental protection.

The first category consists of articles with a basically constructive or positive tone, often containing technical advice or portraying how problems might be solved through conciliation, mediation, or recourse to the courts. The underlying presumption of these articles seems to be that contradictions between environmental protection and economic development might arise, but can be and are being resolved.

Among page-one leads from August 1989, there are two such stories; and among the November 1993 issues, there is one; while the October 1992 sample yields the highest proportion, with seven such front-page lead stories. Some of these October 1992 stories address potential conflicts between development efforts and environmental protection, particularly in rapidly-growing industrial centers and special economic development zones along China's coast (e.g., Oct. 20, 1992, about Shanghai; and Oct. 24, 1992, about Hainan). One article extols a county for attempting to strike a balance between industrial and agricultural growth and ecological concerns (Oct. 29, 1992).

A second category of stories not dominated by faith in official activities and solutions are those identifying problems with no solution yet in sight, but one implicitly envisioned. Neither October 1992 nor November 1993 issues have page-one leads of this variety, but August 1989 has three. One of these reports on a township paper mill which pollutes and yet is a "model" factory in other ways (Aug. 10, 1989). Another describes how a township cement factory is procrastinating in implementing pollution controls (Aug. 17, 1989). These articles suggest that stricter environmental monitoring and enforcement over local factories are necessary. The third article of this variety is a set of three related items under an editor's note which bemoans the underutilization of existing environmental protection equipment (Aug. 12, 1989). These sorts of reports suggest that solutions lie not merely in technology, nor in government per se, but in overcoming bureaucratic obstacles to effective use of existing mechanisms.

The third category of stories without a positive official gloss are reports expressly linking corruption and bureaucracy to environmental problems, or pinpointing specific, severe environmental problems or conflicts. Only August 1993 has this variety of story--and it has them in relative abundance, with eight such front-page leads! Four explicitly target corruption and bureaucracy: Two of these describe local government efforts to remedy corruption in environmental protection agencies (Nov. 4, 1993; Nov. 6,

1993), another examines conflicts of interest between government departments which interfere with environmental protection (Nov. 9, 1993), and another reveals how a county government is failing to enforce pollution fines (Nov. 27, 1993).

Among these 1993 lead stories focusing on severe problems and their social and political dimensions is an especially striking report on a local environmental conflict. This article highlights a longstanding pollution dispute between a factory in the city of Wuhan and the adjoining residential neighborhood, a dispute which local government authorities have failed to solve. The story is accompanied by a photograph of an angry college professor in an accusatory stance (Nov. 20, 1993). Another day's lead paints a dismal picture of the acid rain situation in the city of Chongqing (Nov. 11, 1993). Another story identifies companies in Shanxi province which have set up industrial projects violating environmental laws (Nov. 16, 1993). Yet another reveals how factories may be hoodwinked by companies selling poor-quality or counterfeit environmental protection equipment (Nov. 22, 1993).

Implicit in these stories is the inherent contradiction between short-term individual interests and long-term societal interests. Although they never overtly criticize China's economic reforms, criticism lurks between the lines, for these stories suggest that the get-rich-quick schemes encouraged by China's market-oriented reform policies may well work against the rhetorical commitment to sustainable development.

In addition, two of the November 1993 front-page leads fall into unique categories. One reports on a provincial government's rapid response to solve environmental problems revealed in media reports (Nov. 13, 1993). The other surveys Beijing residents' opinions on a new fireworks ban (Nov. 30, 1993). These stories suggest an expanded role for grass-roots opinion and participation in environmental matters, in contrast to the more common top-down emphasis.

Discussion and Implications

We cannot presume that page-one lead stories are actually the most important environmental stories from the full range of possibilities that might exist--for many topics and events, especially if they pertain to sensitive matters, are covered scantily or not at all in the Chinese news media. Nevertheless, we are presuming that lead stories are significant in that they illuminate certain topics, events, actors, and other factual elements in a public manner, and frame these topics and facts in certain ways for public consumption. Lead stories represent the outcomes of news production processes, individual and group judgments, and organizational and occupational routines which have identified certain

items as newsworthy and pushed them to the fore, ensuring that readers will come upon them at first glance. In China no less than elsewhere, items defined as important by news producers and given top billing in the news product are likely to be viewed as important by readers. Thus, we consider the front-page lead stories of CEN as likely indicators of perceived importance in both production and reception of news.

Our study provides preliminary evidence that faith in government and officialdom as the key to solving environmental problems may be giving way to emphasis on technical or non-conflictual forms of problem-solving, growing recognition of the social and political dimensions of environmental protection, and greater candor about the most severe ecological problems.

What are the implications of such trends in environmental journalism? What does more analytical and aggressive reporting represent for the development of the media's role in formulation of environmental policy, and in public affairs generally?

For one thing, revelation of problems may expedite remedial action, at least in the short term. The November 1993 front-page report on how media exposure prompted provincial government officials to respond immediately to previously-ignored problems is one illustration of this potential. This experience conforms to the Chinese saying that bureaucrats "don't care about being told off by their superiors, they just fear getting exposed in the newspapers" (*bu pa shang gao, zhi pa shang bao*).

Perhaps more importantly, the increased sophistication and critical stance in environmental reporting portend a growing role for the media in environmental education, advocacy, and policy formation and implementation. Granted, this claim rests on just a small and tantalizing sample of China's major environmental newspaper. Further research can help establish whether Chinese journalism indeed is going in this direction. Future studies should examine CEN content over a longer span of time, as well as the content of other vehicles of environmental communication in China. And along with content studies, researchers need to study the processes of news production, the dynamics of news reception, and the interactions among scientists, officials, journalists and members of affected communities in the formulation and exchange of environmental news.

China certainly offers a great many forums for studying environmental journalism. In the span of about 15 years, environmental reporting has emerged as an important specialized realm of Chinese journalism. Besides CEN, at least eight other environmental papers, most of them weeklies, exist at provincial or local levels. In addition, general-

circulation papers as well as broadcast media aimed at general audiences have begun developing environmental beats, columns or programs. Some four dozen magazines also focus on environmental affairs.

At the very least, we can say that this growth of environmental reporting in China is important in itself. The field of environmental journalism continues to expand in a context of profit-oriented media competition that has given rise to China's own brand of tabloid journalism. Environmental publications and programs provide a salutatory contrast to the abundance of trivia, ephemera and sensationalism now crowding Chinese newsstands and airwaves. Environmental journalism signals the media's potential for contributing to public debate and advocacy, and provides evidence that avenues for serious journalistic activity may be broadening even in the context of an increasingly commercialized media marketplace.

References

1. He Bochuan, *China on the Edge: The Crisis of Ecology and Development* (San Francisco: China Books and Periodicals, 1991).
2. Vaclav Smil, *China's Environmental Crisis: An Inquiry into the Limits of National Development* (Armonk, NY: M.E. Sharpe, 1993); and *The Bad Earth: Environmental Degradation in China* (Armonk, NY: M.E. Sharpe, 1984).
3. George B. Schaller, *The Last Panda* (Chicago: University of Chicago Press, 1993).
4. Lester Ross, *Environmental Policy in China* (Bloomington: Indiana University Press, 1988); Lester Ross and M.A. Silk, *Environmental Law and Policy in the People's Republic of China* (New York: Greenwood, 1987).
5. On these and other problems, see above works and also Philip M. Boffey, "China and global warming," *The New York Times*, 8 Dec. 1993 editorial; Baruch Boxer, "China's environmental prospects," *Asian Survey*, v. 29 n. 7 (July 1989), pp. 669-686; Lester R. Brown, "Who will feed China?" *World Watch*, Sept./Oct. 1994, pp. 10-19; "Environment sacrificed to development?" *China News Analysis* [Taipei, Taiwan], no. 1523, 1 Dec. 1994; Todd Lappin, "Can green mix with red?" *The Nation*, 14 Feb. 1994, pp. 193-196; S.D. Richardson, *Forests and Forestry in China: Changing Patterns of Resource Development* (Washington DC: Island Press, 1990); Megan Ryan and Christopher Flavin, "Facing China's limits," in Lester R. Brown et al., *State of the World 1995* (New York: W.W. Norton, 1995), pp. 113-131; Patrick E. Tyler, "Nature and economic boom devouring China's farmland," *The New York Times*, 27 March 1994, pp. 1, 8, and "A tide of pollution

threatens China's prosperity," *The New York Times*, 25 Sept. 1994, p. 3.

6. Ross (1988); Ross and Silk (1987).

7. China's best-known high-level advocate of strong environmental protection policies is Qu Geping, former head of the National Environmental Protection Agency, now chair of the Environmental and Natural Resources Protection Committee under China's national legislature, the National People's Congress. See Qu Geping, *Zhongguo de Huanjing Guanli* [*Environmental Management in China*] (Beijing: China Environmental Science Press, 1989). Vice Premier Tian Jiyun is another prominent supporter of environmental protection.

8. See Brantly Womack, "Editor's introduction," *Media and the Chinese Public: A Survey of the Beijing Media Audience* (Armonk, NY: M.E. Sharpe, 1986).

9. The sponsoring agencies were the Environmental and Natural Resources Protection Committee of the National People's Congress, the Central Propaganda Department, the Ministry of Radio, Television and Film, and the National Environmental Protection Agency.

10. The additional sponsoring agencies were the ministries of Forestry, Agriculture, and Water Conservancy, and the Communist Youth League.

11. Information on the 1993-95 environmental reporting campaigns comes from interviews conducted in the summer of 1994 with staff members of the Environmental and Natural Resources Protection Committee of the National People's Congress as well as with newspaper and television journalists who participated in the activities.

12. This and additional information on CEN come from interviews with CEN editors conducted in the summers of 1993 and 1994.

13. Regarding the situation of the Chinese news media in the aftermath of Tiananmen, see Judy Polumbaum, "The tribulations of China's journalists after a decade of reform," in Chin-Chuan Lee (ed.), *Voices of China: The Interplay of Politics and Journalism* (New York: Guilford Press, 1991), pp. 33-68.

14. China issued its "Agenda 21" plan for population, development and the environment, outlining strategies and projects for sustainable development into the 21st century, in March 1994.

Table 1: Front Page Lead Story Emphasis in the *China Environment News*

month & year (total # issues)	Government as "Good Guys"	Positive Advise & Conciliation	Problems & Contradictions	Severe Problems
August 1989 (14)	9	2	3	0
October 1992 (13)	6	7	0	0
November 1993 (13)	2	1	0	8

Increasing Environmental Literacy by Design

by Carolyn C. Harper and Nancy Haynie-Mooney

1. Introduction

Effective communication is an important and powerful weapon in the environmental literacy campaign. We believe the fact sheets communicate effectively and will ultimately help ATSDR to promote the health of individuals and communities by giving them factual information on toxic substances in a simple format.

According to Scott C. Ratzan in *AIDS: Effective Health Communication in the '90s* (1993, p.3): "At a time when the medical community's attention is focused on cures, treatment, and vaccines, experts in health communication must take the lead to ensure that educational information is communicated efficiently, ethically, and efficaciously to the public."

In *Newspaper Layout and Design*, Daryl R. Moen (1989, p.15) adds weight to this idea: "... we need to use all our resources to reach an audience distracted by their children, their exercising, their recreation, and their preoccupation with watching television for entertainment."

Scientists must tailor their messages and select their channels of communication carefully to reach their intended audiences.

2. Background

2.1. Health Communication.

The Centers for Disease Control and Prevention (CDC), another Public Health Service agency, has defined health communication (Roper, 1993, p.181) as follows: "Health communication is the crafting and delivery of messages and strategies, based on consumer research, to promote the health of individuals and communities." We believe our fact sheets exemplify this definition.

We used CDC's health action model (Roper, 1993, pp. 181-183) to guide us in developing our communication plan for the fact sheets (see Figure 1). The model includes the following steps:

- (1) Review background information. What's out there?
- (2) Set communication objectives. What do we want to accomplish?
- (3) Analyze and segment target audiences. Who do we want to reach?
- (4) Develop and pretest message concepts. What do we want to say?
- (5) Select communication channels. Where do we want to say it?

(6) Create/pretest messages and products. How do we want to say it?

(7) Develop promotion plan/production. How do we get it used?

(8) Implement communication strategies and conduct process evaluation. Let's do it!

(9) Conduct outcome and impact evaluation. How well did we do?

(10) Get feedback to improve communication. Where do we go from here?

To see how we answered these questions to develop the fact sheets, see the methodology section.

2.2 Literature Search.

ATSDR scientists acknowledge the need to continuously improve communication with the public about adverse health effects that might result from exposure to hazardous substances in the environment. ATSDR funded an evaluation of its Toxicological Profile Program including readability of the public health statements (PHSs), Chapter 1 of every profile. The evaluation compared the information in various toxicological resources. Among other things, the evaluation investigated how well the PHSs communicate essential health information to the public (ATSDR, 1993).

Each public health statement or PHS is a health effects summary written in nontechnical language for mid-level readers at or about the 8th-grade level.

The overall objective of the Toxicological Profile Program comes from ATSDR's Congressional mandate to produce profiles on hazardous substances found at National Priorities List (NPL) sites. ATSDR's response to the mandate regarding the PHS is reflected in its "Guidance to Authors and Chemical Managers" (ATSDR, 1993, p.4i).

This chapter of the profile, if removed from the rest of the document, should still communicate to the lay public essential information about the substance. It is intended to be a health effects summary written in layman's terms, with the audience being the general public, especially people living in the vicinity of a hazardous waste site or substance release.

3. Methodology

To evaluate the effectiveness of the PHS in meeting the objectives, evaluators removed Chapter 1 from the rest of the document. The fact sheets use only

information from the PHSs so the results apply to both. Groups of nontechnical people in four communities near hazardous waste sites assessed how well it communicated essential health effects information about particular substances. These types of focus groups help researchers to learn about a certain topic, experience, or product.

In the focus group for the PHS, a trained moderator asked open-ended questions to get all participants to talk about their ideas, feelings, and experiences. For this evaluation, focus groups contributed to a wide variety of information about PHSs, including whether people had ever seen them, perceptions about how effectively they communicated with the general public, and suggestions to improve them.

Moderators asked the focus groups to read a PHS and to give feedback about its effectiveness in informing people about the risk and whether the PHS language was difficult or confusing. Seven focus groups were conducted in four locations: Calvert City, Kentucky; Palmerton, Pennsylvania; Houston, Texas; and Grand Island, Nebraska.

Evaluators developed a discussion guide to structure the focus group sessions and selected a chemical-specific PHS to use at each site. They used four different chemicals to see if reactions would be consistent. At two sites, Palmerton and Houston, PHSs on chemicals of local interest were used--cadmium and benzene, respectively. At the other two sites, Calvert City and Grand Island, the PHSs were on chemicals of more general interest: lead and acetone, respectively.

The focus groups were made up of individuals from ATSDR's Community Assistance Panels (CAPs). CAP members are people who live around hazardous waste sites where ATSDR is involved in on-site activities. Researchers thought the CAP members might know more about chemicals and risk assessment, so, for comparison, they formed a second focus group of people who attend the CAP meetings, but are not members.

The professions represented in the focus groups were teacher, journalist, dentist, chemical company worker, local government official, clergy, homemaker, water utility worker, and military officer (ATSDR, 1993).

According to the study, each focus group lasted 1 to 1.5 hours. Each group had a moderator and an observer. After asking about the participants' prior awareness of toxicological profiles, the moderators passed out copies of an example PHS and asked participants to read it. Average reading times ranged from 5 to 10 minutes. Then moderators used the focus group discussion guide to solicit feedback about the PHS from the group.

In addition to the standard Chapter 1 of the toxicological profile, moderators gave the groups samples

of a reformatted PHS and of a pilot version with a 2-column format.

The focus groups helped to assess the value of the information in the public health statements that were used to develop the substance-specific fact sheets presented in this paper.

We used the *Toxicological Profile for Methylene Chloride* (ATSDR, 1992) as the prototype substance to reduce the public health statement information to a fact sheet. Methylene chloride is a "data-rich" chemical and therefore provided enough information to test the new format. We left in important health information, but condensed the words and designed a new format.

Using CDC's health action model as a guide, we went through the following process:

- We tested several styles of fact sheets including different numbers of columns, font sizes, headers, and colors, during an agency-wide review.
- We addressed the central issues in a question-and-answer format like the PHS, using short and concise answers.
- We "brainstormed" to develop key messages, format, and design. We recorded all our ideas and discussed them at length.
- We identified important supporting data for the key messages and discussed how to incorporate them into the most effective layout and design.
- We agreed that the fact sheets' design should encompass the following ideas:
 - be able to stand alone (separate from the PHS)
 - represent facts accurately
 - present key concepts
 - use newspaper design and content principles
 - use photos, boxes, borders, or other graphic elements to enhance the words, whenever possible
 - use short phrases and key words
 - highlight important points in color
 - be neat, clear, and uncluttered in a modular design for greatest legibility and impact
- We distributed the fact sheets to people and organizations in the communities; their positive feedback confirmed the effectiveness and readability of the content and design.

4. Results and Discussion

Evaluators organized the findings from the focus groups, and the authors divided the initial responses to the fact sheets into the following topics: (1) awareness and dissemination, (2) style and format, (3) content and technical complexity, and (4) overall utility and value.

4.1. Awareness and Dissemination.

Users or customers of the fact sheets have reported

increased interest in environmental hazards.

The Government Information and Printing Provision (House Resolution 1024, 1995) directs agencies to improve the dissemination of information and printing procedures of the government. Concise and easy to understand, the fact sheets exemplify the bill's requirements by effectively delivering information to the public at a fraction of the cost needed to produce a toxicological profile.

The focus groups (ATSDR, 1993) pointed out that libraries were the first place they would look for information on toxic substances. Also, an analysis of people on the toxicological profile mail list showed that 58% first looked for this information in a library; however, libraries were receiving only 4% of ATSDR's total distribution (ATSDR, 1993). So, for the fact sheets, we have made libraries our critical link with communities. The initial distribution of 15,000 fact sheet sets included more than 5,000 libraries across the country (see Figure 2).

The focus groups also said that ATSDR should consider putting its information on hazardous substances on CD-ROMs (compact disc-read only memory). ATSDR's Division of Toxicology is now in the process of putting the entire texts of the toxicological profiles on CD-ROM; finished products should be available in 1995.

To provide further access to its information, ATSDR has already placed the first 20 fact sheets on the Internet. The address for the ATSDR home page via World-Wide Web on Internet is:

<http://atsdr1.atsdr.cdc.gov:8080/atsdrhome.html>

ATSDR also has a 24-hour toxicology information telephone hotline at 404-639-6000; its recorded message tells people how to get a list of hazardous substances, ranked by priority; how to get technical help on chemicals of interest; and how to get other Division of Toxicology (DT) products like the fact sheets.

4.2. Style and Format.

Basic tenets of publication design and health communication strategies include (1) identifying your audiences, (2) tailoring your message concepts and designs to your audiences, and (3) selecting the best communication channels to reach them (Roper, 1993).

We chose the print medium for primary distribution of our fact sheets because of the focus groups' preference (ATSDR, 1993) and because of limited time and resources to investigate the potential benefits of a multimedia campaign. A discussion of the other two principles regarding the fact sheets follows.

4.2.1. Identifying Your Audiences.

ATSDR audiences include the general public (includes environmental groups and people living near hazardous waste sites), health professionals, and other

government agencies.

The evaluation (ATSDR, 1993) showed that the toxicological profiles were well received by the last two groups, but that the general public needed a simpler format for the sometimes complex information. It also suggested that all groups might sometimes need a brief summary of the information to use in teaching or at public meetings.

We tailored our design and content to meet our audiences' needs. We used a 1-page, back-and-front, printed fact sheet to efficiently and effectively reach them. Reports from fact sheet users show that the design has helped readers understand and use the scientific material.

4.2.2. Tailoring Message Concepts and Design.

4.2.2.1. Concepts.

Our concept included using newspaper-style writing to convey our scientific messages. As espoused by Curtis MacDougall (1977) in his book, *Interpretative Reporting*, we used short sentences and paragraphs, simple words, conciseness (1 page), and facts without editorial opinions.

We also used a pronunciation key for the substance name, a summary of the most important information at the beginning, phone numbers for more information at the beginning and end, further references for the reader, and a glossary to explain any scientific terms.

We used Mario Garcia's theory of "integrating writing, editing, and design" in developing our fact sheets. In his book, *Contemporary Newspaper Design*, Garcia (1993, p.13) said: "... the parts of that triad cannot exist in isolation."

4.2.2.2. Design.

Garcia (1993, p.132) sees two objectives for the designer: (1) to grab readers' attention the moment they see the page and (2) to create sufficient visual interest to keep the reader's eyes moving on the page.

Garcia (1993, pp.12-13) said: "Readers like to graze over pages, scanning for items of personal interest. As a result, editors must create and package an array of information that will first attract, then inform."

In our fact sheets, we tried to "attract, then inform" through the use of modular design, subheads, narrow columns, ragged right or unjustified margins, and color to guide the reader around the page.

A modular design uses rectangles, modules, or units to "package" information. According to Daryl R. Moen (1989), the advantages of modular layout include the following:

- gives a clean, simple look
- takes less time to produce
- allows better packaging of related items or elements
- caters to reader preferences

- helps readers' eyes to deal more effectively with the space.

Subheads break a long story into segments allowing readers to select what they want to read. Garcia (1993, p.179-180) recommends putting subheads in "upper and lower case, flush left, and positioned where they best serve the copy [story], not in any fixed order throughout the text."

The fact sheet subheads break up the longer text and also allow readers to easily choose the questions and answers on hazardous substances that they are most interested in.

Narrow columns of words, between 12 and 16 picas wide, are best for legibility, according to Moen (1989) and Garcia (1993). Six picas equals 1 inch, so 14 picas is about 2.2 inches. Many newspapers use a 12-pica or 2-inch width to fit into one column. Our fact sheet columns fall within these parameters (except for a few elements like the "summary" and the "for more information" sections, which double that width for contrast, emphasis, and variety).

Ragged right or unjustified margins allow more white space on a page, giving "breathing room" to the eyes. Garcia (1993, p.78) quotes Rolf Rehe: "Unjustified typography reduces production costs, possibly aids legibility, makes for an easier correction procedure, and provides a contemporary, relaxed typographic style."

Color elements guide the reader around the page, according to Garcia (1993, p.120). His research shows that readers prefer color over black and white.

In our fact sheets, we chose to use red, black, and gray on white paper. Moen (1989, p. 229) says that colors have emotional qualities and that "designers should try to match these qualities with the content of the article."

Moen (1989, p. 229) states that scientists at the Institute of Biosocial Research in Tacoma, Washington, found that the colors we selected elicit the following feelings:

- red: assertive, aggressive, pops off the page
- black: official or somber moods
- gray: neutral color, a rest stop, a good buffer between other colors.

We used red for our chemical name at the top of the page and for our "question" subheads to attract attention and guide the reader around the page. We also thought red, like a traffic light, would subconsciously suggest "stop and read" as well as "hazard ahead" (as in hazardous substances).

We used black type and borders to create an official mood as is appropriate for a serious subject: reading about toxic substances that might harm you. We used a gray screen on the summary statement to make it stand out from the other information and also to add

visual interest.

4.3. Content and technical complexity.

4.3.1. Content.

The ATSDR study (1993) showed that using long sentences and paragraphs was a barrier to reader interest, comprehension, and use. The results indicated a need for a condensed format with shorter sentences, less technical wording, and more pictures or diagrams.

To follow these recommendations, we did not sacrifice important health information, but rather enhanced it by using newspaper design and writing style.

The fact sheets directly answer the most often asked questions. These are shown in the following question-and-answer format that shows what information about a hazardous substance is discussed.

What is substance x? This section describes the physical and substance properties of the substance, common synonyms and trade names, and the taste and smell. If the fact sheet covers more than one substance, it tells which forms are most likely to be found in the environment. It includes the major natural and manufactured sources of the substance and tells where and when it appears.

What happens to substance x when it enters the environment? This section lists only the major sources of exposure and pathways such as atmospheric emissions, discharges into waterways, accidental spills, and leaks from storage and waste sites. It also discusses how the contaminant moves in the environment and how long (days, weeks, or years) the substance persists in different environmental media. Whether the substance transforms or degrades is an important part of this section.

How might I be exposed to substance x? This section discusses the potential sources of exposure and lists common and uncommon sources such as breast milk or soil. Human exposure pathways are discussed with emphasis on pathways at Superfund hazardous waste sites. This section cites the most probable routes of exposure for the general population; for people living near waste sites or manufacturing, processing, or storage facilities; and for people who work with or around the substance.

How can substance x affect my health? This section succinctly summarizes the health effects. It allows the reader to draw objective conclusions based on essential exposure-duration-effect relationships. The organization of the data is by routes and duration of exposure, and uses qualitative terms when describing the health effects. Specific levels of exposure associated with human health effects are presented when known. Animal data support weak or missing human data. This section includes the beneficial effects of the substance and whether it's

essential or a normal part of the human biochemical process.

How likely is substance x to cause cancer? Cancer information, if known, is in this section along with the known cancer classification and its reporting agency.

Is there a medical test to show whether a person has been exposed to substance x? This section briefly explains whether there is a medical test, what can be measured, or if the test can help doctors diagnose exposure. It discusses whether the test correlates quantitatively with exposure and if the test predicts potential health effects or adverse changes following exposure. It tells the reader if the test is available at a doctor's office or if it is an elaborate and unusual test that must be performed at a special clinic.

What recommendations has the federal government made to protect human health? This section provides guidelines and standards for inhaling, drinking, eating, and touching the hazardous substance. Conditions of exposure are stated and defined.

Where can I get more information? This section directs the reader to ATSDR for more information about occupational and environmental health clinics whose specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances.

4.3.2. Technical Complexity.

The focus groups (ATSDR, 1993) reported that

- most readers found the information in the PHS to be informative, and
- most readers felt comfortable with the overall level of technical or scientific complexity.

The fact sheets are derived from the PHSs and use the same level of writing and facts, so we extrapolated that these findings would also be true for the fact sheets.

Table 1, a readability analysis of sample fact sheets, shows that the main texts are in the 7th- to 9th-grade reading level. The Flesch-Kincaid grade-level index is based on the average number of words per sentence and the average number of syllables per 100 words.

4.4. Overall Utility and Value.

4.4.1. Utility.

The ATSDR study (1993) asked the focus groups for their reactions to the PHS in terms of its importance, value, usefulness, and impact. The positive things they reported are

- that this type of information is critically important for the government to provide to the public,
 - that whether and how the information was used would depend on its dissemination, style, format, and content, and
 - that reading the information would have changed their attitude or behavior toward a chemical.
- On the negative side, they reported

- they wouldn't pay for this information, and
- some pointed out barriers to people changing their attitudes or behavior.

4.4.2. Value.

National and worldwide concern is growing about environmental degradation caused by hazardous substances released to the air, water, and soil. This concern focuses on the adverse environmental and health effects of toxic substances coming from hazardous waste treatment, storage, and disposal facilities as well as from thousands of abandoned waste sites. ATSDR's chemical-specific fact sheets educate and inform, thereby reducing some of that concern.

4.4.2.1. Low Socioeconomic Groups.

Many communities near hazardous waste sites have low socioeconomic status, and the people in them have low- to mid-level (about 8th grade) reading levels (Commission for Racial Justice, 1987). Even though many reports on environmentally related illnesses and diseases exist, providing this information to a technically literate populace (reading above the 8th-grade level) is difficult. Reporting technical information to people reading below that level, estimated at 90 million adult Americans, is an even harder task (U.S. Department of Education, 1993).

Disseminating health information to people who are most likely at risk in hazardous waste communities requires communication and service from health professionals. Environmental and health scientists, epidemiologists, and other health advisers at ATSDR are addressing environmental literacy from a health perspective.

We believe the fact sheets help fill a critical need in low socioeconomic communities. An initial assessment of the fact sheets finds they are effective educational intervention tools. They are being used as self-teaching materials for nontechnical people concerned about the adverse health effects of environmental hazards. They are also used as tools to increase the skills of educators who must communicate environmental health risks to people with various levels of reading skills.

4.4.2.2. Evaluation.

An informal evaluation of the fact sheets' success is reflected in the following comments from readers:

"The fact sheets are used at our library for interested individuals, business, public health, and other government agencies."
Commonwealth of the Northern Mariana Islands Department of Public Health and Environmental Services, Saipan, Mariana Islands

"The fact sheets are of tremendous benefit to our program and to the epidemiology program." Mecklenburg County Health

Department, Charlotte, North Carolina

"The fact sheets will be very useful in answering questions and concerns of the public." State of Louisiana Department of Health and Hospitals, New Orleans, Louisiana

"These simple-language, 1-page fact sheets allow us to quickly answer questions from people who live near hazardous waste sites. We often send copies to concerned citizens who want more information. The layout of these fact sheets—large type, shaded boxes, and color headers—make them visually appealing and easy to use."

State of Florida Department of Health and Rehabilitative Services, Tallahassee, Florida

Use of the fact sheet information on the Internet (ToxFAQs) has been steadily climbing.

An analysis of the first 104 days that the fact sheets have been on the Internet (from November 28, 1994, to March 10, 1995) shows:

- 1,158 entities have "visited" ToxFAQs
- 2,538 documents have been requested (24.4 a day)
- Number of users/day has risen from 11 to 19 and the average number of documents requested/day has risen from 24 to 51 when you compare the total 104 days to the last 7 days
- Users from 12 foreign countries have accessed ToxFAQs (15% of all users)
- 3 most-requested chemicals are lead, benzene, and arsenic
- Universities and colleges (.edu) are the number one users of ToxFAQs

We plan to conduct a formal evaluation of the content and design of the fact sheets later this year. We believe ATSDR's substance-specific fact sheets have delivered the right messages about hazardous substances to the correct audiences in the best format at the optimum time--now.

4.4.2.3. The Bottom Line.

ATSDR's substance-specific fact sheets fill a critical need. They simply answer the most often asked questions about hazardous substances in an easy-to-understand format at a time of great concern about environmental degradation.

In talking about newspapers, Moen (1989, p.11) said: "... the industry needs journalists who can report, edit, and bring words and visuals together to help the reader understand the message and increase the impact of the story."

Perhaps scientists and writers, editors, and designers of environmental publications should do the same in order to deliver the best health information possible to

all people.

5. Summary

- ATSDR's substance-specific fact sheets are 1-page summaries of the adverse health effects of the most commonly found hazardous substances at waste sites.
- The primary target audience for the printed fact sheets is mid-level readers in the general public. Other audiences include health professionals and government officials who use them for quick reference or to give to patients or customers. Another audience is Internet users in all categories.
- The original and unique use of newspaper-style design and content to present scientific information has increased the number of readers in the primary target audience.
- The fact sheets are being used as self-teaching tools.
- ATSDR has so far produced and circulated 15,000 sets of printed fact sheets with 20 substances in each set. The first set is available on the Internet (see address in the text). The next set of 40 fact sheets will be published in the summer of 1995. ATSDR plans to produce fact sheets on about 200 substances (total) within the next few years.
- The initial distribution included more than 5,000 libraries to facilitate access for the general public.
- An informal evaluation of the printed fact sheets indicates they are easy to read, have an attractive layout and design, and are technically accurate. A 104-day analysis of Internet users showed 24.4 document requests a day rose to 51 a day in the last week of the analysis.

6. Abbreviations Used in Paper

ATSDR: Agency for Toxic Substances and Disease Registry

CD-ROM: compact disc-read only memory

CDC: Centers for Disease Control and Prevention

PHS: public health statement

RTI: Research Triangle Institute

7. Acknowledgments

The authors thank Mike Perry, ATSDR Office of Information Resources Management, for his excellent compilation of user statistics of the fact sheets (ToxFAQs) on the Internet.

We thank Dr. Charlie Xintaras, Office of the Assistant Administrator, ATSDR, for preparing the fact sheets for inclusion on the ATSDR World-Wide Web server on the Internet.

8. References

ATSDR. (1992). Harper, C.C., Fernando, L. *Toxicological Profile for Methylene Chloride*. Atlanta:

U.S. Department of Health and Human Services, Public Health Service, ATSDR.

ATSDR. (1993). The ATSDR evaluation of the toxicological profile program final report. Research Triangle Park, NC: Research Triangle Institute. Prepared for the Agency for Toxic Substances and Disease Registry.

Commission for Racial Justice. (1987). *Toxic Wastes and Race in the United States: A National Report on the Racial and Socio-Economic Characteristics of Communities with Hazardous Waste Sites*. New York: United Church of Christ.

Garcia, Mario R. (1993). *Contemporary Newspaper Design: A Structural Approach* (3rd ed.). Englewood Cliffs, NJ: Prentice Hall, Inc.

Government Information and Printing Provision. (1995). House Resolution 1024 reintroduced in the 104th Congress by Rep. Jennifer Dunn--Washington, on February 23, 1995. Referred to House Oversight Committee (formerly H.R. 3400 in the 103rd Congress).

MacDougall, Curtis D. (1977). *Interpretative Reporting* (7th ed.). New York: MacMillan Publishing Co., Inc.

Moen, Daryl R. (1989). *Newspaper Layout and Design* (2nd ed.). Ames, Iowa: Iowa State University Press.

Ratzan, Scott C. (Ed.). (1993). *AIDS: Effective Health Communication for the '90s*. Washington, DC: Taylor and Francis.

Roper, William L., MD, MPH. (1993). Health Communication Takes on New Dimensions at CDC. *Public Health Reports* 104(2), 179-183, March-April 1993.

U.S. Department of Education. (1993). *Adult Literacy in America*. Washington, DC.

Figure 1. Centers for Disease Control and Prevention's Health Communication Wheel (Roper, 1993, p. 181)

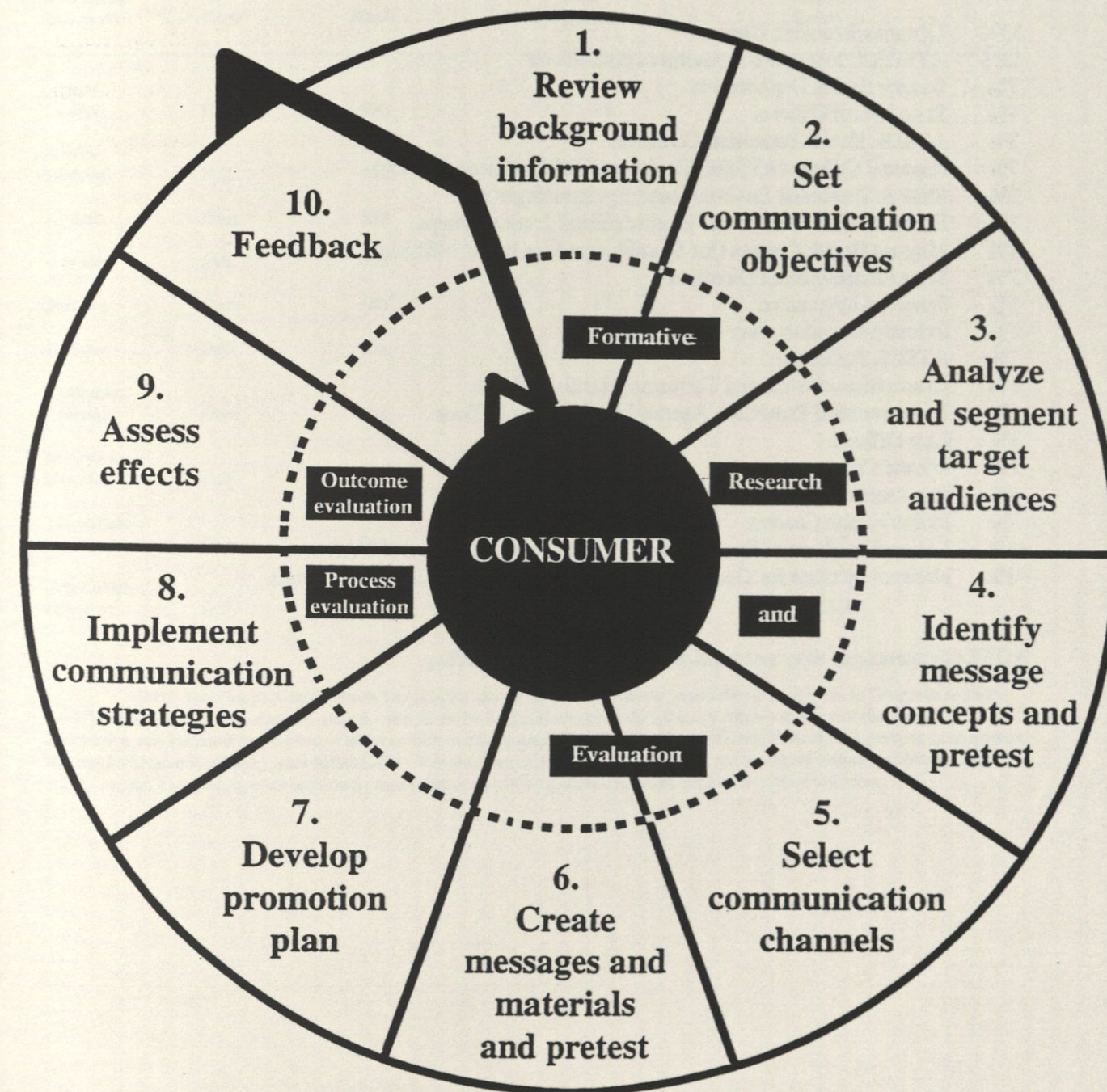


Figure 2: Mail Key for Fact Sheets (15,000 were distributed)

Percentage of total distributed : Name

33%	Libraries/Resource Centers
13%	ATSDR Cooperative Agreements with States
7%	County Health Departments
7%	State Health Officers
7%	ATSDR Health Education Contacts
7%	Regional Offices (ATSDR, Environmental Protection Agency)
3%	State & Territorial Environmental Epidemiologists
3%	Environmental Groups and Environmental Justice Groups
3%	Migrant Health Centers (for Spanish-speaking health officials)
3%	State Environmental Directors
3%	Schools/Universities
3%	Industry/Manufacturing Companies
1%	ATSDR Personnel
1%	Association of State and Territorial Health Officials
1%	Environmental Protection Agency Headquarters Offices
3%	Law Offices
1%	Private Citizens
1%	Pan American Health Organization (Hispanic)
1%	Indian Health Centers
<1%	National Institute of Environmental Health Sciences
<1%	National Institute for Occupational Safety and Health Educational Centers

NOTE: Percentages may not total 100% because of rounding.

Table 1: Fact Sheet Reading Level Samples

Fact Sheet Substance	Full or Core	No. of Words	Average No. Words Per Sentence	Flesch-Kincaid Grade Level
Aldrin/Dieldrin	Core	670	13	7.8
Aldrin/Dieldrin	Full	744	14	7.6
Arsenic	Core	538	12	6.5
Arsenic	Full	595	13	8.6
Benzene	Core	680	17	7.7
Benzene	Full	755	16	8.0
Methylene Chloride	Core	688	14	7.6
Methylene Chloride	Full	822	14	8.8
Tetrachloroethylene	Core	663	15	8.5
Tetrachloroethylene	Full	714	16	11.2

NOTE: The Flesch-Kincaid Grade Level Index shows that the fact sheets' readability is at the 7th- to 9th-grade reading level. For the "core text" readability, only the text from the first question up to the glossary was used. None of the header information was included; the substance name as well as all agency names (such as Environmental Protection Agency or International Agency for Cancer Research) were deleted. The "full text" was used to see the impact on readability of including substance and agency names. The reading level increased when substances had long chemical names such as tetrachloroethylene.

Effective Communication to Facilitate Stakeholder Participation in Ecologically Sustainable Development Decision Making

by N.J. Smith-Sebasto and Will Focht

Introduction

Humanity is facing critical problems of environmental degradation that are radically new in scale and urgency. There are at least two main reasons why these problems need to be addressed immediately. "First, failure to act now will greatly compound the cost and complexity of later remedial efforts. And second, environmental degradation is already posing a major threat to...economic growth prospects and human well being, especially among the poor" (Koch-Weser, 1993).

The gridlock that often attends environment policy making seems to sustain a chronic debate, in theory and in practice, concerning the proper roles and forms of stakeholder participation in policy making and the relative efficacies of alternative communication strategies. In the debate, those who defend policy making and communication processes designed to accomplish predetermined outcomes in order to avert or overcome stakeholder opposition passionately but unpersuasively debate those who counter that these processes should be designed to provide unbiased information to empower stakeholders to make their own decisions and thus to obtain voluntary consensus. Nevertheless, it is generally agreed that for any development effort to succeed, communication is required (Keshisoglou, 1992). "The role of communication in the cause of [sustainable development] cannot be overestimated..." (Cantrill, 1993, p. 66).

The United Nations Environment Program's Executive Director, Dr. Mostafa K. Tolba, stated: "I have known of no effective environmental action that was not preceded by [stakeholder] support, which is generated, in turn, by the free flow of accurate information" (Lamb, 1992, p. 197). Accordingly, Agenda 21: The Earth Summit Strategy To Save Our Planet called for:

- the establishment or strengthening of advisory bodies for [stakeholder] environmental and development information who would encourage [stakeholder] participation in discussions of environmental policies and assessments,
- the implementation of [stakeholder] and developmental information services to raise awareness of all groups, particularly decision makers, and

- the undertaking of efforts to increase interaction with indigenous people, including the distribution of their traditional and socially learned knowledge, in the management, planning, and development of their local environment (Sitarz, 1993, p. 297-98).

The environmental problems facing humanity "may ultimately act as a catalyst for better communication in all contexts" and for increased citizen participation in policy making to effectively address problems of such "gravity and complexity" (cf., Dunlop, 1992, p. 99). In countries where the prevailing development policy is not ecologically sustainable, and this includes many if not all industrialized countries, the main role of communication may be to simply facilitate change in the model of development (cf., Schneider, 1992). Additionally, with the improvement of environmental education efforts worldwide as well as the increasing coverage of environmental issues in the media it would be wise for policy makers to institutionalize environmental communication as a form of non-formal environmental education on a proactive rather than a reactive basis.

It appears that governments, lending institutions, health offices, businesses, non-governmental organizations, schools, and cultural institutions are indeed increasingly acknowledging the need to add communication efforts to their strategic planning for ecologically sustainable development. However, environmental problems "cannot be solved by technical and administrative measures alone, but require a more thoroughgoing reappraisal of attitudes, lifestyles and social structures" (Atkinson, 1992, p. 327). Ecologically sustainable development will depend on "foundations that require an active, competent citizenry" (Orr, 1992, p. 30). "Environmental communication has a remarkable opportunity to accelerate understanding and to mobilize national and community participation for change" (Meyer, 1992, p. 1). However, if ecologically sustainable development continues to be perceived as a "top-down process, then an active, ecologically competent citizenry is irrelevant," (Orr, 1992, p. 29) and efforts to increase stakeholder participation in environmental policy making is a waste of already scarce financial resources. Fortunately, for many "the necessity of environmental [communication] and

training is no longer questioned and is accepted in principle as an indispensable precondition for future [sustainable] development" (Kunzmann & Dericioglu, 1985, p. 61). Nevertheless:

...there is a considerable imbalance between policy declarations and real achievements. Despite a fear...that... environmental protection might hinder... development...and perpetuate [an] underdeveloped state, an increased significance is attached to evoking an environmental consciousness. Today there is at least a verbal recognition that environmental problems have a cumulative impact and that delay in remedial action will result in considerably higher costs in the future. In many instances there is, however, a polarity between a general environmental conscience and individual economic thinking and behavior. Consequently national policy considerations often lack the necessary knowledge of how to design, enforce and implement [environmental communications to] combat the negative impacts of industrial development [and] resource exploitation.... (Kunzmann & Dericioglu, 1992, p. 66).

There are basically two reasons for communicating about environmental issues: necessity and desire. Environmental communication efforts based on necessity are usually the result of some extreme environmental threat. If there is serious risk of long-term environmental damage, it is the responsibility of policy makers to seek ways to communicate these risks (Kempton & Craig, 1993). Efforts based on desire have the most profound implications for ecologically sustainable development. Environmental communication based on desire and stakeholder participation in policy making "is not only, or even primarily, concerned with the physical environment...it is concerned with creating a society that will maintain its environment as a congenial and pleasant place to live in now and in the future" (Atkinson, 1992, p. 329).

In the 1970s, development researchers pointed out that the lack of 'results' had been due to lack of 'popular participation' (Mody, 1991, p. 47). In other words, national development programs undertaken in the '60s might have worked, except that effected stakeholders were not allowed to participate in the policy making process. It is clearly time to get stakeholders involved. Stakeholder input (*feedback* or *evaluation*) is needed in the production of communication as well as in the evaluation of it.

Communication for Ecologically Sustainable Development

There are two methods of communication on issues related to ecologically sustainable development. One method involves:

Professionals who work from a strong technocratic top-down approach to induce positive change. They often possess a strong linear development perspective and end up in top-down, 'sales and adoption driven' interventions. Often far reaching assumptions are made in the choice of target groups, solutions, effects and cost, but they are basically trying to sell solutions to problems which are not even perceived as problems by the beneficiaries themselves.

The other involves:

Professionals who focus explicitly on the needs of communities; working from a strong participatory perspective, solutions are developed as much as possible in dialogue with the beneficiaries themselves (Schoen, 1992, p. 4).

When it comes to matters related to ecologically sustainable development, environmental policy makers should value environmental communication as a powerful policy instrument which they must incorporate with their other policy instruments (Schoen, 1992). An additional advantage of considering environmental communication as a policy tool has to do with stakeholder sentiment. To slightly modified the wisdom of Abraham Lincoln, "[Stakeholder] sentiment is everything. With [stakeholder] sentiment nothing can fail; without it, nothing can succeed" (Lincoln, quoted in Fazio & Gilbert, 1986, p. 36). Stakeholders of industrialized and less industrialized nations alike are becoming increasingly vocal in their concerns about the environment.

Because communication about environmental issues and/or problems so frequently involves some type of behavior change, stakeholder participation is uniquely critical. The one universal similarity in environmental issues is the notion that the problems facing humanity have to do with maladaptive behavior (Maloney & Ward, 1973) of citizens armed with ecological myths and lacking knowledge and conviction of their own contribution to said problems (Gigliotti, 1990). Not surprisingly, therefore, many have called for "more and better [stakeholder] involvement in...decision-making" on matters related to ecologically sustainable development (Blahna & Yonts-Shepard, 1989, p. 209).

[Stakeholder] participation is a concept that underlies effective program planning and implementation. It attempts to involve

citizens in the planning of projects and environmental alterations that affect them. The importance of [stakeholder] involvement is based on the belief that when people are affected by proposed projects they should be consulted. If they are, it is more likely that projects will accomplish what they have set out to do because peoples' concerns and needs have been addressed. [Stakeholder] involvement is a way both to collect information about significant social impacts and to involve the affected population in the impact decision. (Burge, 1987, cited in Aboud, 1989, p. 320)

[Stakeholder] involvement is concerned with [stakeholder] values and attitudes toward proposed projects as well as with equity issues. Ideally, [stakeholder] involvement occurs continuously throughout the entire planning and development process. It begins as public relations, which is simply a means to inform and educate the affected population about proposed actions both before and after development decisions have been made. This activity assists in the identification of problems associated with proposed projects and determines the attitudes, behavioral intentions, and needs of the affected population. In essence, this is [stakeholder] response. [Stakeholder] involvement can also act as a means of increasing project proponents' credibility and of lessening [stakeholder] resistance to change by providing it with a voice in the decision-making process (Aboud, 1989, p. 320)

The relatively new approach of using communication campaigns to involve stakeholders in environmental policymaking, environmental dispute resolution, is highly dependent on two-way participatory communication between policy makers and stakeholders. This form of environmental communication is critical because:

Rarely do affected individuals and organizations have the opportunity to participate directly in the decision-making process, to clarify or expand on their concerns, or to correct inappropriate responses to the issues they raised. Affected parties rarely have the opportunity to see how and where their concerns were incorporated, why some issues could not be incorporated, and how their [desires] affected the final decision. As people with a

stake in the final decision are separated further and further from the decision-making process, they are not only at a loss with respect to how their interests are incorporated, but more important, they are "in the dark" on the rationale for the final decision. Conversely, decision makers are put in the position of second-guessing the stakeholders' concerns, weighing and balancing tradeoffs, and hoping the affected parties will see the logic of the decisions and accept its outcome. In practice, however, there is often widespread dissatisfaction with both the decision-making process and its outcomes (McKinney, 1988, p. 335).

While critics may agree on the needs for reform of current policy making and communication processes, they differ markedly in their recommendations of the best strategies to accomplish this. We have grouped these criticisms into three categories: the outcome-oriented reformers, the process-oriented reformers, and the monistic reformers.

Most outcome-oriented reformers seem to support changes designed to render environmental policy making more instrumentally rational, objective, and scientific. One expression of this reform philosophy is the argument that risk-based policy making should replace current (ostensibly more political) strategies. Advocates of outcome-oriented policy making and communication are not, however, of uniform opinion regarding the relative roles of objective facts and stakeholders' subjective preferences.

Advocates of the process-oriented perspective tend to favor participatory policy making. They disagree with the outcome-oriented reformers' claim that gridlock can be avoided by substituting elite judgments and best available science for stakeholders' preferences. Process-oriented reformers argue that any attempt to circumvent or ignore stakeholder input would only exacerbate gridlock and further erode their trust and confidence in government and private sector proponents. Though members of this ideological group would agree that the ends of policy making do not justify the means, they, like the outcome-oriented reformers, are not a homogeneous group: they do not agree on the proper form or extent of stakeholder participation, particularly if said stakeholders are lay citizens.

Recently, a third perspective has arisen that seeks to address the gap between the outcome-oriented reformers' desire for objectivity and the process-oriented reformers' preference for direct stakeholder involvement, while maintaining the consensus goal of increasing efficiency and avoiding gridlock. In an

effort to eliminate the outcome-process dualism, monistic reformers seek reforms that retain a technocratic flavor, but yet acknowledge the legitimacy of social concerns. Such approaches often require the decision makers to attempt a separation of facts and values and to utilize methods that incorporate both in a quasi-objective decision function (cf., Hyman & Stiffler, 1988).

Participation in Environmental Policy Making

It is probably true that two-way communication for sustainable development can cause complications for policy makers. When stakeholders are offered the opportunity to participate in environmental decision-making, it is only natural for them to do so. It is also probably easier for policy makers to issue autocratic one-way commands and plan methods for sustainable development *for* stakeholders rather than *with* them. However, there is no denying the fact that two-way communication is the essential dialogue to solving the dilemmas of developing in an ecologically sustainable manner (cf., McLellan, 1987). When stakeholders are allowed to participate in the process of defining and implementing sustainable development plans and schemes, rather than being told by a higher authority what changes they should make and when to make them, the development process is accelerated (cf., McLellan, 1987) and more importantly, legitimated. Therefore, policy makers are "faced with the enormous task" of trying to understand and balance on one hand the "attitudes, values, and mentalities of stakeholders whose geographical, socio-cultural and economic conditions" have sometimes lead to a worldview other than that which would permit them to overcome their difficulties in a sustainable manner (Unesco, 1994, p. 2) with the need to accept and encourage input from these same individuals.

The resolution of the debate on how environmental policies and communication can be made more effectively will ultimately depend on the naturalistic recognition that there is no one approach that is appropriate in all contexts. Reconciliation of the proper roles of facts and values and the appropriate uses of coercion and persuasion depend, at least in part, on the certainty of the facts relevant to, and the degree of controversy surrounding, a policy proposal (Ashford, 1988). What seems necessary, then, is the development and endorsement of a flexible and practical set of guidelines to help environmental policy makers and communicators design and implement decision strategies and communication programs.

A relatively non-controversial premise for the development of these guidelines is that environmental policy making and communication should be a rational endeavor. This premise embraces the more inclusive

definition of "rationality" as offered by Perrow (1984, p. 315-328) (absolute, bounded, and cultural), or by Krimsky and Plough (1988, p. 302) (technical and cultural). Without the claim of rationality, it would be fruitless to develop this, or any, guide that could serve as a basis for the planning and design of a policy making strategy or communication program.

What may be more controversial is the claim that rational environmental policy making and communication should be based on "phronesis" (practical wisdom), defined by Aristotle as "the faculty in humans that enables them to discover what the correct action is in a given situation" (Angeles, 1992, p. 228). Given its myriad contexts, it is reasonable to contemplate the existence of contingent guidelines for effective environmental policy making and communication.

The third premise is that the issues that are the subject of environmental policy making are technically and socially complex. They usually involve the potential for the assumption or imposition of risk to human health, welfare, or the environment. Frequently, there is significant uncertainty (including ignorance and/or indeterminacy) surrounding the magnitude of these risks, the ability to manage them, and the existence, magnitude and distribution of compensating benefits. These factors can trigger emotional responses in policy stakeholders based on their aversion to risk, faith in technology, perceptions of fairness and justice, extent of institutional trust, judgments of the proper role of government, sense of community, and political ideologies, among others.

Perusal of these premises suggests that there can never be a "one best way" to make environmental policies or conduct communications. It is easy to imagine that strategies designed to encourage the adoption of "green" consumer behaviors would embody different intent, include different messages, and utilize different channels than would those concerning the siting of a new hazardous waste facility. Likewise, decision strategies appropriate in educating stakeholders about self-protective behavior in the face of domestic radon gas exposure would require different choices about means and ends than those concerning how best to conduct a hazardous waste site cleanup at a government facility.

A Model for Participatory Environmental Communication and Policy Making

Because communication about environmental policy making involves decisions about stakeholder participation it is, therefore, also unique regarding considerations inherent in its message design. Given that the inherent nature of environmental policy making and communication is complex, uncertain, normative, and contingent, and that democratic norms require that the

actions of the government be perceived as legitimate, environmental policy makers and communicators should be justifiably concerned with gaining the voluntary support of all stakeholders. Therefore, an environmental communication campaign must consider the levels of agreement surrounding an issue. Two types of agreement can guide an environmental communication campaign: scientific and social.

Scientific agreement refers to the extent to which the scientific community is in agreement about the facts surrounding an environmental issue or policy strategy. When the scientific community is in general agreement about the facts vis-a-vis the ramifications of either the issue or policy on the environment or humanity, a non-participatory communication approach may be used. In these situations, the purpose of the communication is to transmit technical factual information from the policy makers to the stakeholders.

In situations where the scientific community cannot reach agreement on the facts surrounding an environmental issue or policy strategy, a non-participatory communication approach is less defensible. Democratic-participatory approaches to the design of the communication should be used instead since the facts cannot facilitate agreement.

In most situations, it will not be an either-or dilemma. That is, the scientific community will not agree on all of the facts (absolute universal agreement), nor will it disagree on all of the facts (absolute universal uncertainty). Rather, there will be some mix of the two situations.

Social agreement refers to the extent to which stakeholders are in agreement with a preferred development strategy. The appropriate level of social agreement should be measured so that it represents the feelings and values of stakeholders where the impact of the strategy or communication will most likely be focused. When stakeholders are in general agreement, communication designed to induce behavior changes(s) is appropriate. On the other hand, when there is widespread disagreement among stakeholders, communication designed to encourage voluntary action is more appropriate. Communication campaigns, in this instance, should be used to build consensus before attempting to influence behavior.

As with scientific agreement, there is a range of situations, from complete stakeholder agreement to complete stakeholder disagreement. The middle ground, or some mix of stakeholder agreement and disagreement, will lead to the optimum utilization of participatory environmental communications.

Considerations of scientific and social agreement yields a 2 x 2 grid (See Figure 1). Quadrant 1 presents the situation in which the development of an environmental communication campaign's message

will occur in an atmosphere of scientific and social agreement. The message of a communication designed in this milieu should facilitate the implementation of the consensus development strategy.

Quadrant 2 presents the situation in which the development of an environmental communication campaign's message will occur in an atmosphere of scientific agreement but social disagreement. The message of communications designed in this milieu should be persuasive and educational to encourage support of the development strategy. Since there is social disagreement but scientific agreement, it would be appropriate to inform the stakeholders, so long as cultural norms and values are considered, of the importance of accepting the development strategy.

Quadrant 3 presents the situation in which the development of an environmental communication campaign's message will occur in an atmosphere of scientific uncertainty and social disagreement. Unfortunately, many environmental communication campaigns occur in just such an atmosphere. The purpose of a communication campaign designed in this milieu should be to encourage two-way communication to foster the development of a consensus between the policy makers and stakeholders. This type of consensus does not imply compromises, rather it implies the development of mutually acceptable solutions arrived at through two-way communication between the policy makers and other stakeholders.

Quadrant 4 represents the situation in which the development of an environmental communication campaign's message will occur in an atmosphere of scientific uncertainty but social agreement. This type of milieu is rare but not uncommon. The purpose of a communication campaign designed under such conditions is to maintain stability to ensure that behaviors and decisions represent stakeholder sentiment.

As this model illustrates, environmental communication must consider the context of the development strategy that is the motivation behind the communication campaign. Neither the value systems of the stakeholders nor the scientific facts possessed by the policy makers should solely guide the message development. It also illustrates that different contextual situations necessitate different environmental communication campaign strategies.

Neuman (1986) has provided an excellent illustration of the importance of considering both scientific and social perspectives when attempting environmental policy making with his study of personal values and commitment to energy conservation. In the report of his research he stated:

That [energy] conservation has not received unequivocal support over the past

decade can be attributed in part to the widely shared belief [value system] that conservation is inherently undesirable because it runs contrary to and thus threatens strongly held values (p. 54).

In other words, he suggested that despite some consensus, perhaps from the scientific community as well as some segment of society in general, the fact the energy conservation initiatives had been communicated in a fashion that did not consider the prevailing level of social consensus, or disconsensus, the initiatives had failed to achieve the level of success that would have been expected.

Effective environmental policy making and communication are indeed challenges. The goal of most, if not all, decision makers and communicators is to avoid strategies that produce adversarial stakeholder relationships and gridlock in favor of those that foster cooperative relationships and efficient problem-solving. Discovering and applying effective strategies is made more difficult by our frequent failure to recognize how personal values and organizational cultures shape the way we perceive issues and communicate about them. This chapter argues that effective policy making and communication should not depend on the value system of any particular stakeholder but rather on the context of the issues surrounding the decision or communication. It is offered in the spirit of moving the debate concerning appropriate environmental policy making and communication reforms from a dogmatic search for universal solutions to a pragmatic view of context-dependency.

References

- About, A.A. (1989). The role of public involvement in wildlife-livestock conflicts: the case of Narok ranchers in Kenya. *Society and Natural Resources*, 2: 319-328.
- Angeles, P.A. (1992). *The Harper Collins Dictionary of Philosophy*. New York: Harper Perennial.
- Ashford, N.A. (1988). Science and values in the regulatory process. *Statistical Science*, 3: 377-383.
- Atkinson, A. (1992). The urban bioregion as 'sustainable development' paradigm. *Third World Planning Review*, 14 (4): 327-354.
- Blahna, D.J. & Yonts-Shepard, S. (1989). Public involvement in resource planning: toward bridging the gap between policy and implementation. *Society and Natural Resources*, 2: 209-227.
- Cantrill, J.G. (1993). Communication and our environment: categorizing research in environmental advocacy. *Journal of Applied Communication Research*, 21 (1): 66-95.
- Dunlop, J. (1992). Lessons from environmental education in industrialized countries. In H. Schneider, J. Vinke, & W. Weekes-Vagliani, (Eds.), *Environmental education: an approach to sustainable development* (pp. 79-101). Paris: Organization for Economic Co-operation and Development.
- Gigliotti, L.M. (1990). Environmental education: what went wrong? What can be done? *Journal of Environmental Education*, 22 (1): 9-12.
- Hyman, E.L. & Stiffler, B. (1988). *Combining facts and values in environmental impact assessment: theories and techniques*. Boulder: Westview Press.
- Kempton, W. & Craig, P.P. (1993). European perspectives on global climate change. *Environment*, 35 (3): 16-20, 41-43.
- Keshishoglou, J.E. (1992). The development of human resources in communications: issues in forecasting and training. *Journal of Development Communication*, 3 (2): 1-5.
- Koch-Weser, C. (1993). Meeting the challenge of environmental degradation: an agenda for action. Speech made at the Ministerial Conference on the Environment in the Mediterranean Region, May 25, 1993, Casablanca, Morocco.
- Krimsky, S. & Plough, A. (1988). *Environmental hazards: communicating risks as a social process*. Dover, MA: Auburn House.
- Kunzmann, K.R. & Dericioglu, K.T. (1985). Environmental education and training in and for developing countries. *Third World Planning Review*, 7 (1): 61-72.
- Lamb, R. (1992). Editorial Comments. *Environmental Conservation*, 19 (3): 197-199.
- Fazio, J.R. & Gilbert, D.L. (1986). *Public relations and communications for natural resource managers*. Dubuque, IA: Kendall/Hunt.
- Maloney, M. & Ward, M.P. (1973). Ecology: let's hear from the people. *American Psychologist*, 28 (7): 583-86.
- McKinney, M.J. (1988). Water resources planning: a collaborative consensus-building approach. *Society and Natural Resources*, 1: 335-349.
- McLellan, I. (1987). Video and narrowcasting - TV for and by ordinary people: a review. *Journal of Educational Television*, 13 (1): 29-41.
- Meyer, A.J. (1992). Environmental education and communication: Pulling it all together. *Development Communication Report*, no. 76, p. 1.
- Mody, B. (1991). *Designing messages for development communication: an audience participation-based approach*. London: Sage Publications, Ltd.
- Neuman, K. (1986). Personal values and commitment to energy conservation. *Environment and Behavior*, 18 (1): 53-74.
- Orr, D.W. (1992). *Ecological literacy: education*

and the transition to a postmodern world. Albany, NY: State University of New York Press.

Perrow, C. (1984). *Normal accidents*. New York: Basic Books

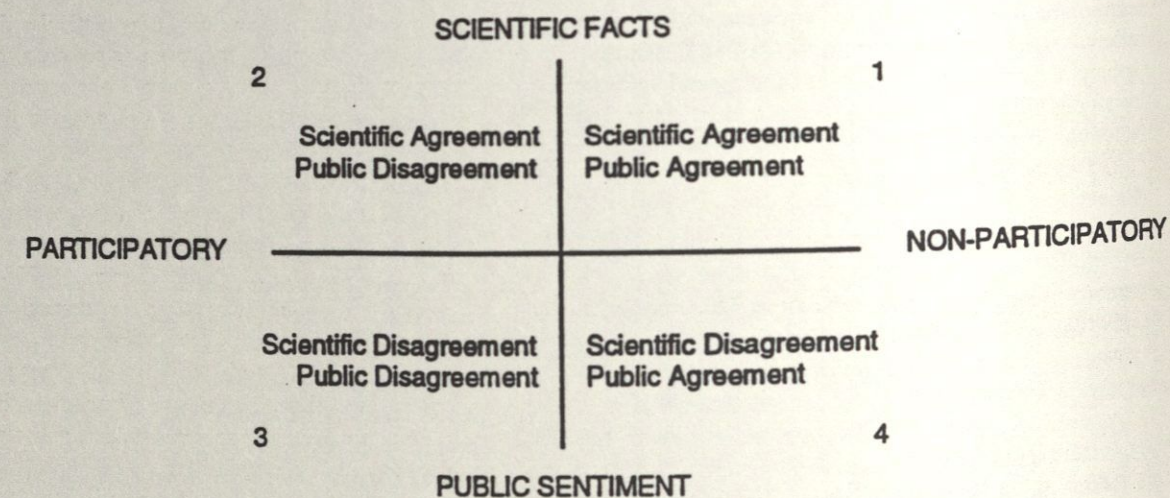
Schneider, H. (1992). Concepts and issues. In H. Schneider, J. Vinke, & W. Weekes-Vagliani, (Eds.), *Environmental education: an approach to sustainable development* (pp. 25-34). Paris: Organization for Economic Co-operation and Development.

Schoen, R.J. (1992). Fitting projects to people or people to projects? Paper presented at the Participatory Communication Research Network at the Bi-annual World Congress for the International Association for Mass Communication Research, San Paulo, Brazil, August 16-23.

Sitarz, D. (Ed.). (1993). *AGENDA 21: The Earth Summit strategy to save our planet*. Boulder, CO: EarthPress.

UNESCO. (1994). Water: an educational and informative approach. *Connect*, 19 (2): 1-3.

Figure 1: Guide to the design of environmental communication campaigns based on the need for stakeholder participation



Atomized Environmentalism: The Influence of Individualism on the American Environmental Movement

by Susan Weber Seybolt

Introduction

This paper explores the ways the cultural norm of individualism shapes the American environmental movement. I recognize the movement here as a historically complex set of interests and concerns that takes many different forms depending on the nature of the problem.¹ West Europeans characterize environmentalism as a "new" social movement that reflects the catastrophic potential of developments in advanced capitalism.² New social movement refrains from traditional politics, focuses environmentalism on symbolic grounds³ in which the construction of personal and collective identity is paramount.⁴

While there are numerous ideological factors deter Americans from more ecocentric thinking and behavior, such as anthropocentrism, materialism, and patriarchalism, I have selected individualism as an important factor of study for two reasons.⁵ First, many argue that individualism supersedes all the philosophies of freedom in the western world.⁶ Second, it is certainly pervasive in American culture and is believed to have pernicious consequences for the social fabric of society. I argue that while much of environmentalism's rhetoric is communitarian, the popularity and appeal of environmentalism is intrinsically individualistic.

The cultural hegemony of individualism and environmental consciousness are elements that go hand in hand to determine the way in which the individual relates to the environment. I liken individualism's imprint on environmentalism to what Claus Mueller calls "distorted communication" which describes all forms of restricted and prejudiced communication that by their nature inhibit a full discussion of problems, issues and ideas.⁷ This results in behaviors that I associate with Foucault's disciplinary society with its perpetual self-surveillance that assures the automatic functioning of power.⁸ Here the disciplinary practices of the environmentalist (reusing plastic bags; returning one's bottles; recycling one's plastic; newsprint and paper; purchasing organic produce and recycled material; and supporting environmental organizations) serve as a constant reminder of the ways we are a part of the process to heal the earth that do not however culminate in improved environmental quality.

Despite the preeminence of American individualism, the societal effects of a cultural commitment to individualism has not been sufficiently explored.⁹

Studies which focus on the intersection of individualism and environmentalism are virtually absent from the literature.¹⁰ This essay helps answer the question of why great emphasis has been placed on individuals adopting more ecologically sound lifestyles rather than on more important changes within political and economic institutions. It also points to how environmental action that is based on the transformation of individual values and identity is the ideal grounds through which mobilization can occur. But this must not be the substance and end of environmental activity, it is the beginning.

This paper does not so much seek to draw any practical recommendation of how a society that cherishes the individual can also protect something so inherently public as the environment, as it seeks to delineate areas where problems might be identified, and develop some issues for future contributors to address.

In the following section I explore the hegemony of individualism in America and its cultural affinity to environmentalism. I utilize a social constructionist perspective to focus on symbolic and micro-mobilization processes¹¹ which help to unite disparate theories. Symbolic processes emphasized by new social movement theory (Melucci, 1989) draw attention to *why* collective action occurs, while resource mobilization theory developed by McCarthy and Zald (1973, 1977) and Gamson (1968, 1975) focuses rather on *how* one organizes in relation to the availability and organization of resources, and the directed efforts of activists.¹² These theories become more closely aligned with the recognition that the viable presentation of a social problems is essential to social movements.¹³

Movements participate in a complex cultural process through which movement identity and problem definition are cultivated. The work of Gamson (1992; 1992a), and Snow and Benford (1992) reveal how particular forms of communication benefit from larger cultural themes.¹⁴ While this paper attests to the fact that meaning is produced outside and beyond the control of movement organizations environmentalism's role is crucial are movements are actively engaged in which "meaning will prevail".¹⁵

I examine individualism's relationship to mainstream environmental organizations as well as local initiatives.

Unlike the national organizations, many local organizations involve working class people and people of color reflecting their disproportionate exposure to environmental hazards at work and at home.¹⁶ Rose's (1994) notion of class-cultural theory provides an understanding of middle class and working class culture that can explain variation in environmental action. While local initiatives provide a different orientation to environmental problems, I argue that they are in some ways no less individualistic.¹⁷

Individualism

I associate individualism with individual self-interest, freedom and rights. In Donal Carbaugh's (1989) exploration of individuality in communication patterns in contemporary America, Carbaugh emphasizes the fact that individuals are commonly viewed to be constituted with rights. These rights are central to what it means to be an individual.¹⁸ Carbaugh indicates that the American reliance on individuality fractures social groups into individual units thereby obscuring important social differences.¹⁹ The notion of social inequality must therefore contend with a cultural response that denounces the relevance of social location and group difference.²⁰

Individualism can therefore imply reductions in social obligation and just claims of the community.²¹ Gans (1988) notes that the political left has most persistently juxtaposed the values, cohesiveness and identity of community with individualism.²² This trend has been accelerating in American society and other capitalistic societies which have increasingly preferred to ground public institutions in the individual.²³

Historically the concept of individualism was promoted by the Judeo-Christian emphasis on the ethical primacy of the person. It moved beyond its ethical boundaries, becoming a psychological and sociological theory concerning the relationship between humans and their institutions.²⁴ Individualism's hegemony as a cultural theory of human nature and rights is recognized as an outcome of the systemic theory of politics, society and economics that emerged following the Renaissance and that was consolidated in the great revolutions of the 17th and 18th centuries, which held that the essence of human behavior lies within man, not between man and society.²⁵ Thus the rise of capitalism was essentially based on this notion that the public interest could best be served through individual pursuit. This philosophy of individualism made sense in an age when the basic elements of social organization were strong and individuals stood in relationship to a larger religious, civic or socioeconomic whole.²⁶

The question of whether individualism, fueled by capitalist markets, threatens human well-being through

some fundamental ecological error is a serious one. As Gans (1988)²⁷ attests, individualism is problematic for social movements, but particularly for environmentalism for at the core, the environment is inherently collective. By definition, the environment is a public good.²⁸ That is, it is theoretically available to all; use by one person does not exclude use by another. Clean air and water are typical examples.²⁹ The environment is affected by this implied trajectory of societal disintegration. Solutions to environmental problems must be collective and be based on some degree of moral obligation.

Collective Action Frames

Social movements are said to suggest interpretative frameworks or collective action frames that offer a way of organizing and interpreting "the world out there" by encoding situations and experiences.³⁰ Drawing on Irving Goffman's notion of framing, Snow et al (1986) note how organizations link their construction of a social problem to existing cultural frames of potential supporters or targets of influence.³¹ Frames provide action-oriented beliefs and meanings which inspire social movement campaigns and practices.³² The notion of master frame is useful here in that it describes a complex set of ideas that reflect numerous movement organizations that may inform an entire cycle of protest.³³

Environmentalism, like all movements must identify the problem, attribute blame, and suggest a line of action and responsibility.³⁴ Snow and Benford argue the more central the ideas and meanings to the ideology of the targets of mobilization, the greater its salience within the larger belief system and the greater its "narrative fidelity."³⁵ The greater the resonance, the more compelling the frame.³⁶

Environmentalism is a reflection of the distinctively middle class membership of mainstream groups.³⁷ Individualism is also closely linked with the middle class.³⁸ Gamson notes, movement organizations may face the problem of overcoming a definition of the situation that they themselves may take as part of the natural order.³⁹ While a central task for the environmental movement ought to be framing environmental problems so that people realize the ultimate solutions lie in collective action rather than atomized responses, this might prove problematic if individualism proves to be a strong cultural factor for these middle class constituents.⁴⁰

The middle class association with individualism enables movement participants to believe in the efficacy of their actions. This is important since it is often difficult to find a place for the individual in environmental change. Environmental problems are highly abstract and often bear little resemblance to

individual's everyday lives and spheres of control. Fred Hirsch identifies environmentalism with 'the tyranny of small decisions' or the institutional failure to allow people to make the kind of long-term choices which would provide the kind of arrangement they would prefer.⁴¹

The framing of environmental concerns is daunted by the complex nature of the global environment, as well as by the complex social and economic problems surrounding issues of environmental equity that make it difficult to attribute blame. Gamson notes that in the case of media discourse on nuclear power very few targets for the development of an injustice frame are offered.⁴² Yet he warns if moral indignation is narrowly focused on human actors without acknowledging the broader structures in which they operate, injustice frames can be poor tools for collective action, leading to ineffectiveness, perhaps creating new victims of injustice. In the U.S. Northwest old growth controversy, the lumbermen became the enemy of nature. Strong corporate interests were not identified as culprits even though they were a primary vehicle of constraint in working out solutions.⁴⁴

The communitarian rhetoric of the environment expressed in terms of "one earth" enables the movement to attract those who would not otherwise be drawn into the core of the movement. This has resulted in a problematic environmental politics since a wide disparity in quality of the environment exists between social groups. Environmentalism need not be a divisive or diversionary issue against social equality. But when solutions are proposed that blame everyone and therefore assume everyone must make sacrifices, such a blanket inclusion of guilt obscures the wide disparity of privilege as well as the regressive social consequences of environmental protection measures.⁴⁵ For example, the Clean Water Act mandated water to be "fishable and swimmable" -- benefits that go to the upper middle class who are more likely to participate in these activities.⁴⁶

There are inherent conflicts about how "we" want this relationship with the environment to be structured that impinge on individual rights. These conflicts are economic and are reflected in political, and social disputes. These disputes are over who will be denied access to ecosystems in order to protect the environment and 2) who will bear the cost for this scarcity of access through fines, jobs, wages, social welfare reductions or health risks.⁴⁷ Social and political resistance to continued environmental degradation must recognize these conflicts and become more organized in collective forms or the environmental and social equity agendas will not call into serious question the dominant groups's paradigm.⁴⁸

To understand the relatively naive conceptualization

of environmental problems, I follow Rose (1994) who builds on the new class, new social movement and cultural shift theories to develop a class-cultural theory that provides an understanding of new social movements which incorporates both working class interests and middle class values in explaining social action.⁴⁹ Reflected in environmental discourse, the working class focus on the pursuit of immediate interests while the middle class is likely to explain their positions in strong moral language, through education about values that are an outgrowth of their class based system.⁵⁰ His focus on the relationship between values and interests to make sense of class in movement politics is relevant to understanding the class differences between individualism and environmentalism as they relate to mainstream and local initiatives.

National Environmental Organizations

The middle class composition of environmentalism is reflected in the major support base of nationally organized environmental groups.⁵¹ Due to the social and political position of nationally organized environmentalists, they rely primarily on middle-class tactics, that is, on legislation, legal action, and administrative negotiations to seek adequate funding, force compliance and tighten regulations.⁵² Importantly, industry and environmental organizations have forged new relations that encourage individualistic, market-based initiatives and pollution credits in lieu of state and federal regulation.⁵³

Membership "involvement" has occurred primarily through financial contributions. Having limited use for their members, national environmental organizations have emphasized autonomous citizen recognition of excessive environmental degradation and "changing values" in terms of one's individual ideology and lifestyle. These groups argue that a value consensus must be mobilized to affect state action.

In their day to day business most environment groups have generally framed environmental issues in a pragmatic way that avoids alienating supporters. Many organizations have an education component that helps to increase public demand and broaden their political base of support by appealing to a mix of individualistic and communitarian values. Calls to action reflect individualistic practices. For example, green consumerism has been encouraged by virtually all national groups.⁵⁴ Movement organizations fail to link environmental problems with the operation of the treadmill of production.⁵⁵ For example, environmental organizations now provide credit cards for their members. By using a card issued by an environmental movement organization individuals believe they are supporting environmental action because 5 cents of every dollar goes to environmental movement.

However 95 cents goes to support the treadmill of production.⁵⁶ This can lead to efforts devoted to treating rather than preventing pollution.

This is not to say empowering the individual is unimportant. Green consumerism gives individuals that are alienated from the political process something to do. It serves mobilization, motivational and educational functions. It may also maintain their motivation for environmental protection and is a first step to a broader and deeper understanding of environmental issues.⁵⁷ However, because of emphasis on the individual, environmental degradation has become viewed by the membership as equally associated with consumption and production.⁵⁸ Deciding whether production or consumption institutions exert primacy in the processes of economic expansion and resulting ecological degradation is essential to formulating solutions to environmental problems. Production is responsible for a far greater portion of resource use and polluting effluent than consumption (the tail doesn't wag the dog), and is therefore the source of most environmental degradation.⁵⁹

However, when individuals are encouraged to develop an environmental critique that emphasizes industrial and capitalistic practices, such a broad emphasis makes it difficult to empower people as agents of change. To this problematic can be added an organizational one. If the movement framed environmental degradation as a consequence of our production processes it would challenge much of its corporate support and thus risk losing one of its support bases.

Not only has the mainstream as a whole failed to address production institutions, it has unwittingly contributed to class and racial divisions as well. National organization's refraining from grassroots involvement,⁶⁰ contributes to the disenfranchisement of constituencies separated from national environmentalism. Toxic waste activists argue that mainstream organizations place too much emphasis on individuals in terms of changing personal habits and usages while ignoring the role of corporate polluters and government.⁶¹ These organizations also discouraged those who do not see the efficacy in ideological and lifestyle change, as the middle class does. As Croteau (1995) indicates in his analysis on working class politics, strict appeals to values does not resonate with most working people who possess neither the guilt nor the sense of responsibility that seems to be associated with middle class value based actions.⁶²

Grassroots Environmentalism

In recent years grassroots environmentalism has been increasingly viewed as the heart of the environmental movement. Grassroots environmentalism has evolved into three overlapping levels of

organization; community-based groups, regional or statewide coalitions, and national organizations.⁶³ National networks such as the Citizen's Clearinghouse Against Hazardous Waste serve as sources of inspiration rather than exhibiting influence over local groups.⁶⁴ Local community organizations constitute the foundation of the movement and are typically formed in response to a local environmental problem such as a planned incinerator, location of a dump, or identification of contamination in a community or other environmental threat. While they may draw on resources from the national organizations, they are typically comprised of volunteers.⁶⁵

Many local organizations involve poor, working class people and people of color, reflecting their disproportionate exposure to environmental hazards at work and at home.⁶⁶ Participation in environmental issues however tends to be limited to defensive actions aimed at nimbyism (not-in-my-backyard). While activism starts from a base of personal, localized experience, action occurs within a breach in one's individual rights as well as in a breach of one's sense of community.⁶⁷ Despite numerous obstacles, it is here where mobilization potential exists.

Research shows that involvement in local environmental organizations does not necessarily generalize into larger environmental concerns. Toxic waste, for example, is considered a local problem with marked differences between affected and unaffected communities.⁶⁸ While there are numerous obstacles that undermine collective action at the local level, individualism can help explain this occurrence.⁶⁹ Research has demonstrated that individualistic orientations are clearly expressed and appear to influence public perceptions and responses to situations where communities are involved in chemical contamination.⁷⁰

Fitchen argues that individualism shapes the responses to groundwater pollution, and the acceptability of groundwater protection strategies. Fitchen notes that the effect of individualism results not only in a feeling that the individual is unique, but that the community, seen as a collective of individuals, is also unique.⁷¹ It appears therefore that the predisposition to individualistic thinking leads members of a community to feel there is little benefit from communities learning from each other about environmental problems or sharing information.⁷² It is possible that the breakdown of community implied by individuation will even prevent communities from working on local environmental initiatives.⁷³

It is difficult to imagine mechanisms that will allow environmentalism to express ways in which the collectivity is prior to rights of the individual. As Gans argues, American communities lack the incentives and facilitating institutions that would make them come

together regularly.⁷⁴ In short it is difficult to discover a positive frame for environmental organizations to adopt without challenging the individualistic view of the world that permeates our culture.

Conclusion

I have tried to demonstrate individualism's imprint on the environmental movement and associated it with the movement's inability to contend with the primacy of individual rights. Unlike other movements categorized as new social movements, environmentalism faces significant hurdles given that effective policy translates into the curtailment of particular personal rights. The lack of appeal of limiting rights has lead movement rhetoric to promote the idea that the environment can be improved by adjusting one's ecological lifestyle.

The globalization of environmental problems, such as acid rain, ozone depletion and global warming limit the effectiveness of consumer-based and grassroots strategies represented by the national and local environmental organizations. The question remains, what can the environmental movement do about the economic nature of environmental problems, the increasing complexity of advanced technology, and the lack of explanation and data for global systems problems such as global warming and ozone depletion? There is some special balance that must be struck between empowering the individual environmentalist and having his involvement result in a minimally effective individualistic solution for a collective problem.

Research suggests that movements that have organized to protect their backyards are now seeking to protect all people against waste hazards through minimal environmental discharge, on-site mobile disposal and banning of dangerous chemicals and metals.⁷⁵ Brown and Masterson-Allen argue that a number of toxic waste activists come to understand their local problems in a larger context. They suggest that while local environmental activists may not have a global vision anticipated by new social movement theory, disruptions in their taken for granted world make the next stage possible.⁷⁶

The environmental justice approach is being taken up by many organizations does provide some hope. Capek identifies an "environmental justice frame" that is built around a concept of rights through actions and rhetoric of previous social justice movements.⁷⁷ Stella Capek argues that the actions and thoughts of those involved in environmental justice have helped alter the strategies and conceptual language of environmentalism to challenges the distribution of power and stratification based on race, class and gender.⁷⁸ Because master frames may be modified or transformed as they are appropriated by one social move-

ment after another in a protest cycle⁷⁹ it is possible that the environmental justice frame may provide an opportunity for change. I believe the identification of individualistic and communitarian themes and counter-themes provide the foundation for building this frame. As Gamson argues symbolic strategies must demonstrate the link between a collective action frame and the broader cultural counterthemes with which it resonates. But he warns this does not complete an integrated resource strategy; people must also connect personal and shared experiential knowledge with public discourse. But the task is considerably easier if some helpful bridge is provided.⁸⁰

Bibliography

- Allison, Lincoln. *Ecology and Utility*. Madison: Fairleigh Dickinson University Press, 1991.
- Babbie, Earl. *The Practice of Social Research* Sixth Edition. Belmont Cal: Wadsworth Publishing Co., 1992.
- Bellah, Robert, Richard Madsen, William M Sullivan, Ann Swinler and Steven M. Tipton eds. *Habits of the Heart*. New York: Harper and Row, 1985.
- Bowman, Douglas. *Beyond the Modern Mind*. New York: The Pilgrim Press, 1990.
- Brown, Phil and Susan Masterson-Allen. "Toxic Waste Movement: A New Type of Activism." *Society and Natural Resources*. (7) 1994:269-287.
- Bullard, Robert. "The Politics of Pollution: Implications for the Black Community." *Phylon* XLVII 1 (March 1986): 71-78.
- Buttel, Frederick H. and Oscar W. Larson. "Whither Environmentalism? The Future Political Path of the Environmental Movement." *Natural Resources Journal* 20 (1980):323-344.
- Capek, Stella. "The Environmental Justice Frame: A Conceptual Discussion and an Application." *Social Problems* 40 (Feb 1993) 5-24.
- Carbaugh, Donal. *Talking American*. Norwood, New Jersey: Ablex Publishing Corporation, 1989.
- Catton, William R Jr., Gerhard Lenski and Frederick H. Buttel, "To What Degree is a Social System Dependent on Its Resource Base?" in *The Social Fabric* ed. James Short, 165-186. Beverly Hills, California: Sage, 1986.
- Cotgrove, Stephen. *Catastrophe or Cornucopia: The Environment, Politics and the Future*. New York: John Wiley, 1982.
- Croteau, David. *Politics and the Class Divide*. Philadelphia: Temple University Press, 1995.
- Daly, Herman and John B. Cobb, Jr. *For the Common Good*. Boston: Beacon Press, 1989.
- Dowie, Mark. "The New Face of Environmen-

talism," *Utne Journal* July/August 1992, 104-111.

Dunlap, Riley and Angela G. Mertig, eds. *American Environmentalism*. Philadelphia: Taylor and Francis Publishing, 1992.

Eckersley, Robyn. *Environmentalism and Political Theory*. Albany, State University of New York, 1992.

England, Richard and Barry Bluestone in *Toward a Steady-State Economy*, ed. Herman Daly, 190-211. San Francisco: W. H. Freeman, 1971.

Faber, Daniel and James O'Connor. "The Struggle for Nature: Environmental Crisis and the Crisis of Environmentalism in the United States." *Capitalism, Nature and Socialism* 1 (Summer 1989): 12-39.

Fitchen, Janet. "Cultural Aspects of Environmental Problems: Individualism and Chemical Contamination of Ground Water." *Science, Technology, and Human Values* 12 (Spring 1987): 1-12.

John Bellamy Foster. "The Limits of Environmentalism without Class: Lessons for the Ancient Forest Struggle of the Pacific Northwest." *Capitalism, Nature, Socialism* 4(1) March 1993.

Foucault, Michel. *Discipline and Punish*. New York: Vintage Books, 1979.

Fox-Genovese, Elizabeth. *Feminism without Illusions*. Chapel Hill: University of North Carolina Press, 1991.

Freudenberg, Nicholas and Carol Steinsapir. "Not in Our Backyards: The Grassroots Environmental Movement," in *American Environmentalism*, eds. Riley Dunlap and Angela Mertig, 27-35. Philadelphia: Taylor and Francis Publishing, 1992.

Fuller, Robert. *Ecology of Care*. Louisville, Kentucky: Westminster/John Knox Press, 1992.

Gale, Richard P. "The Environmental Movement and the Left: Antagonists or Allies?" *Social Inquiry* 53 (Spring 1983): 179-197.

Gamson, William. "The Social Psychology of Collective Action," in *Frontiers in Social Movement Theory*, ed. Aldon D. Morris and Carol McClurg Mueller, 53-76. New Haven, Yale University Press, 1992a.

Gamson, William. *Talking Politics*. Cambridge, England: Cambridge University Press, 1992.

Gans, Herbert J. *Middle American Individualism*. New York: The Free Press, 1988.

Hamilton, Lawrence C. "Concerns about Toxic Wastes: Three Demographic Predictors." *Sociological Perspectives* 28 (October 1985): 463-486.

Hays, Samuel. *Beauty, Health and Permanence*. New York: Cambridge University Press, 1987.

Humphrey, Craig and Frederick Buttel. *Environment, Energy and Society*. Belmont, California: Wadsworth Publishing, 1982.

Ingram, Helen and Dean E. Mann, "Interest Groups

and Environmental Policy," in *Environmental Politics and Policy*, ed. James P. Lester. Durham: Duke University Press, 1989, 135-157.

Levin, Jack and James Spates, "Hippie Values: An Analysis of the Underground Press" in *The Research Experience*, ed. Patricia M. Golden, 390-399. Itasca, Illinois: Peacock Publishers, 1976.

Martel, Luke. *Ecology and Society*. Amherst: University of Massachusetts Press, 1994.

Masterson-Allen, Susan and Phil Brown. "Public Reactions to Toxic Waste Contamination: Analysis of a Social Movement." *International Journal of Health Services* 20 (1990): 485-500.

Melucci, Alberto. "Getting Involved: Identity and Mobilization in Social Movements." In *From Structure to Action: Comparing Movement Participation Across Cultures*, ed. Bert Klandermans, Hans Kriesi, and Sid Tarrow, International Social Movement Research, Vol 1, 329-348. Greenwich, CT: JAI Press.

Melucci, Alberto. *Nomads of the Present*. Philadelphia: Temple University, 1989.

Mitchell, Robert C. "The Public Speaks Again: A New Environmental Survey." *Resources* 60 (September-November 1978): 1-6.

Mitchell, Robert C. "National Environmental Lobbies and the Apparent Illogic of Collective Action," in *Collective Decision Making*, ed. Clifford S. Russell, 87-136. Baltimore: The Johns Hopkins University Press, 1979.

Mueller, Carol McClurg. "Building Social Movement Theory In *Frontiers in Social Movement Theory*, ed. Aldon D. Morris and Carol McClurg Mueller, 3-25. New Haven, Yale University Press, 1992.

Mueller, Claus. *The Politics of Communication*. New York: Oxford University Press, 1973.

Nisbet, Robert. *The Quest for Community*. San Francisco: The Institute for Contemporary Studies, 1990.

Olsen, Marvin E., Dora G. Lodwick and Riley E. Dunlap. *Viewing the World Ecologically*. Boulder: Westview Press, 1992.

Pilgrim, Hugh. "Environmentalism, Racism and Social Justice." *The Elimu Drum* (1989): 6-7.

Reich, Robert. *The Work of Nations*. New York: Random Books, 1991.

Rose, Fred. "Towards A Class-Cultural Theory of Social Movements: Reinterpreting New Social Movements." 1994. (unpublished paper)

Roush, G. Jon. "Conservation's Hour -- Is Leadership Ready?" in *Voices from the Environmental Movement*, ed. Donald Snow, 21-40. Washington D.C.: Island Press, 1992.

Schnaiberg, Alan. *The Enduring Conflict*. New

York: St. Martins Press, 1994.

Schnaiberg, Alan. *The Environment: From Surplus to Scarcity*. New York: Oxford University Press, 1980.

Scott, Alan. *Ideology and the New Social Movements*. Boston: Unwin Hyman, 1990.

Seneca, Joseph. "Economic Issues in Protecting Public Health and the Environment" in *Public Health and the Environment*, ed. Michael R. Greenberg. New York: The Guilford Press, 1987. 351-374.

Shabecoff, Philip. "Environmental Groups are Told they are Racist in Hiring." *New York Times* 1 February 1990, 20(A).

Shabecoff, Philip. *A Fierce Green Fire*. New York: Hill and Wang, 1993.

Shapiro, Stewart. "Environmental Protection for Whom?" *Social Policy* 10 (May 1979): 24-28.

Snow, David and Robert Benford. "Master Frames and Cycles of Protest," in *Frontiers in Social Movement Theory*, ed. Aldon D. Morris and Carol McClurg Mueller, 133-155.

Vanneman, Reeve and Lynn Weber Cannon. *The American Perception of Class*. Philadelphia: Temple University Press, 1987.

Walsh, Edward. "New Dimensions of Social Movements: The High-Level Waste-Siting Controversy." *Eastern Sociological Society* (1988): 586-605.

Wolfe, Alan. *Whose Keeper?* Berkeley: University of California Press, 1989.

Yearly, Steven. *The Green Case*. London: HaperCollins Academic: 1991.

Notes

1. While I focus on movement organizations, individuals that identify with environmentalism are not excluded from this conceptualization.

2. Edward Walsh. "New Dimensions of Social Movements: The High-Level Waste-Siting Controversy." *Eastern Sociological Society* (1988), 593.

3. These symbols are associated with clothes, taste, behavior and lifestyle. Luke Martel, *Ecology and Society*. (Amherst: University of Massachusetts Press, 1994), 121.

4. Alberto Melucci. "Getting Involved: Identity and Mobilization in Social Movements." In *From Structure to Action: Comparing Movement Participation Across Cultures*, ed. Bert Klandermans, Hans Kriesi, and Sid Tarrow, International Social Movement Research, (Vol 1, Greenwich, CT, JAI Press,) 342.

5. Ecocentrism regards the question of the human place in nature as logically prior to human social and political interests and necessities (Eckersley, 1992, p.28).

6. Douglas Bowman. *Beyond the Modern Mind*.

(New York: The Pilgrim Press, 1990), 17-18.

7. Claus Mueller. *The Politics of Communication*. (New York: Oxford University Press, 1973), 19.

8. Michel Foucault, *Discipline and Punish*. (New York: Vintage Books, 1979), 209.

9. Recent sociological works on American individualism include Robert N. Bellah et al, *Habits of the Heart*, Robert Nisbet's *The Quest for Community* and Charles Derber's *Money, Madness and the American Dream*.

10. Janet Fitchen has responded to this absence by examining individualism and environmentalism in relation to chemical contamination. Janet Fitchen. "Cultural Aspects of Environmental Problems: Individualism and Chemical Contamination of Ground Water." *Science, Technology, and Human Values*. (12 Spring 1987), 2.

11. Micromobilization connects individual and sociocultural levels concerned with identity, solidarity and consciousness (Gamson, 1992a, p. 55).

12. Meaning, ideology and identity are minimized by resource mobilization. Carol McClurg Mueller. "Building Social Movement Theory In *Frontiers in Social Movement Theory*, ed. Aldon D. Morris and Carol McClurg Mueller. (New Haven, Yale University Press, 1992, 5.

13. Stella Capek. "The Environmental Justice Frame: A Conceptual Discussion and an Application." *Social Problems* (40 Feb 1993, 6.

14. David Snow and Robert Benford. "Master Frames and Cycles of Protest," in *Frontiers in Social Movement Theory*, ed. Aldon D. Morris and Carol McClurg Mueller, 133-155. William Gamson. "The Social Psychology of Collective Action," in *Frontiers in Social Movement Theory*, ed. Aldon D. Morris and Carol McClurg Mueller, New Haven: Yale University Press, 1992a) and William Gamson. *Talking Politics*. Cambridge, England: Cambridge University Press, 1992.

15. Social movements struggle with a competing legitimating interpretation of a problem. Gamson, *Frontiers*, 71, 67-68.

16. Robert Bullard, "The Politics of Pollution: Implications for the Black Community." *Phylon* XLVII 1 (March 1986): 78.

17. Fred Rose. "Towards A Class-Cultural Theory of Social Movements: Reinterpreting New Social Movements (1994), 35-36.

18. Donal Carbaugh. *Talking American*. (Norwood, New Jersey: Ablex Publishing corporation, 1989), 25.

19. Ibid, 23, 39.

20. Gamson, *Frontiers*, 86-87.

21. Elizabeth Fox-Genovese. *Feminism without Illusions* (Chapel Hill: University of North Carolina

Press, 1991), 7-8.

22. Gans, Herbert J. *Middle American Individualism*. (New York: The Free Press: 1988), 102.

23. Fox-Genovese, 38. My conceptualizations follow the work of Bellah et al, 1985; Davis, 1990; Derber, 1992; Reich, 1992; Wolfe, 1992 who contend that a breakdown in community is occurring in the U.S.

24. Robert Nisbet. *The Quest for Community* (San Francisco: The Institute for Contemporary Studies, 1990), 202.

25. Ibid, 203.

26. Ibid, 205. Robert Fuller. *Ecology of Care* (Louisville, Kentucky: Westminster/John Knox Press, 1992), 99.

27. Gans, 44. Gans argues that movements are at odds with the tenets of what Gans calls middle american individualism, that is the largely white "working" Americans (Gans, 1988, p.77).

28. While goods like clean air and water are in principal available to all, there is widespread disparity between effected and unaffected communities in terms of race and class.

29. Herman Daly, and John B. Cobb, Jr. *For the Common Good* (Boston: Beacon Press, 1989), 51. Robert Mitchell sees environmental problems as a public "bad". The "no exit" quality of environmental problems is viewed as an important and unique element that alters the "free rider" problem social movements must condend with (Mitchell, 1979, p.99).

30. Snow and Benford, 137.

31. Mueller, 13-14.

32. Gamson, *Talking Politics*, 7. As Gamson sees it, collective action frames are injustice frames (Gamson, 1992a, p.68).

33. Snow and Benford, 138.

34. Ibid, 137.

35. Ibid, 141.

36. Ibid, 141.

37. The middle class are those people whose economic and social position is based primarily on education, and salaried positions. (Vanneman and Cannon, 1987, 61).

38. Robert Bellah, Richard Madsen, William Sullivan, Ann Swinler and Steven M. Tipton eds. *Habits of the Heart*. (New York, Harper and Row, 1985), 148.

39. Gamson, *Frontiers*, 68.

40. Middle class values tend to specify future oriented behaviors, especially rational efforts to increase economic profits and occupational status through formal education and hard work. (Levin and Spates, 1976, p.391-392).

41. Lincoln Allison. *Ecology and Utility*. (Madison:

Fairleigh Dickinson University Press, 1991), 85.

42. Gamson, *Talking Politics*, 54.

43. Ibid, 33.

44. For a detailed analysis See John Bellamy Foster. "The Limits of Environmentalism without Class: Lessons for the Ancient Forest Struggle of the Pacific Northwest *Capitalism, Nature, Socialism* 4(1) March 1993.

45. Stewart Shapiro. "Environmental Protection for Whom?" *Social Policy* (10 May 1979), 27-28.

46. Joseph Seneca. "Economic Issues in Protecting Public Health and the Environment" in *Public Health and the Environment*, ed. Michael R. Greenberg (New York: Guilford Press, 1987), 372.

47. Alan Schnaiberg. *The Enduring Conflict*. (New York: St. Martins Press, 1994), 137.

48. Ibid, 139.

49. Rose, 35-36.

50. Ibid, 30, 38.

51. Frederick Buttel, and Oscar W. Larson. "Whither Environmentalism? The Future Political Path of the Environmental Movement," *Natural Resources Journal* 20 (1980): 326. Stephen Cotgrove. *Catastrophe or Cornucopia: The Environment, Politics and the Future* (New York: John Wiley, 1982), 97.

52. Richard Gale, "The Environmental Movement and the Left: Antagonists or Allies?" *Social Inquiry* 53 (Spring 1983): 184.

53. For example the National Wildlife Federation formed a "corporate council" enabling industry and environmentalists to sit down and discuss tough environmental issues together (Shabecoff, 1993, p. 259). See also Mark Dowie. "The New Face of Environmentalism," *Utne Journal* July/August 1992, 109.

54. Steven Yearly. *The Green Case*. (London: HaperCollins Academic, 1991), 104.

55. Schnaiberg, 1994, 98. The treadmill of production is a term derived from economist John Galbraith's view of how our present materialist and consumer oriented society operates.

56. Ibid, 95.

57. Luke Martel. *Ecology and Society*. (Amherst: University of Massachusetts Press, 1994), 69, 186.

58. Members of national environmental organizations are no quicker to blame industry (97%) than general carelessness of people (96%) when rating cause of environmental problems (Ingram and Mann, 1989, p.141).

59. Alan Schnaiberg. *The Environment: From Surplus to Scarcity* (New York: Oxford University Press, 1980), 151. Many of the national environmental

organizations have no local chapters. Furthermore, before a 1976 law change environmental groups were not permitted to spend their income on direct legislative activity, including appealing to members for political action (Hays, 1987, p.464).

60. Many of the national environmental organizations have no local chapters. Furthermore, before a 1976 law change environmental groups were not permitted to spend their income on direct legislative activity, including appealing to members for political action (Hays, 1987, p. 464).

61. Phil Brown and Susan Masterson-Allen. "Toxic Waste Movement: A New Type of Activism." *Society and Natural Resources*. (7, 1994), 273.

62. David Croteau. *Politics and the Class Divide*. Philadelphia: Temple University Press, 1995, 121.

63. Nicholas Freudenberg and Carol Steinsapir. "Not in Our Backyards: The Grassroots Environmental Movement," in *American Environmentalism*, eds. Riley Dunlap and Angela Mertig (Philadelphia: Taylor and Frances Publishing, 1992), 28.

64. Brown and Masterson-Allen, 272.

65. Citizens' groups have formed in opposition to local toxic wastes, and have emerged as a significant grass-roots movement (Hamilton, 1985, p.463). Some 5,000 groups are active today in both urban industrial areas and rural areas. It is a significant movement for the participation it demands in scientific and technological decision-making (Masterson-Allen and Brown, 1990).

66. Robert Bullard, "The Politics of Pollution: Implications for the Black Community." *Phylon* XLVII 1 (March 1986): 78.

67. Brown and Masterson-Allen, 279.

68. Lawrence Hamilton, "Concerns about Toxic Wastes: Three Demographic Predictors." *Sociological Perspectives* 28 (October 1985): 485. This is despite the fact that one in twenty U. S. citizens has the same zip code as a toxic waste site, and half of all citizens live in counties with toxic waste dumps (Anderson, 1987, p.45).

69. See Stella Capek (1993) for an explanation of these factors.

70. Fitchen, 2.

71. This is found to be a common assumption in American communities (Fitchen, 1987, p.5).

72. Fitchen, 5. See also Stella Capek, 1993, p.11.

73. Reich indicates that the majority of Americans now live in suburbs, commuting and socializing on some other basis than geography, though they do share common political concern regarding property values (Reich, 1991, p. 277).

74. Gans, 113.

75. Brown and Masterson-Allen, 272. See also Stella Capek, 1993.

76. Brown and Masterson-Allen, 272.

77. Capek, 6.

78. Ibid, 5.

79. Mueller, 17.

80. Gamson, *Talking Politics*, 185.

Puffery in "Green" Advertising Claims: Its Effect on Consumer Behavior in a Focus Group Setting

by Tommy V. Smith and Patricia Mark

Introduction

The surge of environmental consciousness that followed the first Earth Day in 1990 spread rapidly across the United States. Many consumers immediately began seeking recycled paper products, cloth diapers, organic baby food, natural cosmetics and non toxic household cleaning products (Scerbinski, 1991). According to Elkington, Hailes and Makower (1990), "the products and services you buy need not be so destructive to the environment" (p. 5). Because of this heightened awareness for the environment, many consumers readily claimed they were will to change their buying habits and pay more products in order to help protect the planet (*Consumer Reports*, 1991).

Many manufacturers of consumer goods across the country responded with lightening speed and began repositioning their companies to take advantage of new consumer attitudes. The percentage of newly packaged products making a "green" claim more than doubled between 1989 and 1990. For example, Procter & Gamble introduced a 1-800 number for consumers of Pampers and Luvs disposable diapers with "green" claims to call to find out what steps the company took in the manufacture of the products in order to help protect the environment. Procter and Gamble's overall efforts to help save the environment was labeled as their "Total Quality Environmental Management" program. As a follow-up, Procter & Gamble then sent the callers information on how the company reduced the bulk of their disposable diapers by almost 40%.

Statement of the Problem

The "green" claim trend in consumer product packaging has continued until today. However, until recently, the consumer had to evaluate the 'green' product claims without specific guidelines or regulation. A poll, conducted by the J. Walter Thompson advertising agency of New York, found that 85% of respondents preferred a product labeled "biodegradable" over one that was not even though two thirds of the respondents surveyed were not completely sure what the term meant (*Consumer Reports*, 1991).

Other research of consumer confusion over environmental claims is evident. According to a survey conducted by Environment U. S. A., consumers believe most environmental terms on product

packaging are positive signs; though they are confused about what the terms signify. The survey results of 2000 adults also indicated that consumers are generally confident when they see such terms as recyclable, recycled or biodegradable on product packaging or labeling. In addition, the respondents believed that products with "green" claims are safer for the environment than competing products without such terms (*Advertising Age*, 1991). Because of confusion over "green" claims on products and in advertising and sales promotion, there has been an outcry for regulation by the Federal Trade Commission (FTC).

Trying to Distinguish Puffery from Deception

The FTC has attempted to examine and regulate advertising claims (Preston, 1967, Preston, 1971). During the 1971 through 1974 period, the FTC conducted research which indicated that neither periods of regulation or deregulation appeared to uniformly correlate with the degree of puff or grossly exaggerated claims found in consumer advertising. The FTC's stance, which was crafted by FTC Bureau of Consumer Protection member Harold Kassarian, Ph.D., during the period stated that advertising with puffery was sufficiently credible and did not need to be labeled as deceptive. However, studies have cast doubt on puffery's so-called non-effect on consumers (Christians, Rotzoll and Fackler, 1991, Preston, 1975).

In the 1975 through 1979 era, the FTC was criticized for its stance on puffery and deception by new bureau member Ivan Preston, Ph.D. Preston, through his research, made a great contribution to the truth in advertising movement through his research on puffery in advertising. Preston (1975), contends that puffery depends for its effect on the inferences drawn by consumers. The puffed claim may be innocent enough, but receivers may infer beyond the content of the message according to Preston. Preston also states that by allowing consumers to use their imagination, these soft sell puffed advertising claims have the potential to deceive consumers and injure the credibility of advertising.

In the 1980s and early 1990s, the debate over puffery and deception has continued. Studies by Mandese (1991), Schlosser (1991), Scerbinski (1991), Wyckham (1987), Pope (1991) and Yi (1990) have all examined consumers' confusion over puffery

and deception in advertising. Consumers, however, want truthful statements in advertising. Advertisers are now being challenged to "straighten up, tell the truth and not make outrageous claims" (Schlosser, 1991, p. 1).

Argument

In the 1990s, "green" marketing claims have become so confusing and ambiguous that many federal regulators, consumer advocacy groups, and independent research organizations are all now probing consumers' and competitors' complaints and concerns alike. The National Advertising Division of the Council of Better Business Bureaus, for example, continues to investigate claims that puffery has been linked to "green" advertising claims. Simmons Market Research Bureau, Inc. (SMRB), an independent marketing and advertising research firm, has examined the confusing "green" claims. According to Simmons Market Research Bureau (1992), in terms of the broader environmental issues and terms, there is still wide disagreement and different attitudes among American consumers (p. 6). The FTC has even received petitions to issue environmental guides from consumer and industry groups, environmental organizations, state and local governments, trade associations and the Environmental Protection Agency (EPA). A pamphlet entitled "Green" Advertising Claims (1992) asks,

You've probably seen products with such "green" claims as "environmentally safe," "recyclable," "degradable," or "ozone friendly." But what do these claims really mean? How can you tell which products really are less harmful to the environment?

To help reduce consumer and producer confusion and to help prevent the false or misleading usage of environmental terms such as recyclable, degradable and environmentally friendly in advertising, sales promotion and on packaging, the FTC released guidelines in July of 1992. The guidelines are a result of the work of the Federal Task Force on labeling which was composed of individuals from the EPA, the FTC and the U. S. Office of Consumer Affairs. The guidelines provide four general areas that should apply to all environmental claims. The four areas are:

- 1) Qualifications and disclosures should be sufficiently clear and prominent to prevent deception.
- 2) Environmental claims should make clear whether they apply to the product, the package, or a component of either. Claims need not be qualified with regard to minor, incidental components of the product or package.

- 3) Environmental claims should not overstate the environmental attribute or benefit. Marketers should avoid implying a significant environmental benefit where the benefit is, in fact negligible.
- 4) A claim comparing the environmental attributes of one product with those of another product should make the basis for the comparison sufficiently clear and should be substantiated. (*FTC News Notes*, 1992)

The guidelines also address the proper use of commonly mentioned environmental marketing claims such as 1) degradable, 2) biodegradable, 3) photo degradable, 4) compostable, 5) recyclable, 6) recycled content, 7) source reduction, 8) refillable, 9) ozone safe and 10) ozone friendly (*FTC News Notes*, 1992).

In an effort to improve the guidelines, the FTC sought public comment on modification of the guides and even allowed interested parties to petition the FTC to amend the guides (*FTC News Notes*, 1992). The goal of the FTC green marketing guidelines is to help protect consumers, bolster consumer confidence in environmental claims and help reduce manufacturers' uncertainty about which claims might lead to FTC enforcement actions. The guidelines also provide environmentally conscious consumers with more reliable information, ensure the use of accurate claims, ensure the use of specific claims and discourage the use of claims that are confusing, unsubstantiated, trivial and overstated (*FTC News Notes*, 1992).

Since the introduction of the FTC's guidelines, the 'green' marketplace has moved from one of vagueness to one of specificity and monitoring. The FTC brought order to the 'green' marketplace by defining disputed terms and by making concrete regulations. As the focus of consumerism broadens, environmental advertising will continue to be a matter of concern for the FTC (Pope, 1991).

Consumers are better protected than ever today from false advertising claims by the FTC. Thanks to the FTC, guidelines defining and regulating the use of environmental claims and green marketing terms are now available. However, until 1992, many consumers had to evaluate the green claims for themselves. Today, the FTC is still monitoring deceptive "green" claims. For example,

Chemopharm Laboratory, Inc., doing business as CP Industries, has agreed to settle FTC charges that it made false and unsubstantiated environmental claims to market its ice-melting product. (FTC News Notes, 1994)

If the 1990s is the "decade of truth in advertising" according to *Advertising Age* (1991), then where does

the truth and deception begin and end in regards to environmental claims?

Research Questions

The following research questions were posed for study:

- RQ1: Are consumers who are the primary grocery shoppers in their households consciously aware of the state of our environment?
- RQ2: Are consumers who are the primary grocery shoppers in their households aware of such terms as recyclable, degradable, biodegradable on product packaging?
- RQ3: Are consumers who are the primary grocery shoppers in their households prepared to help protect the environment by buying environmentally friendly products?

Methodology

For this exploratory study, the focus group research method was employed. The focus group method can provide very useful insights into specific areas using a small group of consumers. According to Haskins and Kendrick (1993), focus groups can help gauge consumers' perceptions of products; their own motives and ideas; their understanding or misunderstanding of advertisements and questionnaires. Krueger (1988) states that forms of quantitative research are "sometimes inadequate in meeting information needs of decision makers" (p. 15). In summary, Krueger also argues that focus groups are "unique" from other research procedures and that "greater insight" into why certain opinions are held can be obtained (p. 15).

This study attempted to measure a group's attitudes and purchasing behavior toward what they perceived to be environmentally friendly products. Ten consumer subjects were selected based on the following demographics: 1) women, 2) age range--25 to 45, 3) professional-clerical, 4) married with children, 5) suburban dwellers, 6) combined household income of \$60,000+ and 7) primary grocery buyers in their household. The racial mixture of the group was five white and five black.

All members of the focus group were asked to indicate, on a four point Likert-type scale, their answers to six questions which would assist the researchers in measuring the degree to which their buying behavior is influenced by "green" advertising claims.

In order to limit bias, the non-participatory focus group method was used with this group. The subjects were not given any preliminary information prior to the administration of the survey in the focus group setting. Also, the statements contained within the questionnaire were broad and exploratory in nature and did not

specifically mention green advertising. The subjects were, therefore, unaware of the true nature of the instrument.

Results

The first question was used to help identify those women in the focus group who were the primary grocery shoppers in their households. All 10 women reported that they shopped for groceries either all of the time or most of the time in their respective households.

The second and third questions were used to determine the women's concern for the environment. Nine women reported that they thought about the environment often or very often and all ten women reported that conservation of the environment was important or very important. These results show support for RQ1.

Questions four and five were used to determine how aware the women were of environmental claims made by advertisers. Across two questions, nine women reported being aware of environmental claims. These results provide support for RQ2. Based on these findings, it cannot be definitely determined if this familiarity connoted literal knowledge of the terminology or if the subjects connoted meaning with familiarity. However, there seems to be little indication that this group was confused about the meanings.

For RQ3, there was only partial support. Only eight of the ten women said they were very or somewhat willing to pay more for environmentally friendly products, two said they were unwilling to pay more.

Conclusion

Within the group tested, there is an overall awareness about the current state of our environment. More importantly, however, there is a willingness to shop and possibly pay more for environmentally friendly products.

This exploratory study suggests that the environment is of concern to a group of consumers. The finding of this study indicate a willingness on the part of a group of consumers to purchase products they believe will not harm the environment. There also seems to be an aura of trust, within this particular group, that terms such as degradable, recyclable, etc. listed on product packages will do what they claim they will do.

This study suggests additional questions for future research such as: Are environmental claims worthy of consumers' trust? Do environmental claims contain puffery or, rather, do these terms constitute deceptive advertising practices? Is "green" advertising simply an attempt by manufacturers to use a popular social trend for their own gain? Should the FTC regulate puffery as well as deception in "green" advertising?

Taking the results found here in to account, further research needs to be conducted. A logical next step, then, after this study would be to conduct other focus groups using the same procedure in other markets for validation purposes followed by either a experiment/quasi-study with both control and experimental groups or possibly a nationwide random survey. Other focus groups employing either quantitative method would be useful and appropriate in order to gain further insight into consumers' awareness levels concerning "green" advertising claims employed by advertisers.

Bibliography

- Christians, C, Rotzoll, K. and Fackler, M. (1991). *Media Ethics*. New York: Longman.
- Colford, S. and Serafin, R. (1991, August). Scali pays for Volvo ad. *Advertising Age*, 62, 1.
- Elkington, J., Hailes, J. and Makower, J. (1990). *The Green Consumer*. New York: Penguin.
- FTC News Notes. (1994, September 12). Washington, D.C: Federal Trade Commission, 94, 37.
- FTC News Notes. (1992, July 13). Washington, D.C: Federal Trade Commission, 92, 28.
- "Green" Advertising Claims. (1992, October). Washington: The Environmental Protection Agency, EPA530-F-92-024.
- Haskins, J. and Kendrick, A. (1993). *Successful Advertising Research Methods*. Lincolnwood, IL: NTC.
- Hume, S. (1991, December). Green labels good, but confusing. *Advertising Age*, 63, 22.
- Krueger, R. (1988). *Focus Groups, A Practical Guide for Applied Research*. Newbury Park, CA: Sage.

Mandese, J. (1991, December). Poll: ads strain credibility. *Advertising Age*, 63, 12.

NAD rejects claims in 3 green efforts. (1992, June). *Advertising Age*, 63, 1.

Pope, D. (1991). Advertising as a consumer issue: an historical view. *Journal of Social Issues*, 47, 1.

Preston, I. (1967). Logic and illogic in the advertising process. *Journalism Quarterly*, 3, 231.

Preston, I. (1971). Advertising, more than meets the eye? *Journal of Advertising Research*, 3, 19-24.

Preston, I. (1975). *The Great American Blow-Up—Puffery in Advertising*. Madison, WI: University of Wisconsin Press.

Rotfeld, H. and Preston, I. (1981). The potential impact of research and advertising law. *Journal of Advertising Research*, 2, 9-17.

Schlosser, H. (1991, December). The simple truth: ads will have to be truthful. *Marketing News*, 24, 1.

Serbinski, J. (1991). Consumers and the environment: a focus on five products. *The Journal of Business Strategy*, 5, 44-47.

Selling Green. (1992, October). *Consumer Reports*, 687-692.

Earth Calling! Is America Listening? (1992). Simmons Marketing Series. New York: Simmons Market Research Bureau, Inc.

Wyckham, R. (1987). Implied Superiority Claims. *Journal of Advertising Research*, 1, 54-1.

Yi, Y. (1990). Direct and indirect approaches to advertising persuasion. *Journal of Business Research*, 20, 279-290.

Making Less Garbage at the Supermarket: The Role of Attitudes, Values, and Persuasive Brochures

by Anita M. Kugler

Introduction

Communities everywhere face increasingly complex solid waste management challenges. Shrinking landfill capacity, rising disposal costs, divisive facility-siting controversies have prompted many local governments to adopt educational strategies aimed at reducing the amount of garbage residents generate.

Waste reduction education campaigns typically encourage consumers to purchase food and household products that will result in the creation of as little garbage as possible, a practice known as environmental shopping. Hammer and Papadi (1991) identified five environmental shopping behaviors: (1) reducing the amount of packaging bought and thrown away; (2) reusing jars, bottles, boxes, and other containers; (3) rejecting wasteful packaging; (4) responding to producers and retailers by expressing preferences for simpler, less wasteful packaging; and (5) recycling as much as possible, which includes purchasing products that contain recycled materials.

Educational campaigns may include television, radio, and newspaper advertising, community workshops, posters, booklets, and brochures (Fishbein and Gelb, 1992; Indiana Department of Environmental Management, 1993; City of Boulder, n.d.). Yet the best educational efforts may fail to change consumers' habits. During the past 50 years, convenience has replaced durability as a product's most important selling point, creating what has become known as a throwaway society. As Young (1991) has stated, "In an age in which the terms 'consumer' and 'person' are used interchangeably, disposing of bagfuls of garbage each day has become a routine, seemingly inescapable fact of life" (p. 20).

Alachua County, Florida, where this study was conducted, is an example of a community seeking waste management solutions that are not only economically feasible but which also respond to citizens' environmental concerns. The county's landfill will be full in 1998. Concerns about odors, property values, and threats to water quality have derailed attempts in recent years to locate a suitable site for a new landfill.

Many environmental behavior studies have focused on recycling and conservation behaviors, but few have examined the effects of brochures, attitudes, or values on environmental shopping behavior. This study

compared the effects of two types of brochures. One, referred to in this paper as the attitudes brochure, attempted to change attitudes with messages about the benefits of practicing specific environmental shopping behaviors. The other, referred to as the how-to brochure, merely provided instructional information about environmental shopping.

Literature Review

Psychologists, sociologists, and communications researchers exploring the sources and characteristics of environmental concern have studied the roles of persuasive communication, attitudes, and values. Many studies have focused on recycling and conservation behaviors, but few have explored waste reduction behaviors such as environmental shopping. This section reviews some of the pertinent literature on the relationship between behavior, attitudes, norms, values, and communication.

Written Communication. Written messages can be a valuable component of campaigns aimed at changing environmental behavior. Krendl, Olson, and Burke (1992) found that low-cost, hand-delivered printed messages that encouraged recycling behavior produced effects comparable to those of interpersonal messages. Jacobs, Bailey, and Crews (1984) found that using brochures to notify people about a recycling program was more effective than soliciting participation through newspaper ads. In a study of environmental shopping behavior, De Young, et al. (1993) found that brochures containing both procedural information and the rationale for practicing environmental shopping behavior were most effective. The researchers found that a brochure describing both environmental and economic benefits was more effective than a brochure that described only environmental or only economic benefits.

Attitudes and Behavior: The Theory of Reasoned Action. Changes in attitude may also contribute to changes in behavior. Fishbein and Ajzen (1975) contend that attitudes and behavior are related because people consider the consequences of their actions before they decide whether or not to act; however, attitudes alone may not be a reliable predictor of behavior.

The theory of reasoned action suggests that two factors determine behavioral intentions: a personal

factor (attitude) and a social factor (subjective norm). Attitudes emerge from beliefs, which link attributes to a person, an object, or a behavior (Fishbein and Ajzen, 1975). An attitude is the way a person thinks about a specific behavior, a judgment that performing the behavior is good or bad, or a favorable or unfavorable feeling toward the behavior. For example, a person's attitude toward buying paper products made from recycled paper may result from one or several associated attributes, such as cost, quality, or environmental benefits. A subjective norm is the perceived social pressure a person feels to perform or not perform a specific behavior (Fishbein and Ajzen, 1975). The expectations of family and friends may produce the pressure, or it may stem from a supervisor at work or even from the expectations of society at large.

When individuals evaluate a behavior positively and believe that important others think they should perform it, they will formulate an intention to perform the behavior (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980). But the importance of each component varies from situation to situation. By determining the weight of each component, researchers can evaluate the relative importance of attitudes and norms for a given behavior.

Fishbein and Ajzen (1980) contend that although other potential influences on behavior, such as demographic characteristics and personality traits, may influence the attitudes and subjective norms that determine behavioral intentions, such influences do not necessarily have a direct effect on behavior. Although in some cases it may be desirable to examine the role of such "external variables" (p. 82) in the formation of underlying beliefs, Fishbein and Ajzen argue that only attitudes and subjective norms need to be considered as determinants of behavioral intentions.

Researchers have applied the theory of reasoned action successfully to dozens of behaviors, including environmental behaviors. Sheppard, Hartwick, and Warshaw (1988) reviewed 184 studies and concluded that the theory predicts consumer intentions and behavior quite well and that it can be a useful tool in targeting behavior-change efforts.

Two studies produced support for the theory's ability to predict recycling behavior. Jones (1989-1990) found that university faculty members who had a positive attitude toward paper recycling believed paper recycling saved money, saved energy, and conserved natural resources, and they believed it did not take extra time. Jones also found that social norms influenced paper recycling behavior and suggested that paper recycling can be increased by influencing beliefs about the consequences of the behavior and about the expectations of significant others. Vining and Ebreo

(1992) found that recyclers' attitudes toward recycling were stronger than those of nonrecyclers. Recyclers were more likely than nonrecyclers to perceive greater social pressure and a greater personal obligation to recycle.

The literature on written communication and on the theory of reasoned action suggested the following hypotheses:

H1. Subjects who receive a brochure will have more positive attitudes and stronger intentions toward environmental shopping than subjects who receive no brochure.

H2. Subjects who receive an attitudes brochure will have more positive attitudes and stronger intentions toward environmental shopping than subjects who receive a how-to brochure.

H3. Intentions to practice environmental shopping will be positively correlated with attitudes and norms for all subjects.

The Role of Environmental Values: The New Environmental Paradigm Scale. In the 1970s, while environmental behavior research largely focused on demographic determinants of environmental concern (Murch, 1971; Maloney and Ward, 1973; Maloney, Ward, and Braucht, 1975; Weigel, 1977; Buttell and Johnson, 1978; Van Liere and Dunlap, 1980; Dunlap and Van Liere, 1984), sociologists began to explore the role of deeply held values or worldviews. Catton and Dunlap (1978; 1980) proposed that the apparently widespread increase in environmental concern observed during the 1970s represented a shift in core cultural values and beliefs. Dunlap and Van Liere (1978) found in that shift a new worldview concerned with the consequences of human actions on the natural environment. This new environmental paradigm assumed that humans were only one among many interdependent species, that the world was finite, and that there were limits to both biological and economic growth.

Dunlap and Van Liere (1978) developed a 12-item scale to measure new environmental paradigm (NEP) values. They tested the scale with one sample of 806 randomly selected Washington-state residents and another sample of 407 Washington-state members of the Sierra Club, an environmental group. The researchers found that while environmental group members endorsed the NEP much more strongly than the general public, the general public endorsed the NEP more strongly than expected. Dunlap and Van Liere concluded that NEP values were beginning to permeate American society. Other researchers have tested the NEP scale and there is general agreement on the scale's reliability as a measure of environmental concern (Jackson, 1985; Arcury, Johnson, and Scollay, 1986; Kuhn and Jackson, 1989; Caron, 1989; Arcury

and Christianson, 1990; Noe and Snow, 1990; Shetzer, Stackman, and Moore, 1991; Vining and Ebreo, 1992).

The literature on the new environmental paradigm suggested the following hypothesis:

H4. Attitudes and intentions toward environmental shopping will be positively correlated with New Environmental Paradigm values for all subjects.

Methodology

An experiment measured the effectiveness of two types of brochures about environmental shopping. The participants were shoppers in Gainesville, Florida, who volunteered for the study at three locations of a large supermarket chain. The three stores selected offered a demographically diverse customer base in terms of age, income, education level, and ethnic background. Intercepts on different days of the week and at different hours of the day helped to ensure a representative sample of shoppers. Volunteers received a canvas shopping bag as an incentive to participate in the study.

Participants took a short self-administered written pretest which included questions about their shopping behaviors during the previous three months and their attitudes toward performing those behaviors. The pretest requested subjects' first names and phone numbers. After completing the pretest, one-third of the subjects received the how-to brochure, one-third received the attitudes brochure, and one-third, the control group, received no brochure. Unbiased assignment to groups was accomplished by marking the first three pretests with an A for the how-to brochure, the next three with a B for the attitudes brochure, and the next three with a C for the control group. The pretests were placed in a box in that order and were removed one at a time as volunteers approached the table. Subjects who received a brochure were asked to read it within the next two days and were told an interviewer would call within about a week to ask some additional questions. The posttest included questions regarding attitudes, subjective norms, and intentions to practice environmental shopping in the three months following the study.

Scale Behaviors. Two brochures and pretest and posttest questionnaires focused on eight specific shopping behaviors:

1. Bringing paper, plastic, or cloth grocery bags to the store to use again.
2. Buying concentrated liquid detergents or soaps.
3. Buying sponges and washable rags for household cleaning instead of paper towels.
4. Buying items like liquid detergents in containers made from recycled plastic.
5. Buying items packaged in containers the shopper can recycle.
6. Buying items packaged in large containers

instead of individual servings.

7. Buying paper products made from recycled paper.
8. Buying plastic products made from recycled plastic.

The behaviors were selected after a review of educational materials produced by various researchers and government entities (Alachua County, 1990; Chemesky, 1991a, 1991b; Hammer and Papadi, 1991; U.S. EPA, 1992; Brown, 1993; De Young et al., 1993; Indiana Department of Environmental Management, 1993; Clarke, 1993, 1994; Hammer, 1993; Jones, 1993, n.d.; City of Boulder, n.d.; California Integrated Waste Management Board, n.d.)

Attitude, Intention, and Norm Scales. Each 8-item scale consisted of questions about the specific shopping behaviors listed above. Behavior questions were answered on a five-point Likert-type scale: always, most of the time, half the time, rarely, and never. Likert-type responses on the pretest and posttest attitude scales, the intention scale, and the norm scale, were strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree.

Wording of the questions measuring behavior, attitudes, norms, and intentions corresponded to each specific behavior. For example, to measure behavior, attitudes, norms, and intentions regarding buying items the shopper could recycle, the questions were worded as follows:

- Behavior: *I bought items packaged in containers I could recycle.*
- Attitude: *I like to buy products that come in containers I can recycle.*
- Norm: *The people who are important to me think I should buy products that come in containers I can recycle.*
- Intention: *In the next three months, I intend to buy products that come in containers I can recycle.*

The New Environmental Paradigm Scale. The posttest also included the 12-item new environmental paradigm scale. Responses were on a five-point Likert-type scale: strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree. For items 3, 4, 6, and 10, disagreement indicates acceptance of the new environmental paradigm. For the other eight items, agreement indicates acceptance.

1. We are approaching the limit of the number of people the earth can support.
2. The balance of nature is very delicate and easily upset.
3. Humans have the right to modify the natural environment to suit their needs.
4. Mankind was created to rule over the rest of nature.

5. When humans interfere with nature it often produces disastrous consequences.
6. Plants and animals exist primarily to be used by humans.
7. To maintain a healthy economy we will have to develop a "steady-state" economy where industrial growth is controlled.
8. Humans must live in harmony with nature in order to survive.
9. The earth is like a spaceship with only limited room and resources.
10. Humans need not adapt to the natural environment because they can remake it to suit their needs.
11. There are limits to growth beyond which our industrialized society cannot expand.
12. Mankind is severely abusing the environment.

Findings

The data were statistically analyzed using SPSS/PC+. Analysis of variance (ANOVA) and correlation analysis were used to test the hypotheses.

Scale scores were obtained by averaging responses for scale items. A score of 5 represented the most positive response to questions or strong agreement, while a 1 represented strong disagreement. The means for the scale variables are presented in Table 1. Pretest attitude means were higher than posttest attitude means, but this may be due to the difference in methodology (self-administered vs. telephone survey). Only the posttest scales were used to test the hypotheses. Cronbach's alpha calculations indicated the scales were reliable: .74 for behavior, .83 for pretest attitudes, .77 for posttest attitudes, .93 for norms, .81 for intention, and .85 for the NEP scale.

Responses to five belief questions, which corresponded to messages included in the attitudes brochure but not in the how-to brochure, were analyzed individually. Table 2 shows the mean scores for each belief and the percentage of subjects who answered agree or strongly agree.

Sample Description. From a sample of 482 subjects who took the pretest, 383 subjects completed the study, for a completion rate of 79%. Subjects ranged in age from 18 to 89, with a mean age of 41. The approximate age distribution was: 18-28, 25%; 29-39, 24%; 40-50, 30%; and 51 or older, 21%. About 85% of the subjects were White, 12% were Black, and 3% were members of other ethnic groups. Approximately 37% of subjects reported household incomes of \$20,000 or less, 35% had incomes between \$20,000 and \$40,000, and 28% had incomes of more than \$40,000. About 21% of participants had a master's degree or higher, 44% had an associate's, bachelor's, or trade school degree, 21% had some

college or trade school, and 14% had some high school or a high school diploma.

Chi-square analysis indicated that for all but one characteristic, there were no significant differences in demographics between the three study groups. Although care was taken to use an unbiased method for assignment to groups, a significantly higher percentage of Blacks were assigned to the control group (51%) than to each of the two treatment groups (24% and 24%).

Tests of the Hypotheses. H1. Subjects who receive a brochure will have more positive attitudes and stronger intentions toward environmental shopping than subjects who receive no brochure.

The first hypothesis was partially supported. One-way analyses of variance showed that for attitudes, there was no significant difference ($p < .05$) between subjects who received a brochure and subjects in the control group. For intentions, there was a significant difference between the intentions of the control group and the subjects who received the how-to brochure, but for subjects who received the attitudes brochure, the difference was not significant.

H2. Subjects who receive an attitudes brochure will have more positive attitudes and stronger intentions toward environmental shopping than subjects who receive a how-to brochure.

The second hypothesis was not supported. One-way analyses of variance showed no significant difference ($p < .05$) between the attitudes and intentions of subjects who received the attitudes brochure and those who received the how-to brochure.

H3. Intentions to practice environmental shopping will be positively correlated with attitudes and norms for all subjects.

The third hypothesis was supported. A significant positive correlation existed between attitudes, norms, and intentions. Table 3 presents the correlation coefficients. This finding supports Fishbein and Ajzen's theory that attitudes and norms may be useful in predicting intentions. A multiple regression analysis was performed to determine the weights of attitudes and norms as components of intentions. The standardized betas were .11 for norms and .81 for attitudes, which suggests attitudes were a much stronger predictor of intentions than norms.

H4. Attitudes and intentions toward environmental shopping will be positively correlated with New Environmental Paradigm values for all subjects.

The fourth hypothesis was supported. A significant positive correlation existed between attitudes, intentions and New Environmental Paradigm values. Table 4 presents the correlation coefficients.

Discussion

The findings suggest that the brochures had a rather weak effect on attitudes and intentions toward environmental shopping behavior. Correlation analysis suggested support for Fishbein and Ajzen's theory of reasoned action. Attitudes and norms were a reliable predictor of environmental shopping intentions, and attitudes were a much stronger predictor than norms. Correlation analysis also suggested that NEP values were a good predictor of behavioral intentions.

The difference between the posttest attitudes of participants who received the how-to brochure and those in the control group approached significance. This finding suggests that an instructional brochure, while perhaps helpful as an element of a more comprehensive education campaign, cannot be relied upon exclusively to produce strongly favorable attitudes toward environmental shopping.

The difference in posttest intentions of participants who received the how-to brochure compared to control group participants was statistically significant. This finding may suggest that providing clear, direct information about how to perform the desired behavior may be sufficient to produce the desired favorable intentions to practice the behavior, at least in the short term.

The researcher had predicted that the attitudes brochure would produce more favorable posttest attitudes and intentions than the how-to brochure, but there was almost no difference in attitudes and intentions between the two experimental groups. Several factors may explain the inability of the attitudes brochure to produce more favorable attitudes and stronger intentions. The text and design of the brochures may be at fault. The answer, however, is more likely to be found in the strongly favorable pretest attitudes of participants in all three groups.

Further evidence of favorable pre-study attitudes comes from the almost unanimously favorable posttest responses to belief statements contained only in the attitudes brochure. Despite the fact that participants in only one of the three groups received the attitudes brochure, between 95% and 98% of the respondents in all three groups agreed or strongly agreed that their shopping choices can save space in the landfill, can make a difference, and can help save trees. About 89% of respondents agreed or strongly agreed with a fourth belief, that they can save money by buying concentrated detergents. For four of the five beliefs there was no significant difference in the means between participants in the three groups.

With the acceptance of favorable beliefs so widespread among the sample population, it is reasonable to conclude that people were not likely to respond to an attitudinal message because their attitudes were already

favorable and did not need to change. This phenomenon may be described as a ceiling effect: it may not be possible to increase the favorability of attitudes that are already strongly favorable. The finding that only the how-to brochure had a significant effect on intentions when compared to the control group suggests that when attitudes are favorable, it may be sufficient, and in fact, more effective, merely to provide instructional information. People who already favor the behavior need to be told how they can do it, not why they should do it.

The behavior measurement responses on the pretest lend additional support to the idea that there may not have been a need to improve attitudes. When people already are practicing a behavior at least some of the time, their attitudes are probably at least somewhat favorable so as to be consistent with their actions. Merely providing information, whether it is new or repeated information, may boost the level of intentions to practice the behavior.

The finding that intentions were positively correlated with attitudes and norms provides support for Fishbein and Ajzen's theory of reasoned action. The regression analysis suggests that for environmental shopping intentions, attitudes are a much stronger predictor than norms. This finding provides further evidence of a ceiling effect for attitudes. The attitudinal component of the behavioral intention is already quite strong; the normative component is weak. A brochure that attempted to strengthen norms in favor of making less garbage might have produced stronger intentions than the attitudes brochure. While there is little room for attitudes to get stronger, there is substantial room for norms to get stronger. Because social acceptability is important, a written message suggesting, for example, that people who throw away large quantities of garbage should be ostracized or stigmatized in some way might have had more of an effect on intentions in this study's sample population than the "attitudes" brochure or the "instructional" brochure.

NEP values were positively correlated with posttest attitudes and intentions in the experimental groups and in the control group. In fact, among the three groups, the correlation between NEP values, attitudes, and intentions was strongest in the control group. This finding suggests that NEP values are widespread, as previous researchers have found. This finding also suggests that research is needed to determine whether NEP values can be manipulated with an education campaign; it appears that no study to date has attempted such an investigation.

The finding of widespread NEP values provides further support for a ceiling effect. While values generally are considered to be more enduring and attitudes more likely to fluctuate, attitudes usually are

consistent with the values a person holds. People whose values already support proenvironmental behavior need instructions, rather than attitudinal messages, to help them put what they believe into practice.

Future Research. The study confirms the need for additional research to determine whether written communication can persuade people to practice environmental shopping. This experiment involved only a one-time treatment, a single brochure. The effectiveness of repeated distributions of the same or similar brochures should be explored.

Environmental values and their relationship to attitudes and behavior merit more attention from communications scholars than they have received in the past. Insight into an audience's deeply held values can be a helpful tool in the design of persuasive messages.

There is also a need for qualitative research on environmental shopping and other environmental behaviors to gain insight into the relationship between attitudes, personal preferences, and an individual's willingness to make changes. Even people who favor environmental protection and conservation may have difficulty overcoming barriers that prevent them from making lasting changes in their habits and lifestyles.

References

- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- Alachua County Solid & Hazardous Waste Public Information Committee. (1990). *Consumer guide to recycling in Alachua County*. Gainesville, FL: Author.
- Arcury, T. A. & Christianson, E. H. (1990). Environmental worldview in response to environmental problems: Kentucky 1984 and 1988 compared. *Environment and Behavior*, 22, 387-407.
- Arcury, T. A., Johnson, T. P., & Scollay, S. J. (1986). Ecological worldview and environmental knowledge: The "New Environmental Paradigm." *Journal of Environmental Education*, 17(4), 35-40.
- Brown, K. (1993). *Waste prevention: Source reduction now*. St. Paul: Minnesota Office of Waste Management.
- Buttel, F. H., & Johnson, D. E. (1978). Dimensions of environmental concern: Factor structure, correlates, and implications for research. *Journal of Environmental Education*, 9(2), 49-64.
- California Integrated Waste Management Board. (n.d.). *A guide to leaving less behind for the future*. Sacramento: Author.
- Caron, J. A. (1989). Environmental perspectives of blacks: Acceptance of the "New Environmental Paradigm" scale. *Journal of Environmental Education*, 20(3), 21-26.
- Catton, W. R. Jr., & Dunlap, R. E. (1978). Environmental sociology: A new paradigm. *American Sociologist*, 13, 41-49.
- Catton, W. R. Jr., & Dunlap, R. E. (1980). A new ecological paradigm for post-exuberant sociology. *American Behavioral Scientist*, 24, 15-47.
- Chernesky, M. E. (1991a). Keep your trash clean then ... recycle it. [Brochure]. Seffner, FL: Hillsborough County Extension Service.
- Chernesky, M. E. (1991b). You can become an enviroshopper (Shopping with the environment in mind). [Brochure]. Seffner, FL: Hillsborough County Extension Service.
- City of Boulder Environmental Affairs. (n.d.). *Recycle Boulder: Precycling*. Boulder: Author.
- Clarke, M. J. (1993). Consumer response to environmental shopping campaigns: Design of a New York City case study. *Proceedings of the 86th Annual Meeting of the Air & Waste Management Association*, Denver.
- Clarke, M. J. (1994). Implementation of environmental shopping educational campaigns: Preliminary results of a New York City case study. *Proceedings of the 87th Annual Meeting of the Air & Waste Management Association*, Cincinnati.
- De Young, R., Duncan, A., Frank, J., Gill, N., Rothman, S., Shenot, J., Shotkin, A., & Zweizig, M. (1993). Promoting source reduction behavior: The role of motivational information. *Environment & Behavior*, 25, 70-85.
- Dunlap, R. E., & Van Liere, K. D. (1978). The "New Environmental Paradigm": A proposed measuring instrument and preliminary results. *Journal of Environmental Education*, 9(4), 10-19.
- Fishbein, B. K., & Gelb, C. (1992). *Making less garbage: A planning guide for communities*. New York: INFORM, Inc.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior*. Reading, MA: Addison-Wesley.
- Hammer, M. S. (1993). *Source reduction: The #1 waste management alternative*. [Fact Sheet HE 3168]. Gainesville, FL: University of Florida, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences.
- Hammer, M. S., & Papadi, J. G. (1991). *Enviroshopping: Buysmarter*. [Fact Sheet HE 3158]. Gainesville, FL: University of Florida, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences.
- Indiana Department of Environmental Management, & Indiana Recycling Coalition Inc. (1993). *You can cut it! A complete guide to reducing Indiana's solid*

waste at the source. Indianapolis: Authors.

Jackson, E. L. (1985). Environmental attitudes and preferences for energy resource options. *Journal of Environmental Education*, 17(1), 23-30.

Jacobs, H. E., Bailey, J. S., & Crews, J. I. (1984). Development and analysis of a community-based resource recovery program. *Journal of Applied Behavior Analysis*, 17, 127-145.

Jones, L. (1993). *Waste reduction products: The view from two neighborhoods*. Fort Collins, CO: Eco Solutions, Inc.

Jones, L. (n.d.). *Waste reduction solution handbook: A community guide to residential waste reduction*. Fort Collins, CO: Eco Solutions, Inc.

Jones, R. E. (1989-90). Understanding paper recycling in an institutionally supportive setting: An application of the theory of reasoned action. *Journal of Environmental Systems*, 19, 307-321.

Krendl, K. A., Olson, B., & Burke, R. (1992). Preparing for the environmental decade: A field experiment on recycling behavior. *Journal of Applied Communication Research*, 20(1), 19-37.

Kuhn, R. G., & Jackson, E. L. (1989). Stability of factor structures in the measurement of public environmental attitudes. *Journal of Environmental Education*, 20(3), 27-32.

Maloney, M. P., & Ward, M. P. (1973). Let's hear from the people: An objective scale for the measurement of ecological attitudes and knowledge. *American Psychologist*, 28, 583-586.

Maloney, M. P., Ward, M. P., & Braucht, G. N. (1975). A revised scale for the measurement of ecological attitudes and knowledge. *American Psychologist*, 30, 787-792.

Murch, A. (1971). Public concern for environmental pollution. *Public Opinion Quarterly*, 35(1), 100-106.

Noe, F. P., & Snow, R. (1990). Hispanic cultural influence on environmental concern. *Journal of Environmental Education*, 21(2), 27-34.

Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. *Journal of Consumer Research*, 15, 325-343.

Shetzer, L., Stackman, R. W., & Moore, L. F. (1992). Business-environment attitudes and the New Environmental Paradigm. *Journal of Environmental Education*, 22(4), 14-21.

United States Environmental Protection Agency. (1992). *The consumer's handbook for reducing solid waste*. Washington, DC: Author.

Van Liere, K. D., & Dunlap, R. E. (1980). The social bases of environmental concern: A review of hypotheses, explanations and empirical evidence. *Public Opinion Quarterly*, 44, 181-197.

Vining, J., & Ebreo, A. (1992). Predicting recycling behavior from global and specific environmental attitudes and changes in recycling opportunities. *Journal of Applied Social Psychology*, 22, 1580-1607.

Weigel, R. H. (1977). Ideological and demographic correlates of proecology behavior. *Journal of Social Psychology*, 103, 39-47.

Young, J. E. (1991). *Discarding the throwaway society* (Worldwatch Paper 101). Washington, DC: Worldwatch Institute.

Author Note

This paper is based on the author's thesis, "The Effects of Attitudes, Values, Norms, and Persuasive Brochures on Environmental Shopping Intentions," completed in partial fulfillment of the requirements for the degree of Master of Arts in Mass Communication. The author presented a paper based on this study entitled, "Source Reduction and Consumer Attitudes: Is There a Connection?" at the 87th Annual Meeting of the Air & Waste Management Association, Cincinnati, Ohio, June 1994. The Alachua County Office of Waste Management supported this study in part by providing shopping bags for participants and printing the brochures and questionnaires.

Table 1: Pretest and Posttest Scale Means by Group

Scale	How-to Brochure	Attitudes Brochure	Control Group
Pretest			
Behavior	3.50	3.51	3.41
Attitudes	4.18	4.18	4.11
Posttest			
Attitudes	4.00	3.98	3.89
Norms	3.74	3.72	3.52
Intent	3.99	3.97	3.85
NEP	3.96	4.10	3.96

Table 2: Belief Means and Agreement Percentages

Belief	Mean	% Agree
My shopping choices can save space in the landfill.	4.38	98%
My shopping choices can make a difference.	4.29	96%
My shopping choices can help save trees.	4.29	95%
I can save money by buying concentrated detergents.	4.10	89%
Buying products that make less garbage is easy for me.	3.59	68%

Table 3: Correlation Table for Intent, Attitude, and Norm Scales

Group / Variable	Intent	Norm
How-to / Attitudes	.86**	.61**
How-to / Norm	.52**	
Attitudes / Attitudes	.83**	.69**
Attitudes / Norm	.68**	
Control / Attitudes	.90**	.64**
Control / Norm	.65**	

**1-tailed significance, $p < .001$.

Table 4: Correlation Table for New Environmental Paradigm, Attitude and Intent Scales

Group / Variable	NEP	Intent
How-to / Attitudes	.39**	.86**
How-to / Intent	.33**	
Attitudes / Attitudes	.45**	.83**
Attitudes / Intent	.43**	
Control / Attitudes	.49**	.90**
Control / Intent	.48**	

**1-tailed significance, $p < .001$.

Accounting For Your Actions: How Stakeholders Respond to Strategic Communication of Environmental Activist Organizations

by James Patterson and Myria Watkins Allen

Since 1681, when William Penn required Pennsylvania "to leave an acre of trees for every five acres cleared," Americans have called for setting aside wilderness areas from exploitation and for the conservation of natural resources (Nicholson, 1987). Discouraged by government's failure to implement relevant legislation, over the years a radical branch of the environmental movement has emerged which uses direct action (e.g., blockades, demonstrations, stunts) and confrontational techniques (e.g., vocal protests, trespassing) to challenge environmental injustices (Lewis, 1992; List, 1993). Current environmental handbooks argue for civil disobedience (e.g., Davis, 1991; *Greenpeace*, 1993) and direct tactics, whether violent or non-violent, directed at industry officials (e.g., Love, 1991). This research focuses on the communication strategies environmental advocates use to gain or maintain their legitimacy following direct and/or confrontational actions and how key stakeholders react to these communication strategies.

Environmental activist organizations face a special dilemma. If they conform to the larger social system's norms and do not engage in direct or confrontational actions, their cause may go unnoticed by groups that might provide support and endorsements. However, if they do engage in direct or confrontational actions other potential supporters may question their legitimacy because they fail to adhere closely to societal norms (Elsbach & Sutton, 1992). Legitimacy crises can threaten an activist organization's long term growth and survival (Bedeian, 1987; Clark, 1956; Elsbach & Sutton, 1992; Perrow, 1970) and spill over to potentially challenge the entire environmental movement's legitimacy.

Legitimacy perceptions appear related to four elements: truthfulness, value consistency, sufficiency, and sustenance. Stakeholders, or those individuals and groups that can affect or are affected by an organization's goals and operations (Bedeian, 1989), are more likely to confer legitimacy if they perceive its actions to be honest rather than clandestine. Conformity to external societal values and rules enhances an organization's perceived legitimacy (Allen & Caillouet, 1994; Meyers & Rowan, 1991; Powell & DiMaggio, 1991). Legitimacy increases

when stakeholders believe an organization has sufficiently explained its actions. The amount of support (e.g., money, system inputs and outputs) and endorsements received reflects conferred legitimacy (Aldrich, 1979; Allen & Caillouet, 1994; Elsbach & Sutton, 1992; Oliver, 1990; Terreberry, 1968).

Organizations engaging in potentially problematic actions can use strategic public discourse to gain legitimacy (Elsbach & Sutton, 1992; Oliver, 1990; Powell & DiMaggio, 1991). Researchers have extended the impression management literature to explain how organizations use "verbal remedial strategies" to explain and redefine problematic behavior, as well as to bolster an organization's positive image (e.g., Caillouet, 1991; Galaskiewicz, 1985; Ginzel, Kramer, & Sutton, 1992; Marcus & Goodman, 1991; Scott, 1991). A number of impression management strategies appear in the public discourse of environmental activist organizations: denouncements, intimidation, justification, diffusion of responsibility, bolstering, and transcendence. Denouncements indicate another individual or group is at fault (Allen & Caillouet, 1994). Intimidation strategies convey threats (Jones & Pittman, 1982). Justifications occur when an organization accepts responsibility for an action, but not for the negative actions associated with it (Scott & Lyman, 1968). Diffusion of responsibility indicates shared responsibility for an action (Elsbach & Sutton, 1992). Bolstering admits an action, but recontextualizes the focus on to previous legitimate actions (Ware & Linkugel, 1982). Transcendence links an action with values, symbols, or institutions stakeholders may believe to be important (Ware & Linkugel, 1982).

Three stakeholder groups are important to an environmental activist organization's survival: organizational members, the non-affiliated public, and government employees. Organizational members' support is crucial to an organization's survival, particularly in times of crisis (Caillouet, 1991; Oliver, 1990; Pfeffer, 1981). The non-affiliated public is a pool of potential supporters. Government agencies define and confer legitimacy, enforce laws, and impose sanctions (Allen & Caillouet, 1994; Cheney, 1991; Elsbach & Sutton, 1992; Freeman, 1984).

Stakeholder groups should respond differently to various message strategies because they hold different values, beliefs, and attitudes (Freeman, 1984; Ginzler et al., 1992), and due to the power dynamics within the organization-stakeholder relationship (Allen & Caillouet, 1994; Baumeister, 1989; Dionisopoulos & Crable, 1988; Elsbach & Sutton, 1992; Ginzler et al., 1992; Marcus & Goodman, 1991). However, limited information exists investigating stakeholder response to the message strategies used by environmental activist organizations. Therefore, the first research question is:

RQ1: How do different stakeholder groups vary in their response to the different message strategies potentially used by activist organizations?

The reception and effectiveness of a message strategy may be relative to the seriousness and intensity of the crisis-related action (Dionisopoulos & Crable, 1988; Marcus & Goodman, 1991), which leads to the second research question:

RQ2: Does an action's illegitimacy influence stakeholders' response to the various impression management strategies?

Environmental activist organizations use impression management strategies to convey legitimacy following problematic actions. This research investigates how key stakeholders respond to the various strategies. In addition, it explores the degree to which an action's perceived illegitimacy influences stakeholders' reactions to the various strategies.

Method

A questionnaire containing four scenarios describing actions actually taken by environmental activist organizations and eight potential impression management strategies organizational spokespeople might use to account for these actions was administered to 50 members of environmental activist organizations, 50 members of the non-affiliated public, and 50 employees from relevant government agencies.

Realistic and typical scenarios were constructed based on interview data, media articles, and organizational artifacts (e.g., environmental action newsletters). On a pre-test, students rated the legitimacy of 14 scenarios covering a variety of actions (e.g., tree spiking, public protest, property damage, blockades). The scenarios with the lowest and highest means were placed on the questionnaire. T-tests indicated the two levels of legitimacy were significantly different. The two mildly illegitimate scenarios (those with the lowest means) were: "In the largest 'tree hugging' incident ever staged by one environmental activist organization, 78 members chained their hands and

feet to trees being cleared away for timber. The chains were made of a special hard-to-cut metal. Police and fire fighters spent hours disconnecting members from trees." AND "Forum for Concerned Citizens (FCC), an environmental activist organization, used sandbags to block an waste material exit pipe. The material was being dumped into a local river. Production at the company was halted for several days in order to make necessary repairs caused by the 'backing up' of waste." The two severely illegitimate scenarios (those with the highest means) were: "An environmental activist organization secretly placed metal spikes in the trunks of trees that were about to be cut down by a timber company. When electric saw blades hit the spikes, the rotary chain snapped. Many times these chains flew out of control, injuring the person holding the saw. In at least three incidents, the tree cutter was killed or critically injured by metal fragments from the spikes, or by the chain which came loose during the process." AND "An environmental activist organization secretly removed drainage plugs from a fleet of whale boats docked off a bay of Iceland. Four of the six boats sank, killing one man and injuring three others. Damage to the boats was estimated at \$500,000 and the family of the dead man filed a lawsuit against the organization."

The eight impression management strategies used to account for these actions came from a review of the scholarly literature, newspaper and magazine articles, and interviews with two government-related environmental specialists, and the chairperson of an environmental activist organization. Two new strategies emerged from the media articles and interviews. Aesthetizing strategies indicate an organization seeks to protect or preserve the natural environment's beauty. Necessitizing strategies indicate an organization is trying to prevent potentially destructive environmental practices in order to ensure human survival.

A pre-test verified that the statements used after each scenario were examples of the eight strategies tested by this study. Statements representing each strategy were randomly arranged after each scenario in order to reduce respondent habituation. After each statement questions assessed audience response across four legitimacy dimensions: truthfulness, value congruency, sufficiency, and sustenance. Respondents were asked whether or not they believed the organization's account truly reflected its motivation and reasoning, how similar their values and the organization's were in relation to the action taken, how sufficient the response was for explaining or justifying the action taken, and if they would support

and endorse the organization.

A MANOVA with repeated measures tested for significant differences among the three groups (i.e., the non-affiliated public, activists, government employees) and for the interaction effect of the independent variables. The Scheffe procedure determined if the mean differences were significant. Reliability coefficients and correlation coefficients were computed.

Tests of the Research Questions. The first research question investigated how different stakeholder groups responded to the various message strategies. Environmental activists rated Necessitizing as the most legitimate strategy ($M = 5.06$, $SD = 1.17$) and Intimidation as the least legitimate ($M = 3.68$, $SD = 1.31$). Bolstering ($M = 3.67$, $SD = 1.17$) and Aesthetizing ($M = 3.67$, $SD = .68$) received the highest rating by the non-affiliated public and Intimidation ($M = 2.80$, $SD = 1.22$) received the lowest rating. Government employees rated Necessitizing ($M = 3.48$, $SD = .83$) as the most legitimate strategy and Intimidation as the least legitimate ($M = 2.16$, $SD = 1.00$). Intimidation strategies received the lowest rating among all three groups.

A significant multivariate effect emerged for stakeholder group using the Wilks' Lambda criterion (approximate $F(16, 280) = 9.26$, $p < .0001$, Wilks' Lambda = .42). Scheffe procedures revealed that environmental activists reacted more positively to all the strategies than either of the two other groups. The non-affiliated public rated Bolstering, Diffusion of Responsibility, and Denouncement strategies significantly higher than did government employees. All differences between groups were significant at the .01 level.

The second research question investigated whether or not an action's perceived illegitimacy influenced respondents' reactions to the strategies. Environmental activists rated Bolstering ($M = 5.41$, $SD = 1.05$) as the most legitimate strategy in the mild condition and Necessitizing ($M = 4.73$, $SD = 1.28$) as the most legitimate in the severe condition. Non-affiliated public representatives also indicated Bolstering ($M = 4.34$, $SD = 1.36$) was the most legitimate strategy in the mild condition but Aesthetizing ($M = 3.42$, $SD = .96$) was the most legitimate in the severe condition. Government employees rated Necessitizing as the most legitimate strategy in the mild ($M = 4.06$, $SD = 1.18$) and severe ($M = 2.91$, $SD = .96$) condition. Intimidation consistently was rated as the least legitimate strategy.

There was a significant interaction effect for group by scenario using the Wilks' Lambda criterion (approximate $F(16, 280) = 2.42$, $p < .01$, Wilks'

Lambda = .77). Univariate F tests revealed that Justifications ($F(2, 147) = 3.59$, $p < .01$) demonstrated a significant interaction effect. Individuals not affiliated with an environmental activist organization rated Justification strategies higher in the mild condition ($M = 3.98$, $SD = 1.38$) than in the severe condition ($M = 3.12$, $SD = 1.55$) as did government employees (mild $M = 3.75$, $SD = 1.07$; severe $M = 2.35$, $SD = 1.11$).

Discussion

Stakeholders vary in their response to various impression management strategies. Environmental activists rated all the strategies as more legitimate than did non-affiliated individuals and government employees. This may be because they believe in their organization's mission and the values implied in the strategies, are familiar with and frequently use the strategies, or see their own self-image threatened when their organization's public image is (Dutton & Dukerich, 1991). Both environmental activists and government employees rated Necessitizing as the most legitimate strategy which suggests a similar environmental philosophy and concern for human life. However, these two groups differed in how they believe their shared concerns should be addressed. Non-affiliated individuals rated Aesthetizing as the most legitimate strategy, perhaps because it included a broader range of benefits relevant to the non-affiliated public (e.g., clean landscapes, healthy environments). Non-affiliated individuals also conferred more legitimacy to Denouncement and Diffusion of Responsibility strategies than did government employees. These strategies blame government employees for environmental problems or suggest government agencies are partially responsible for activists' use of drastic tactics because they did not properly or efficiently address environmental concerns. Government employees do not favor strategies blaming them. Bolstering also is likely to be ineffective with government employees who must focus on the legality of a situation as it stands, not on an organization's past actions.

This study examined the effect of an action's illegitimacy on stakeholder reactions to the impression management strategies. A significant difference due to level of severity emerged only for Justification. Non-affiliated individuals and government employees rated Justifications as more legitimate in the mild condition than in the severe condition. Justifications admit responsibility for an action but argue it is justified anyway. Environmentalists who adopt a radical eco-philosophy that uses revolution, enlightenment, or rebuilding (Lewis, 1992) will be more likely to think any action is justified to achieve a higher goal.

Government employees and non-affiliated people tolerate milder actions because they share some of the environmentalists' concerns. However, their concern may not be strong enough to cause them to be tolerant of actions with severe outcomes, especially when activists admit responsibility for the action.

Several limitations exist to this study. Future researchers should seek a broader sample of the non-affiliated public. Also, the number of scenarios and strategies investigated resulted in a long questionnaire. Despite these limitations, this research has a number of theoretical implications. The organizational-level impression management research is extended to focus on how audiences respond to various strategies, a largely unexplored area (Ginzel et al., 1992). Two new strategies relevant to environmental activist organizations were identified: Necessitizing and Aesthetizing. The commonly used case study approach is extended by this research's focus on the message strategies used by one type of organization versus one organization. The measure of legitimacy used addressed multiple dimensions of the concept.

Several practical applications emerge for environmental advocates. Advocates may routinely use certain impression management strategies with certain stakeholders (Ginzel et al., 1992). Advocates should be aware of the likely response of key stakeholders to the strategies used to account for potentially problematic actions. Certainly advocates form personal conclusions regarding the strategy-stakeholder interface but such assumptions rarely are scientifically tested. In this study, members of the non-affiliated public reacted favorably to messages stressing a clean landscape and a healthy environment. Government employees' concern for protecting human life may have led them to react favorably to the Necessitizing strategy. They do not react favorably to being blamed or to attempts to redirect the focus off current problematic actions. This research helps advocates identify alternative strategies to use when caught in an ineffective pattern of strategy use. Finally, this research suggests an action's severity makes little difference in how groups respond to most of the various impression management strategies.

References

- Aldrich, H. E. (1979). *Organizations and environments*. Englewood Cliffs, NJ: Prentice-Hall.
- Allen, M., & Caillouet, R. (1994). Legitimation endeavors: Impression management strategies used by an organization in crisis. *Communication Monographs*, 61, 44-62.
- Baumeister, R. F. (1989). Motives and costs of self-presentation in organizations. In R. A. Giacalone

& P. Rosenfeld (Eds.), *Impression management in the organization* (pp. 57-72). Hillsdale, NJ: Lawrence Erlbaum Associates.

Bedeian, A. G. (1987). Organization theory: Current controversies, issues and directions. In C. L. Cooper & I. T. Robertson (Eds.), *International review of industrial and organizational psychology* (pp. 1-33). New York: Wiley.

Bedeian, A. G. (1989). *Management* (2nd ed). Hillsdale, NJ: Dryden Press.

Caillouet, R. H. (1991). *A quest for legitimacy: Impression management strategies used by an organization in crisis*. Unpublished doctoral dissertation, Louisiana State University, Baton Rouge.

Cheney, G. (1991). *Rhetoric in an organizational society: Managing multiple identities*. Columbia, SC: University of South Carolina Press.

Clark, B. (1956). Organizational adaptation and precarious values: A case study. *American Sociological Review*, 21, 327-336.

Davis, J. (Eds.). (1991). *The Earth First! reader: Ten years of radical environmentalism*. Salt Lake City, UT: Peregrine Smith Books.

Dionisopoulos, G. N., & Crable, R. E. (1988). Definitional hegemony as a public relations strategy: The rhetoric of the nuclear power industry after Three Mile Island. *Central States Speech Journal*, 39, 134-145.

Dutton, J. E., & Dukerich, J. M. (1991). Keeping an eye on the mirror: Image and identity in organizational adaptation. *Academy of Management Journal*, 37, 517-554.

Elsbach, K. D., & Sutton, R. I. (1992). Acquiring organizational legitimacy through illegitimate actions: A marriage of institutional and impression management theories. *Academy of Management Journal*, 35, 699-738.

Freeman, R. E. (1984). *Strategic communication: A stakeholder approach*. Boston: Pitman.

Galaskiewicz, J. (1985). Interorganizational relations. *Annual Review of Sociology*, 11, 281-304.

Ginzel, L. E., Kramer, R. M., & Sutton, R. I. (1992). Organization impression management as a reciprocal influence process: The neglected role of the organizational audience. *Research in Organizational Behavior*, 15, 227-266.

Greenpeace, U. S. A. (1993). *Greenpeace's guide to anti-environmental organizations*. Washington: Greenpeace, USA.

Jones, E. E., & Pittman, T. S. (1982). Toward a general theory of strategic self-presentation. In I. J. Suls (Ed.), *Psychological perspective on the self* (pp. 231-262). Hillsdale, NJ: Lawrence Erlbaum.

Lewis, M. W. (1992). *Green delusions: An*

environmentalist critique of radical environmentalism. Durham: Duke University Press.

List, P. C. (1993). *Radical environmentalism: Philosophy and tactics*. Belmont: Wadsworth Press.

Love, S. (1971). *Earth tool kit*. New York: Pocket Books.

Marcus, A. A., & Goodman, S. R. (1991). Victims and shareholders: The dilemmas of presenting corporate policy during a crisis. *Academy of Management Journal*, 34, 281-305.

Meyers, J. W., & Rowan, B. (1991). Institutionalized organizations: Formal structure as myth and ceremony. In W. Powell & J. DiMaggio (Eds.), *New institutionalism in organizational analysis* (pp. 41-55). Chicago: University of Chicago Press.

Nicholson, M. (1987). *The new environmental age*. New York, NY: Cambridge University Press.

Oliver, C. (1990). Determinants of interorganizational relationships: Integration and future directions. *Academy of Management Review*, 15, 241-265.

Perrow, C. (1970). *Organizational analysis: A sociological review*. Belmont: Wadsworth.

Pfeffer, J. (1981). Management as symbolic action: The creation and maintenance of organizational paradigms. In B. M. Staw (Ed.), *Research in organizational behavior* (vol. 3, pp. 1-52). Greenwich CT: JAI.

Powell, W. W., & DiMaggio, O. J. (Eds.). (1991). *The new institutionalism in organization analysis*. Chicago: University of Chicago Press.

Scott, M. B., & Lyman, S. M. (1968). Accounts. *American Sociological Review*, 33, 46-62.

Scott, W. R. (1991). Unpacking institutional arguments. In W. W. Powell & P. J. DiMaggio (Eds.), *The new institutionalism in organizational analysis* (pp. 164-182). Chicago: University of Chicago Press.

Terreberry, S. (1968). The evolution of environmental organizations. *Administrative Science Quarterly*, 12, 591-603.

Ware, B. L., & Linkugel, W. A. (1982). They spoke in defense of themselves: The genetic criticism of apologia. *Quarterly Journal of Speech*, 58, 273-284.

Facilitating Identification Across Divergent Perspectives Through Environmental Ethics Education

by Tarla Rai Peterson, Susan J. Gilbert, and Gary E. Varner

Introduction

Debates among social theorists reflect an ongoing controversy over the relative significance of symbolic (communicative) action and material existence in structuring social situations. However, there is general agreement that both influence, and are influenced by, the other (Giddens, 1979; 1984). Niklas Luhmann (1989, 1992) claims that all social systems operate on the basis of communication. Kenneth Burke (1950/1969) argues that, while the human experience is grounded in material existence, materiality is insufficient to explain social motivation. Rather, more complete explanation of social reality can be achieved by exploring rhetoric, or language used to provoke cooperation among human beings. He explains that, "once you have a word-using animal, you can properly look for the linguistic motive as a possible strand of motivation in all its behavior" (1966, p. 456). He argues further that the chief end of rhetoric is *identification*, or a sense of unity with our fellow humans.

Project Rationale. Following Burke, we proceeded from the assumption that social dilemmas such as environmental conflict arise from failure to form adequate identification between members of a community who are most concerned with environmental issues. Burke's (1935/1984, 1937/1959, 1950/1969, 1966) concepts of identification and rhetorical selectivity provided the theoretical grounding for our project. In this project explored the degree to which participation in an interactive workshop that introduced both environmental ethics concepts that were compatible, and those that were incongruous, with participants' past perspectives could facilitate cooperative, environmental decision-making. We hoped that participating in such a workshop would provide a basis for clarifying individuals' expressions of their perspectives regarding environmental issues, and encouraging extended dialogue across groups taking an interest in the issues. Our underlying assumptions were:

- 1) When introduced to a conceptual framework that gave them a vocabulary for explaining both their own, and divergent perspectives participants would use that vocabulary to increase their clarity of expression when discussing those perspectives.
- 2) When placed in a situation that induced them to

explain their own perspectives to, as well as to listen to explanations offered by, those holding divergent views, community members would develop increased understanding of the constraints imposed by various terministic screens.

- 3) The opportunity to interact in extended dialogues with those holding divergent views, combined with increased understanding of terministic constraints would facilitate development of the cooperative environment necessary for managing environmental conflicts.

Project Design. The workshop introduced community members from a variety of conflicting interest groups to fundamental environmental ethics concepts. We designed exercises that (1) encouraged participants to apply the concepts to their personal perspectives regarding environmental issues, and (2) required the participants to compare and contrast their own perspectives with the perspectives of other participants. The exercises were designed to illustrate that ethical perspectives can take a variety of forms, each being worthy of understanding.

To assess the impact of the workshop, pre-workshop and post-workshop informant directed interviews were conducted. Our interviewing technique allowed the interviewees to express their concerns in their own words. By comparing pre-workshop interviews with post-workshop interviews we assessed the impact of the workshop on the participants' expressions of concerns and on their perceptions of other peoples' perspectives.

Project Findings. We found that the workshops did have a meaningful impact on the participants' expressions of their concerns and perspectives. During interviews conducted four months after the workshops, participants explicitly incorporated concepts presented in the workshop into their explanations of their own perspectives, as well as the perspectives of other participants, regarding the environment. In general, participants articulated a broader conceptual basis for understanding environmental disputes after participating in the workshop.

After summarizing those aspects of Burke's rhetorical theory that are most relevant to the analysis we will describe the workshops we conducted, as well as the method we used to evaluate the influence of those workshops on participants. Finally we will

discuss ways in which participation in such activities can help develop greater reflexivity on the part of those involved in environmental disputes.

Rhetoric and Symbolic Action

Burke's (1950/1969, 1966) theory of rhetoric focuses on humans acting through language to form common bonds. He posits that to be human is to feel estranged from, yet desire identification and socialization with, others of our species. To overcome our state of estrangement or separation, we create elaborate social hierarchies that simultaneously enable and constrain our interaction. The social hierarchies we construct to achieve unity simultaneously result in more estrangement and divisiveness, for members of the hierarchy differ from each other in fundamental ways. We use rhetoric, or symbolic action, to express the common interests needed to achieve the social unity we desire. Since rhetoric's function is to proclaim unity, the rhetorical critic's function is to discover and analyze the symbols used to achieve that unity.

Burke's description of humans as "choice-making animals" necessitates that the human experience entails a degree of both autonomy and constraint. A wholly constrained person may respond to stimuli, while a wholly unconstrained person may behave, but neither chooses between alternatives. The communication practices implicated in conceptualizing and implementing sustainable development place their practitioners in that structured, yet not wholly pre-determined situation wherein meaningful choice occurs. Whereas some analytical frameworks focus attention on the processes through which social structure simultaneously constrains and enables action in concrete situations, Burke directs our attention to those symbolic acts that are constrained, but still voluntary. He does, however remind us that all symbolic acts are grounded in materiality. In other words, humans both act and are moved; the former being entailed within the latter and vice-versa.

Burke's (1937/1959) concept of dramatic frames has particular utility for the rhetorical analysis of broad cultural notions such as sustainable development. He argues that the symbols we choose to achieve social unity reflect our attitudes toward society in general. To choose a symbol, therefore, is to have an attitude toward the material object or experience the symbol represents. An analysis of the dramatic frames used in discussing sustainable development, therefore provides a general guide to the attitudes of those involved in the discussion. In *Attitudes Toward History* (1937/1959) Burke explains dramatic frames as the symbolic means of dealing with the dilemmas in which we become entangled. These frames guide us through difficulties by shaping our dilemmas into manageable situations.

He writes that, "out of such frames we derive our vocabularies for the charting of human motives. And implicit in our theory of motives is a program of action, since we form ourselves and judge others (collaborating with them or against them) in accordance with our attitudes" (1937/1959, p. 92). Dramatic frames provide a structure of meaning that either enables us to accept a situation that cannot be changed, or serves as a guide to correct a situation.

These frames, which provide correctives that enable people to feel "at home in" their material conditions, are either tragic or comic, and are distinguished from each other by their attitude toward social interaction. While both treat the topic of human struggle, warning against *hubris*, Burke suggests that the comic frame offers the more humane corrective. Discourse constructed within the tragic frame demystifies the social hierarchy by literally or ritually sacrificing the protagonist, whereas comically framed discourse achieves demystification by exposing her as a fool. The fool's role wards off serious threats to the social hierarchy by exposing stupidity, or incongruities between ideals and practices, within specific elements of that hierarchy, while enabling the underlying principles to continue. While the tragic frame envisions life as a drama wherein heroes battle villains to thwart the ascendance of evil, the comic frame envisions poet/scholars disputing with fools to impede the expansion of stupidity. Burke claims that the comic frame promises to avoid the extremes of euphemistic transcendence from material conditions and cynical debunking of all human effort that the tragic frame tends towards (1937/1959, pp. 35-41). Rachel Carson's fable of mass destruction at the beginning of *Silent Spring* (1964), for example, offers a tragic interpretation of the quest to improve humanity's quality of life and standard of living. The crusaders are destroyed by their own *hubris*. Alternately, Aldo Leopold's (1966) land ethic, while providing an equally incisive critique of society, merely derides the presumption of those who aspire to improve human life by dominating nature. Essentially, the comic frame focuses attention on humanity in society, whereas tragedy's subject is humanity in the cosmos.

Three concepts used by Burke (1935/1959; 1966) help explain how dramatic frames function within and between social hierarchies: An "occupational psychosis," which is constituted through a "terministic screen," results in "trained incapacity." An occupational psychosis is a way of thinking that develops out of a certain way of living, then reinforces traditional cultural patterns (1935/1984). It has a "creative character which, when turned into other channels of action or imagery, will shape them analogously" (1935/1984, p. 39). When Burke uses the term

"occupation" he refers to more than a professional vocation such as being a professor or a steel worker. An occupation, for example, might be to have arthritis, to be a third-generation landowner, or to be an environmentalist. As we develop an occupational psychosis, we rely on a vocabulary, or a terministic screen, to make sense of it.

Terministic screens (Burke, 1935/1984; 1966) provide the linguistic tools for naming and confronting the social hierarchies within which we find ourselves. They influence our observations at two levels. First, they direct attention, emphasizing some aspects of reality, and relegating others to the background. Secondly, this direction of attention results in our "observations" of reality becoming nothing more or less than "implications of the particular terminology in terms of which the observations are made. . . . [They] may be but the spinning out of possibilities implicit in our particular choice of terms" (1966, p. 46). Thus a terministic screen constrains our ability to turn reality into information. It provides a system of meaning for evaluating and naming a situation, then adopting an appropriate role within that situation.

Occupational psychosis combined with its accompanying terministic screen leads to trained incapacity, or a condition in which our abilities "function as blindness" (Burke, 1935/1984, 49). Because our terministic screens constrain our observational possibilities to those in keeping with our occupational psychoses, we see new experiences in the terms provided by our past training. Thus, our training becomes an incapacity. In this sense, our occupational psychosis works as a "deskilling" process that encourages us to cling to tested methods of dealing with our arthritis, our third-generation landownership, or our environmentalism, while disabling us from seeing new possibilities that might work better. Burke (1950/1969) argues that although "the hierarchic principle is indigenous to all well-rounded human thinking" a rigid hierarchy can interfere with the very social processes that it was intended to facilitate (p. 141). Trained incapacity promotes rigidity at the very time flexibility is most needed.

Rigid social relations can contribute to a generalized despair when division or estrangement from our fellow humans becomes so profound that it precludes the possibility of any identification across divergent perspectives. One strategy for dealing with such rigidity is to adopt *perspective by incongruity* within the comic frame. Burke (1937/1959) calls this a "verbal atomic-cracking" wherein a symbol is wrenched from its usual meaning and through casuistic stretching enables us to interpret our material circumstances as new situations by removing words from their traditional patterns. Perspective by incongruity enables us to re-interpret

our circumstances by more appropriately naming a situation that has been inappropriately defined by our trained incapacities. It turns our social hierarchies inside out to expose their foolishness. It is "impious... [in that] it 'puns' categories of symbols established by custom" (pp. 308-309). Simply revising elements of our original perspective is insufficient to achieve incongruity; rather the fundamental point of view must be changed.

The genius of Burke's comic frame is that it allows for the kind of cultural stretching that enables rhetorical criticism of large texts, such as the discussion surrounding environmental conflict, while retaining a focus on the language out of which that conflict develops.

Burke (1966) characterizes humans as "symbol-making, symbol misusing" animals that are "rotten with perfection" (p. 16). One of the senses in which we achieve perfection is in the construction of perfect opposites. Burke (1966) explains that there is a teleological perfection in an antithetical relationship: "There is its sheerly formal lure, in giving dramatic saliency and at least apparent clarity to any issue. One may find himself [sic] 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" (p. 19). Creatively used, *perspective by incongruity* holds both the promise and frustration of a perfect opposite within itself. Incongruous perspectives, if introduced and explored in a non-threatening environment, can enable people to shake off (or at least re-consider) terministic screens that function as trained incapacities, increasing the possibilities for partial identification among divergent perspectives toward the relationship between humans and their environment.

Environmental Ethics Workshops

Project Participants. Rockport, and Brownsville, Texas were selected as workshop sites because each is in an area with complex environmental controversies involving various interest groups. However, the basic focus of their environmental controversies is different. Rockport is in a region traditionally dependent on agriculture, with growing petro-chemical and tourism industries. The nearby Aransas National Wildlife Refuge is the winter home of the endangered whooping crane. Brownsville was thrust into the national media spotlight when an unusually large number of anencephaly cases (a neural tube birth defect) occurred during 1991. Controversy has centered around the cause of these birth defects, with various groups blaming agriculture, transnational manufacturing industries, ethnicity, and the health care system. We expected that philosophical differences between interest groups

would be more pronounced and important in the Rockport area than in the Brownsville area, inasmuch as the Rockport participants' concerns would be less focussed on a particular controversy. In each location, five to six representatives from conflicting interest groups were recruited to participate in the project.

Environmental Ethics. Environmental ethics arose as a subdiscipline within academic philosophy in response to the widespread claim in the modern environmental movement, that anthropocentric thinking encourages ecological havoc. John Muir, founder of the Sierra Club and ardent defender of Yosemite National Park, rejected anthropocentrism, claiming that "Nature's object in making animals and plants" was "first of all the happiness of each one of them, not the creation of all for the happiness of one," and he once stopped Theodore Roosevelt from killing a rattlesnake in Yosemite by claiming that it had as much right to be there as they (Nash, 1989, p. 40). Similarly, the United Nation's (1980) first World Conservation Strategy tied sustainability to non-anthropocentric thinking and defined environmental education in terms of fostering non-anthropocentric values:

Ultimately the behavior of entire societies towards the biosphere must be transformed if the achievement of conservation objectives is to be assured. A new ethic, embracing plants and animals as well as people, is required for human societies to live in harmony with the natural world on which they depend for survival and wellbeing. The long term task of environmental education is to foster or reinforce attitudes and behavior compatible with this new ethic.

Beginning in the 1970s, some professional philosophers responded to this line of thinking by beginning to publish books and articles exploring the nature and possibility of alternative, non-anthropocentric moral theories. Others responded by denying the environmentalists' contention that anthropocentric thinking encourages environmentally harmful practices. This writing on environmental ethics began as part of a general trend within academic philosophy in the 1970s and 1980s towards "applied" ethics. As a part of this trend, philosophy professors began teaching courses on environmental ethics.

Teaching ethics in a philosophy department sometimes looks very different from teaching ethics in a household or church. Here "teaching ethics" does not mean telling people what to do. An environmental ethics course does not have as its aim to settle specific behavioral questions. Rather, given a goal like minimizing resource consumption, environmental philosophy proceeds at a higher level of abstraction,

asking questions like "Why ought we to minimize resource consumption?"

Workshop Design. The workshop materials were patterned in the tradition outlined above, purposefully retaining much of its abstract nature. The confrontational atmosphere in public hearings on environmental controversies has encouraged radicalization and truncation of partisans' position statements (Peterson & Horton, 1995). By contrast, our workshops encouraged lengthy, careful reflection using a terministic screen drawn from the sub-discipline of environmental ethics. The workshop format encouraged participants to see each other as individuals with reasoned positions rather than as intransigent opponents acting in the grip of their emotions.

The workshops offered five forms of participation. (1) Because the workshops were small, we were able to build into the lecture format several discussion opportunities, which assisted in building a supportive atmosphere wherein differences of perspective were treated as something to be explored and understood rather than settled. (2) Participants were asked to individually describe themselves in terms of the concepts being presented. These exercises encouraged them to see that an individual might emphasize one set of goals without rejecting all other goals. (3) The participants were placed in small groups with other individuals who shared their general interest. Within these relatively safe discussion groups they compared self-descriptions for the purpose of developing a group profile. They were required to account for and accommodate all of the perspectives brought by the individual members. (4) Participants were placed in conflicting-interest discussion groups as representative of their original interest groups. Here, they represented their group, not just their personal preferences. They were not allowed to attempt to resolve differences, but simply to explain them. The goal was to identify and understand various perspectives, and to discover comparisons/contrasts of perspectives across interest groups. (5) A round table discussion was used to probe the interrelationships between the various perspectives.

Qualitative Interviews

We used interpretive analysis of our participants' discourse to evaluate the workshops' influence on their ability to discuss environmental controversies. A growing segment of communication literature advocates ethnographic research to investigate the life-world of human societies by uncovering meaning systems within communities (Anderson, 1987; Lange, 1990; Lange, 1993). By becoming a "participant observer" the researcher interacts within a particular community to gain greater insight about the meaning of

social action from the perspective of members. Despite its value in studying cultural categories and themes however, time scarcity and privacy issues sometimes combine to make such ethnographic methods impossible. Yet, qualitative approaches remain essential for examining the categories and logic by which people understand and frame their situations (Waitzkin, 1993).

The face-to-face interview provides one of the most powerful methods for understanding how people order and assess their everyday world. Peterson (1991; Peterson, et al, 1994), Horton (1992), and other communication scholars have used qualitative interviews to uncover meaning systems within interest groups similar to those convened for this project. Lincoln and Guba (1985) stress that when the research goal is to explore value systems, a methodology that captures this social construction of situations must drive the interview process. We therefore used McCracken's (1988) "long interview" protocol, which he suggests as a means for stepping "into the mind of another person, to see and experience the world as they do themselves" (p. 9).

Our goal in conducting the interviews was to produce a text that would make our informants' value orientation transparent and enable us to understand the motivational hierarchy out of which it developed. Because we were concerned with the social construction of values associated with perspectives toward environmental conflict, interview questions were constructed to gain greater understanding of those aspects of community members' meaning systems most directly related to their interaction with the "natural" environment. Questions were designed to give them every opportunity to discuss their attitudes toward environmental issues. However, the interview protocol was crafted so that no question *required* them to discuss specific environmental conflicts. One purpose of the interviews was to determine whether these issues were important enough to our informants that they would mention them when asked more broad questions. In other words, we attempted to discover whether our informants considered environmental conflict to be an important dimension of their lives, as well as how they characterized that conflict. The interview situation was, therefore, designed to encourage informants to tell the stories they chose to tell, with minimal outside direction.

Analysis of Interview Transcripts. The key assumption of qualitative content analysis centers on the notion that interview responses offer more than face value meaning. This meaning can be revealed by systematic interpretation of all possible meanings. Three concurrent goals drove our analysis. We wanted to determine if information or experience provided in

the workshop (1) had contributed to participants' ability to describe their own perspectives toward environmental issues; (2) had contributed to their ability to describe the perspectives of other participants; and (3) had suggested any new possibilities for dialogue directed toward developing a sense of identification across interest groups. With these goals in mind, we identified distinct themes in our informants' talk, reformulated the text obtained from their interview transcripts into broad conceptual categories, then cataloged the results to provide a basis for discussing whether (and how) participation in the workshop contributed to these goals.

All interviews were transcribed by a professional typist. The verbatim transcripts provided the primary text for a thematic analysis, which was contextualized by field notes. We began our examinations of the interview transcripts deeply embedded in the details of our informants' utterances, then moved gradually to more general observations. The analysis of the narrative discourse obtained in these unstructured interviews enabled us to better understand the internal logic behind our informants' activities.

Our procedure for thematic analysis combines elements of McCracken's (1988) analytical structure with Strauss and Corbin's (1990) techniques for fragmenting and reformulating data. We used the following five-step format:

1. Search for individual themes in each transcript;
2. Develop each of themes identified in step one;
3. Determine relative significance of themes;
4. Search for oppositions among themes, and thematic hierarchies;
5. Compare thematic hierarchies and oppositions across transcripts.

At this point, the cultural categories that were excavated from informants' talk became analytical categories that provided a basis for comparing and contrasting interviews conducted before participation in the workshop, with interviews conducted after participation in the workshop.

Articulating Familiar and Incongruous Perspectives

Our workshops began by introducing participants to several conceptual frameworks, with their accompanying vocabularies, that we hoped would enable them to more clearly explain beliefs regarding the relationship between humans and the environment. These includes the distinction between intrinsic and instrumental value, and a taxonomy of environmental ethics including anthropocentrism, animal rights/welfare views, and holism or ecocentrism. Without prompting during their follow-up interviews, a number of participants invoked these more abstract concepts

and distinctions in explaining the differences between their own, and other participants', views.

Hal Ketchum's response provides a striking illustration of this phenomenon. Ketchum is a wildlife biologist with a federal agency. He discusses ways in which endangered species serve as indicators of the health of biotic systems and as warnings about problems for humans in his pre-workshop interview (response #142), but does not tie it to any ethical framework. In his post-workshop interview Ketchum repeatedly characterizes "anthropocentric arguments" as useful for persuading people to support environmental preservation. He says that endangered species serve "human needs. . . . Maybe that's something -- uh -- that would help people understand, y'know, what's involved. Maybe it will hit home a little bit better" (response #73). Here Ketchum recognizes anthropocentrism as "an argument we use" (response #72) whether or not we agree that it is the most important one.

He devoted much of his pre-workshop interview to describing the value of the region's unique plants and animals, but does not connect this discourse to a specific ethical perspective. In his post-workshop interview, Ketchum explicitly takes a non-anthropocentric viewpoint. When asked about the regions flora and fauna, he says:

I guess I have more of holistic type of thinking in that y'know all this is interrelated . . . so y'know I don't have a problem with coming up with ways to help people understand why should they preserve or protect or whatever. (response #79)

The terms "holist" and "holistic" do not occur in Ketchum's pre-interview.

Asked specifically what "[his] own perspective" is, Ketchum says, "Well y'know it depends on what day you're asking me" (response #80), and he goes on to say that in his job capacity "aesthetics or whatever" are important. He then adds, "personally I believe we should do it [preserve nature] because I think we have that obligation as a human race" (response #83).

In another case, Bill Coining, a Rockport-area rancher, appeared to go from describing his perceived opponents as purely evil people to seeing them as thoughtful individuals with incongruous perspectives. In Coining's pre-workshop interview he cast his perceived opponents in an evil light, describing one natural resource agency representative in these terms: "he's a cold-blooded, ruthless son-of-a-gun" (response #51), who would "sell out his soul . . . to a pressure group. . . . He would sell you out" (response #52). While Coining did not retract his descriptions of any individuals during his post-workshop interview, he did

switch to describing his perceived opponents as people with (completely incongruous) perspectives. For example, he described his new found understanding of a woman whom he had known for some time as if interacting with her at the workshop, coupled with the introductory materials on alternative ethical perspectives toward the environment, had opened his eyes to her motivations:

You know what that Mrs. Applethorpe told me? I was trying to pin her down up yonder [at the workshop], and make a choice between the owl and the human, y'know. And when it comes right down to it, I believe she's gonna go with that owl! And like I said, nobody takes care of wildlife better than I do. I'll guarantee you that. But if it comes right down to it -- of saying "Bill, you gotta either let them deer go or let y'all go" -- when it comes down to that, don't you see, I'd have to stick with the human race? It's just that simple. (response #30)

Here Coining describes the difference between himself and Mrs. Applethorpe, not as a difference between someone who has an ethical perspective and someone who is immoral or amoral, but as a difference between people with very different ethical perspectives. Also, instead of describing agency personnel as "absolutely bad people," (which he does at several points in his pre-workshop interview), in his post-workshop interview Coining described agencies as spending more money than he thinks is necessary on various activities (responses #24 and #48). Instead of describing the agencies as made up of evil people, he describes them as having different priorities than his own.

A doctor from the Brownsville area, Enrique Gonzalez, focussed exclusively on health hazards to humans and on the health care delivery system during his pre-workshop interview. In his follow-up interview, this remained his primary focus. However, Gonzalez began his post-workshop interview by telling the following story:

Last night I went to see my mom. And uh one of the things that I saw was umm--it was about two in the morning -- well it was right after the thunderstorm. And uh I noticed a certain aroma. And uh it was -- and I said "Mom, what's that scent that I've been seeing -- or I'm smelling?" . . . So we went and I could smell the -- um, the aroma. . . . She showed me a plant . . . some type of plant that blooms at night. It only comes out at night . . . but I saw in the background there was a little hummingbird. And -- uh --

that to me was kind of strange because I had never seen a hummingbird come out at night. And I started thinking, — she said, er I said, "look, can you see it?" And she's over 60 years age and she has a hard — y'know, vision problems. And she said, "no, I can't." Then she started looking at it and it was a very small — small hummingbird. And she said, "can you catch it?" I said, "no." I said, "I'm gonna leave it — leave it alone because you never — y'know nowadays, y'know there's certain, uh, plants and things that have the, um, same — y'know, people will leave things alone if they can." ... Yeah. So I said, "no." I said I was going to leave it alone. But y'know trying to leave it the same, the environment the same, and not disturb it. It was one of the things that I thought about — y'know, what we had discussed [at the workshop]. (responses #4-14)

In this passage, Gonzalez notices aspects of his environment that he never has before. He comes close to suggesting that non-human nature has intrinsic value ("there's certain, uh, plants and things that have the, um, same...") but he changes his utterance to, "y'know, people will leave things alone if they can." The fact that he began the interview with this story, as well as his pensive tone, points up its importance to him.

We also designed exercises that encouraged participants to apply some of the concepts we introduced to their local situation. The exercise we designed around the so-called "takings" issue provided a useful vocabulary for some community members. The issue is quite complex, conceptually (Varner, 94). "Takings," "regulatory taking," "eminent domain," and "police power" are all key concepts with a checkered history in American jurisprudence. Nevertheless, we were able to design a simple exercise which clarified participants' views and framed the resulting discussion in a constructive way.

Participants were first asked to fill out, on an individual basis, a brief questionnaire. It asked, "Without compensation, would the government be justified in taking property or restricting use rights in any or all of the following cases?" The first two cases,

- 1) prohibiting farming practices which result in polluted runoff and
- 2) taking property to build a highway,

were chosen to be paradigm examples of cases where U.S. legal tradition does (1) and does not (2) recognize a government's right to take without compensation. As the U.S. Supreme Court argued in recent cases, because common law recognizes no right to use one's property in a way that results in harm to others,

government is not taking any use rights when it prohibits a practice which, like that described in case (1), causes harm to others. However, when the taking cannot be so justified, as in case (2), compensation is required (at least when the taking effectively deprives the owner of all economically viable use of his land). The other two cases,

- 3) prohibiting the filling of wetlands lying entirely on private land and;
- 4) prohibiting modification of the habitat of an endangered species,

were chosen because we expected that some participants would analogize them to the second case, arguing that if a taking occurred, it would have to be compensated, while others would analogize them to the first case, arguing that these takings could occur without compensation.

After filling out questionnaires individually, participants were organized into groups of four to six people, a group scribe was appointed, and they were given 15-20 minutes to discuss the four cases, with the scribe recording every reason the participants had for answering "yes" or "no" in each case. During the small group discussions, universal agreement emerged about the first two cases. Everyone agreed that the government could prevent practices that result in polluted runoff without compensating the landowner, and no one thought the government could condemn private property to build a highway without at least compensating the landowner. Participants differed, however, in their treatments of cases (3) and (4). As expected, some analogized them to case (1), arguing that harm to other people results when landowners adversely affect endangered species or ecological processes, whereas others analogized case (3) and (4) to case (2), arguing that no harm to others was caused in such cases.

After about 20 minutes, each of the small groups was asked to report to the whole workshop their reasons "pro" and "con" in each case, and the resulting discussion was facilitated in a way that placed the takings controversy in the context of U.S. common and constitutional law. At that point (but not before) participants were given prepared note pages with copies of the slides used in the facilitator's summary presentation.

This exercise generated lively, but focussed and constructive discussion during the workshops. By making the distinction between taking to prevent harm to others (the exercise of *police power*) and taking to secure a public good (the exercise of *eminent domain*), then comparing environmental regulations to clear examples of each, participants were able to frame their disagreements more clearly than if they simply had discussed the rather amorphous concept of property rights in a less structured atmosphere. That the

exercise had a lasting influence is borne out dramatically in the transcripts of two participants who were particularly hostile to government takings.

Bill and Elizabeth Blake were participants in the Rockport-area workshop. The Blake family owned and ranched 19,000 acres on Matagorda Island — a barrier island off the Texas coast — prior to World War II. Their land on the island was "taken" for an Air Force pilot training base in 1940. The land was not returned to the family after the war as originally promised, and was in 1975 transferred to a very different use as a wildlife refuge. The Blakes were permitted to lease the island for cattle grazing after the war, but with increasing restrictions and finally, in the early 1990s, cattle grazing was banned entirely from the island on the grounds that it was incompatible with the island's status as a wildlife refuge. Although the Blakes were belatedly compensated for their land, they remain indignant over the fact that other landowners in the region were compensated at a higher rate (because the other takings occurred at a later date), as well as over the fact that the land has been dedicated to use as a wildlife refuge.

The first questions in our "long interview" protocol were: "How long have you lived in this region?" and "What changes have you noticed since?" Mr. Blake's immediate response in the pre-workshop interview was:

Our biggest change is the government interference in private rights. And that's our biggest concern over this environmental binge that's expounded by people that don't have any idea what they're talking about — extremists in other words.... I'll give Matagorda Island as the biggest example. There's 19,000 acres that the Air Force condemned and took for building an Air Force base for training World War II pilots. And they turned around and ended up making a wildlife refuge out of it. In other words, that wasn't the purpose of taking whatsoever. It was not taken for that purpose. (response #21, #22)

Three themes, implicitly but not explicitly interrelated, emerge in these early interview passages. One is that too much taking is occurring in the name of the environment. A second is that the advocates of these takings are scientifically naive. The third theme is that Mr. Blake believes, that if his family's land had been taken for the original purpose of training pilots during the war and then returned, it would have been justified. As he puts it elsewhere, "people in them days was patriotic" (response #54) and would let government agencies use their land for certain purposes. However,

nowhere in the first interview does Mr. Blake state any general principle that he believes should govern takings decisions and which explains why a temporary taking of their land would have been justified during the war.

By contrast, in the post-workshop interview, Mr. Blake explicitly and repeatedly articulates a general perspective, which he believes should govern takings decisions, and which clearly interrelates these three themes. Early in the interview he says:

Unless they can show that you're harming the environment or something else, on your property you oughta be able to do what you want. If you were harming a neighbor or anybody else, they've already got laws against it. (response #36)

As he puts it later: "To me unless they can show I'm harming something—actually harming it — I don't think that's right [to prevent grazing]" (response #44). Mr. Blake appears to claim that private uses of land may justifiably be restricted only when they can be shown to cause harm to others. Although Mr. Blake does not explicitly address the question of whether and when the government may take land for other purposes, if taken literally his principle would rule out all exercise of eminent domain. Nevertheless, he acknowledges police power as justification for taking without compensation.

The rhetorical significance of the principle articulated in Mr. Blake's post-workshop interview is that it clearly interrelates the three themes identified above. He indicates that his family's use of Matagorda Island for ranching caused no harm, which implies that the taking went too far:

No one...can ever say...that we've ever contributed to any pollution or anything environmentally unsound. They never have said it—even on the island with cattle raising. There's not one agency that's ever said we did anything to hurt the environment over on Matagorda Island. Nothing. (response #92)

In the post-workshop interview it also is clear how environmentalists' alleged scientific naiveté relates to the takings issue. Mr. Blake cites scientific studies, commissioned by the very agencies which managed the island, showing that their cattle business was not harming the endangered whooping cranes. This proves (in Mr. Blake's opinion) that environmentalists advocate going too far in regulatory takings because they are ignorant of relevant scientific findings.

Mr. Blake recognizes that an implication of his view is that if there *were* appreciable harm to others, then the practice in question could be banned, and without compensation. He contrasts his own benign ranching practices to certain farming practices:

I don't use any herbicides, insecticides or [garbled word]. Nothing.... But the farmers do, and they use too much.... But that's what they were raised to do. And I think there should—they've already got restrictions on it of course. And it's—might put the rice farmers out of business because they have to turn that water loose after they've used it on their crop and it goes directly into your watersheds, bayous and bays. (responses #37-40)

Mr. Blake's perspective has not changed. As before the workshop, he believes that taking the Blakes' land on Matagorda Island for a wildlife refuge was unjust. But after the workshop he repeatedly articulated the principle that uses of private land may justifiably be restricted only when they can be shown to cause harm to others, a principle which makes clear the relevance of the scientific studies he cites to the takings issue and makes clear why, in his opinion, an "environmental binge" of takings is occurring. So he is articulating his own position more clearly. In developing his position in this way, he also offers a clear challenge to the environmentalists that provides the grounds for a constructive approach to their disagreement.

Identification Among Difference

In addition to improving participants' articulation of their own and others' perspectives toward the relationship between humans and their environment, we hoped that the workshop experience would encourage identification of commonalities across interest groups. Although less obvious than the workshops' impact on participants' ability to articulate perspectives, some new recognition of such opportunities emerged.

One example is the way Bill Coining and the Blakes quit describing government agency personnel as thoroughly evil and instead described them as strongly non-anthropocentric in their perspective. Although they still found agencies difficult to work with, the switch in rhetoric is not insignificant. To see an agency's perspective as different from one's own, is to see more possibilities for cooperation than is the case when the agency is perceived as immoral. Whether or not agencies are committed to a non-anthropocentric ethic, this reflects an understanding of agency decisions as resulting from an (perhaps incongruous) ethical perspective rather than from corruption.

As we expected, Brownsville participants tended to focus more on human health concerns in their interviews and less on broader environmental problems. But, the workshop appeared to encourage participants to recognize the interconnections between human health and the broader environment. Wildlife profes-

sional Hal Ketchum discussed in his post-workshop (but not his pre-workshop) interview possibilities for land management professions to build bridges with the health care community (response #74). Both Doctor Gonzalez and Suzanne Ramirez, a school nurse, introduced the parallel point that the health care professions should build bridges with the environmental community (Gonzalez: responses #21-23; Ramirez: responses #50, 52, and 71).

Conclusion

Workshop participants were neither prompted to discuss specific environmental topics, nor ethics in general, during pre- and post-workshop interviews. Nor were they prompted to discuss the concepts presented at the workshops. Both the interviews and workshop were represented to participants as information-gathering exercises on our part, rather than as an attempt to evaluate the workshops' impacts on participant thinking about environmental issues. Nevertheless, in follow-up interviews conducted four months after the workshops, a number of participants incorporated both concepts and vocabulary presented in the workshop into explanations of their own perspectives on environmental issues. Less, obvious, yet still clearly indicated, was the impact of the workshops on participants' understanding of incongruent perspectives and their increased attention to possibilities for developing identification across interest groups.

A recurrent theme in interview transcripts was the need for members of opposing interest groups to communicate in a calm, reflective setting. In follow-up interviews, several participants specifically mentioned the workshops and associated materials in this vein. For instance, Hal Ketchum cited a need for "better understanding -- overall understanding of why they [conflicting interest groups] y'know, why they think the way that they think" (response #122), and for a program that would foster mutual understanding among interest groups (response #133). He concluded his comments in the post-workshop interview by exclaiming about how "valuable" he and a professional colleague have found "every piece of material that [they] received from [the project team]," explaining that they "are sharing all of it with other people" (response #158).

Our participants appear to have valued the workshops for precisely the characteristics we attempted to build into them. We attempted to bring representatives of diverse interest groups together in a setting that encouraged calm, reflective interaction, rather than confrontation. Participants were encouraged to discuss their own and others' perspectives fully and precisely, using a shared terminology set.

Our workshops were in this respect the opposite of media treatments and public hearings. Media treatments of environmental controversies often have encouraged radicalization and truncation of partisans' position statements (Groenendyk, 1994), and public hearings have demonstrated similar tendencies (Peterson & Horton, 1995). In contrast, by providing a non-threatening environment wherein community members were encouraged to examine both their own and fundamentally incongruous perspectives, our workshops encouraged lengthy, careful reflection of competing terministic screens. Analysis of the interview transcripts suggests that workshops which introduce environmental ethics education can help participants frame their own and others' perspectives more clearly and precisely, and can help them see new opportunities for identification with other members of their communities. The transcripts provide ample evidence that the workshop experience did enable some participants' to transcend their trained incapacities when faced with perspectival incongruity.

Burke's (1935/1984; 1966) theory of rhetorical selectivity suggests that by emphasizing or deemphasizing certain spheres, the various terministic screens of individual persons and interest groups constrain their visions of appropriate environmental policy. The existence of these constraints, however, was not the issue, for any model of reality imposes constraints. Rather, the problem is that the potential for collaborative solutions to environmental problems hinges on the participants' ability to develop greater awareness of both their own and others' terministic screens. Our analysis supports the assumption that enhancing the productive tension among the terministic screens used within a community offers a powerful means for enabling community members to identify (not necessarily come to agreement) with each others' perspectives regarding the appropriate relationship between humans and their environment.

References

- Anderson, J.A. (1987). *Communication Research: Issues and Methods*. New York: McGraw-Hill Publishing Company.
- Burke, K. (1935/1984). *Permanence and Change*. Berkeley: University of California Press.
- Burke, K. (1935/1959). *Attitudes Toward History*. New York: New Republic.
- Burke, K. (1950/1969). *A Rhetoric of Motives*. Berkeley: University of California Press.
- Burke, K. (1966). *Language as Symbolic Action: Essays on Life, Literature, and Method*. Berkeley: University of California Press.
- Carson, R. (1962). *Silent Spring*. New York: Fawcett Crest.
- Geertz, C. (1976). From the native's point of view: On the nature of anthropological understanding. In K. Basso and H.A. Selby (eds.) *Meaning in anthropology*. Albuquerque, NM: Univ. of NM Press, pp. 221-237.
- Giddens, A. (1979). *Central Problems in Social Theory: Action, Structure, and Contradiction in Social Analysis*. Berkeley: University of California Press.
- Giddens, A. (1984). *The Constitution of Society: Outline of the Theory of Structuration*. Berkeley: University of California Press.
- Groenendyk, K. (1994). *Covering the Story: A Rhetorical Analysis of Brownsville's Television Newscoverage*. Master's thesis, Texas A&M University, College Station, TX.
- Horton, C. C. (1992). *An Interpretive Analysis of Texas Ranchers' Perceptions of Endangered Species Management Policy as Related to Management of Golden-cheeked Warbler Habitat*. Master's thesis, Texas A&M University. College Station, TX.
- Lange, J. (1990). Refusal to compromise: The case of Earth First! *Western Journal of Speech Communication* 54: 473-494.
- Lange, J. (1993). The logic of competing information campaigns: Conflict over old growth and the spotted owl. *Communication Monographs* 60: 239-257.
- Leopold, A. (1969). The land ethic. In *A Sand County Almanac: And sketches here and there*. New York: Oxford University Press, pp. 201-226.
- Lincoln, Y. & Guba, E. (1985) *Naturalistic Inquiry*. Beverly Hills, CA: Sage.
- Luhmann, N. (1986/1989). *Ecological Communication*. John Bednarz, Jr. (trans.), Chicago: University of Chicago Press.
- Luhmann, N. (1992). What is communication. John Bednarz, Jr.(trans.). *Communication Theory* 2: 251-259.
- McCracken, G. (1988). *The Long Interview*. Newbury Park, CA: Sage.
- Nash, R. (1989). *The Rights of Nature: A History of Environmental Ethics*. Madison: University of Wisconsin Press.
- Peterson, T.R. (1988). The rhetorical construction of institutional authority in a Senate subcommittee hearing on wilderness legislation. *Western Journal of Speech Communication* 52: 259-276.
- Peterson, T.R. (1991). Telling the farmers' story: Competing responses to soil conservation rhetoric. *The Quarterly Journal of Speech* 77: 289-268.
- Peterson, T.R. and Horton, C.C. (1995). Rooted in the soil: How understanding the perspective of land-owners can enhance the management of environmental

disputes. *The Quarterly Journal of Speech* 81: forthcoming.

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 interpretive analysis can improve persuasive safety campaigns. *Journal of Applied Communication Research* 22: 199-215.

Strauss, A. L., & Corbin, J.M. (1990). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. Newbury Park, CA: Sage.

United Nations/International Union for the Conservation of Nature (1980). *World Conservation Strategy: Living Resource Conservation for Sustainable Development*. Gland, Switzerland.

Varner, Gary (1994). Environmental law and the eclipse of land as private property. In Frederick Ferré and Peter Hartel (eds.), *Ethics and environmental policy: Theory meets practice*. Athens, Georgia: University of Georgia Press, pp. 142-60.

Waitzkin, H. (1993). Interpretive analysis of spoken discourse: Dealing with the limitations of quantitative and qualitative Methods. *The Southern Communication Journal* 58: 128-146.

Notes

1. All informants' names have been changed for this report. Except as indicated with bracketed words or phrases, responses are quoted verbatim without grammatical or other corrections. Response numbers refer to interview transcripts on file with the authors.

This project was funded as EPA assistance ID #MX822144-01-0, "Addressing Coastal Challenges Through Environmental Ethics Education," Susan J. Gilbertz, Tarla Rai Peterson, and Gary E. Varner, co-principal investigators.

Environmental Concern and Media Coverage: 1988-1994

by James Shanahan and Katherine McComas

Introduction

Though hindsight is perfect, some observers of environmental issues have noted that it is difficult to sustain public environmental concern at high levels. Awareness of environmental issues is challenged by other issues (especially economic ones) on a regular basis, and public "tolerance" for environmental problems seems to be relatively light.

Partly this situation may be explained by the well-known "issue-attention cycle" hypothesis of Anthony Downs (1973), who posited that environmental issues are naturally susceptible to "ups" and "downs" of public attention. According to his analysis, environmentalism is an issue which passes through the following phases: a pre-problem stage leads to a period of "alarmed discovery" associated with specific environmental problems or hazards. This leads to "euphoric enthusiasm" being mustered to combat the problem. Then public opinion realizes the cost of making significant progress, and a decline of intense public interest follows, which leads to a post-problem phase which starts the cycle again.

How correct has Downs' analysis proven? The years from 1973 to 1994 have seen low valleys of environmental concern (the early 1980s especially) and high peaks (1988-1991). During these years a series of environmental catastrophes occurred which attracted sporadic attention, including Chernobyl, Three Mile Island, Love Canal, the *Exxon Valdez*, and numerous others. Through these years the public gave consistently high ratings to the importance of the environment in public opinion polls (Gillroy & Shapiro, 1986). However, these self-evaluations were not always backed up by action. Certainly the media did not pay attention as consistently as public opinion would have dictated.

If Downs is right, the problem is potentially insoluble because the environmental issue "organically" possesses qualities which means that the public will eventually turn its attention to other more interesting or pressing problems. According to Downs, environmentalism is a cyclical issue for three reasons:

- (1) *problems related to the issue are experienced unequally; a minority suffers more from the problem than the majority*
- (2) *such problems are generated by social arrangements which provide significant benefits to a majority or powerful minority*
- (3) *the problem has no intrinsically exciting*

qualities, or they fade with time (pp. 41-43).

Downs' argument is that these qualities either inhere naturally in issues or they do not. The social system which contexts these facts is not, for Downs, at issue. But there is no need to assume that these qualities inhere organically. These issues are also significantly problems of perception and social construction, both at the individual and the group level.

Environmental problems may be experienced unequally due to *portrayals* of the problem which do not adequately address the needs of all potential receivers of information. Structural inequality in media portrayals could be equally responsible. Mass media portrayals of environmental information are known to be effective mostly at the upper levels of the socio-economic ladder, with underprivileged classes receiving or choosing to receive relatively little information. Information *structures* can be implicated just as much as the "natural" qualities of the issue itself.

Similarly, *social arrangements* which generate issue perception problems need not be accepted as a given. The information structures which help generate these inequalities can themselves be criticized, with suggestions made for reform.

Finally, the characteristic of an issue being exciting or not exciting is a matter of perception and reception. First, the fact that being exciting is a requirement to get the public interested in an issue is itself a function of public opinion and media machinery which is geared toward this quality. Media portrayals of issues characteristically not only seek exciting issues but also to actively construct issues as either exciting or dull. There is less pre-given "excitement" inherent in an issue than Downs assumes; it is a matter of social, institutional, and communicational choice that issues be discussed in this or any other way.

Thus, Downs' characteristics of issues which lead to opinion cycles are not theoretically pre-determined. A significant part of why issue-attention goes up and down should be found in the way we present and talk about issues. The purpose of this paper is to examine the role of environmental issue presentation in the media, relative to the most recent crest in the wave of environmental concern.

Media and Environment

Certainly communication researchers have recognized the many ways in which the media can and do distort environmental issues, just as they distort many

other issues. However, the cyclical nature of news coverage of the environment has not been often considered as a feature of the information system itself. It may well be that coverage and presentation strategies which predetermine that environmental issues will be covered cyclically are adopted by media. The dynamics of the media marketplace strongly influence these strategies, which need to be seen as instrumental choices rather than only as organically inherent qualities of the environmental issue.

What is at issue here? Any environmental issue which gets covered must first have the quality to attract readers and viewers. News gatekeepers, under competitive pressures, have defined these qualities using dramatic rather than scientific or environmental criteria. In Western practice, "dramatic" often means being a suspenseful, action-packed, danger-filled story. A series of stories, taken as chapters in an ongoing saga, must have a certain dramatic arc to them. High emotion and tension can only be sustained for so long before dramatic tension is either used up or wasted. The structure of a story rising to a dramatic pitch, followed by denouement and a moral lesson is not characteristic merely of the news story, but also of the dramatic television story. In both genres, the communication transaction is the same, with attention bought and excitement sold through programs.

Of course media are not the only participants in this process, nor do all stories conform to a single narrative schema. Environmental organizations and scientists, hungry for coverage in the very same media, may also attempt to assign these dramatic characteristics to the environment. Arguably, the characteristic of environmental issues as having human dramatic qualities is a major determinant of which issues will be extensively pushed by environmental organizations.

Analysis

To gain empirical perspective on cyclical news coverage, we examined some national news coverage from 1988 to 1994: did a Downsian cycle occur? Anecdotal evidence suggest that media attention has dropped drastically in the past year or so. If news does not appear in cyclical patterns, then both Downs' hypotheses and our conjectures are invalidated.

As an exploratory analysis, we conducted a NEXIS search to assess frequency of coverage of some environmental issues in the *New York Times*, the national newspaper of record. If the *Times* coverage of the issue demonstrates the cyclical syndrome, it is likely that other news institutions will have followed suit.

Having first identified some major environmental issues during the period of 1988-1994, our search determined the number of times each issue appeared either in the story's headline or its lead (using a key-

word in the search). The search was limited to the National and Science sections. The following figure illustrates by year the topics and the corresponding number of stories each received.

Not every issue shows the peaked pattern which we would expect. However, global warming coverage is a particularly good exemplar of the pattern. Ozone coverage decreased from an early high in our sample period, as did radon coverage. Toxic and nuclear waste coverage are better, though not perfect exemplars. Acid rain seems to demonstrate the pattern well also, though we will see in more extensive analysis that this is illusionary. Mostly, though, coverage in the *Times* climaxed at some point and then dropped (as opposed to stable, increasing, decreasing, or randomly fluctuating coverage patterns). Some increases and decreases follow logically in event-oriented coverage, such as the *Valdez*. These examples cannot be considered confirmation for Downs' hypothesis. Decreases in coverage of continuing environmental concerns, such as ozone depletion or nuclear waste, suggest, however, a general decrease in media attention to environmental issues. Summed, these issues demonstrate quite well the basic "peaked" pattern of frequency of coverage suggested by Downs' hypothesis. Even removing *Valdez* coverage from the sample, the basic pattern is evident. Thus, across a variety of environmental issues, the pattern is in evidence.

Let's examine a few particular cases. Theories of ozone depletion appeared in the mid-1970s, but wide-scale recognition did not come for another decade when scientists recorded an "ozone hole" over Antarctica larger than the United States (Benedick, 1991, 18). Media coverage rapidly increased during the mid- to late 80s, spurred on by international negotiations for the Montreal Protocol in 1987. The Protocol called for a 50 percent reduction in the production of chlorofluorocarbons (CFCs) and other ozone depleting chemicals. Media coverage peaked in 1988 and 1989, and despite a brief resurgence in 1991 due to the release of an EPA study, coverage continued its downward trend.

Radon is another environmental issue that illustrates Down's cycle. Radon came into the national headlines in January 1988, when the National Academy of Sciences blamed radon for 13,000 new cases of lung cancer each year. Moreover, the threat came from an odorless, colorless gas that naturally collected in people's homes. In light of these reports, the government issued a nationwide public health advisory urging people to test their homes for radon. After extended media coverage in 1988, however, radon received only minimal coverage in 1989, illustrating one of the greatest drops in coverage of a theoretically on-going environmental concern. More recent stories

state that some scientists think the radon threat was "overblown."

Also in the 1980s, the northern spotted owl became a prominent environmental issue, which also demonstrated cyclical properties. Media coverage of the spotted owl debate peaked in 1989, as the debate centered around people who opposed and those who supported continued logging in the ancient, old-growth forests of the Pacific Northwest. At issue were an estimated 10,000-28,000 logging jobs lost over the next decade to protect the one-third of the 15 million acres of virgin forest that remains in the Pacific Northwest, and the estimated 3,600 pairs of spotted owls that inhabit the forest. Media coverage declined after 1990, when the government formally declared the spotted owl a "threatened species," which made destroying its critical habitat illegal. During various timber conferences or attempts to negotiate between environmental groups and the timber-industry supporters, media coverage increased slightly but then resumed its decline.

Thus, there is some evidence to support existence of the cyclical pattern. But these data alone do not tell us whether Downs' hypothesis is the correct one, or whether other factors can explain the rise and fall in media attention. Nor do we learn much about the nature of the stories in each segment of the cycle. For a more instructive analysis, we selected two topics -- the "greenhouse effect" and acid rain. For each issue we present a more detailed graphical analysis, and a closer examination of the narrative structure over an extended period.

Greenhouse Coverage

Figure 2 presents data for frequency of greenhouse coverage in two national newspapers, the *New York Times* and the *Washington Post*. The period for analysis is from 1980-1994, to insure that precyclical coverage is included. The graph was prepared by calculating the number of stories which, at any given data point, had appeared in the last 5 months in both papers. (We used the *Times* and *Post* indices for these calculations, which explains some small differences between these findings and the NEXIS search results.) From this number, a moving average was calculated to smooth data fluctuations. This results in a graph which shows cumulative and general trends, but allows for inclusion of data by month rather than by year, which is too gross a measure.

Clearly, a cyclical explosion in coverage occurred around 1988. According to Downs, this represents the "alarmed" discovery of the problem. Yet it is clear that the problem had actually been "discovered" earlier. This suggests that knowledge alone is not enough to "construct" the alarm upon which Downs' hypothesis

rests. In order to produce the alarm Downs predicts, stories must emphasize the dangers inherent in the problem, and be perceived as actually representing a danger. Coincidentally, potentially disastrous outcomes make for better ratings and circulation numbers. Also, in a situation where a narrative critical mass is developing, press reports will tend to multiply each other, producing the common sense impression that the problem is important, "in the now," and worthy of immediate attention. We speculate that this is what happened with global warming around 1988.

In 1983, the *Times* had reported the story of the report issued by the National Academy of Sciences, warning of a buildup in carbon gases in the atmosphere. The report was dismissed by a Reagan scientist as being "alarmist," and the issue went away for some years (Shabecoff, 1983, p. 1). In 1986, Dr. James Hansen, a NASA scientist, went out on a limb and definitively concluded that the greenhouse effect was taking place, reported in the *Times* in a June 11 story. While predictions of a global temperature rise were included, no dire consequences were specifically predicted. However, the report suggested that greenhouse gas accumulation was speeding up (Shabecoff, 1986, p. 17).

These early reports were cautious and straightforward but not associated with any definitive rise in overall coverage trends or public concern. But starting in 1988, stories began to acquire a more strident, and even desperate tone. Many news sources reported that the hottest years in recent memory had all occurred in that very same decade. In particular, the very hot US summer of 1988 lent credence to a developing feeling that the world was becoming noticeably hotter. Popular media reported this very widely, magnifying the effect of scientific reports. These factual reports, mostly from reliable scientific sources, increasingly began to be interspersed with poorly-founded predictions of the possible effects of such warming, especially reports of the possible impact of polar melting and a resultant increase in ocean levels. These disaster hooks offered newsmen a way to give the greenhouse story "legs." Following this, a major increase in news coverage of global warming occurred throughout the next two years.

The *Times* took a fairly responsible tack in reporting scientific developments, but still paid attention to the doomsday predictions. Philip Shabecoff wrote that "experts predict major changes in climatic patterns and a gradual rise in sea levels as the warming oceans expand and polar ice melts. Coastal flooding, dust bowls, sharply reduced crops, and dying forests could result in some regions. On the other hand, relatively barren areas might become farmlands" (Shabecoff, 1988, p. 1).

Of course, the *Times* was neither particularly nor solely responsible. Any major media coverage frenzy requires the cooperation of more than one medium. Greenhouse issues began to receive this attention in a number of media. *Time* magazine, for instance, contributed enormously to public and media attention alike when it chose to name Earth its Man (planet) of the Year. The substance of *Times* coverage was quite incendiary, with predictions of potential worldwide disaster which earned quite a bit of publicity for *Times* most important publication of the year. Further, the publication of books such as Bill McKibben's *The End of Nature* fed the flames. If Figure 2 can be accepted as a general indicator of the coverage trends media-wide, there is no other choice but to describe media coverage as both feeding on and benefiting from the rapid increase in alarmism associated with the issue.

A typical example from coverage of this period is a story published in the *Times* on June 26, 1988.

According to some of the most dire predictions, this is how bad a summer day might be in the year 2030:

The temperature in Washington, DC is over 100 degrees for the 10th straight day. Air conditioners are running at maximum around the clock, straining the generating capacity of electrical power plants and assuring another jump in already soaring utility rates.

In New York City, heat is not the only problem. Workers are raising levees to hold back the rising tidal waters of the Hudson and East Rivers.

In the South, another 100,000 acres of Louisiana wetland is being lost to the sea. But Chicago is suffering from another extreme. Evaporation has been causing Lake Michigan to recede from Lake Shore drive, leaving behind an ever widening expanse of malodorous mud. (Shabecoff, 1988, p. 1).

Not all stories were doomsday in nature. But scientific accounts, inevitably cautious in nature, were quickly overwhelmed by the lurid predictions. Factual information about greenhouse warming, a topic notorious for its reliance on computer-modeled data built on many assumptions, was simply assumed, though no clear estimate of warming was firmly established in the public mind (though a warming of about 3 to 8 degrees over an indefinite period was mentioned most frequently). Arguably, these forms of coverage established near-term public expectations which could not be met.

In this phase of coverage, most reports were skewed

to the worst-case scenario. Bill McKibben provided the most accessible popularization of greenhouse scenarios for the book-reading public, arguing that the "end of nature" was its most important effect. When computer models predicted disaster, McKibben accepted them. When he questioned such models, however, he did so for the purpose of asserting even greater possible disaster than the scientists were willing to assume (McKibben, 1989, pp. 124-126). *The End of Nature*, the *Time* magazine story, the numerous newspaper reports, and many other sources of information all had the effect of creating such a noise that even fairly environmentally illiterate individuals became aware of global warming, such that environmental issues themselves began to rise on the public agenda of issue concern. Each source of information worked synergistically with the other so that the assumptions of the global warming hysteria could eventually be assumed as common knowledge. Yet, naturally, specific information about how global warming predictions had been constructed was hard to come by.

For Downs, the rise in greenhouse coverage would be seen merely as a natural public discovery of a particular environmental problem. From our perspective, however, the narrative dimension is as important, especially since knowledge of the greenhouse problem predates the increase in concern. In retrospect, it seems that what was needed was more than just a particular scientific problem; a story with specific and dangerous consequences, with someone willing to verify its truth, was necessary.

The raised expectations of danger and disaster obviously would not materialize in the short term. Given that, it is not surprising that the bubble burst in the early 1990s. Downs asserts that attention declines due to public realization of the cost of solving the problem. We contend that communication considerations are also an explanatory factor. Predictions of disaster become strident and shrill in the short term. Over the long term, they will discourage attention to the issue. Thus, a narrative logic essentially demands that news stories begin to deal with the "debate" about the issue. Inevitably, political coverage will establish doubts in the reality or importance of the problem, which will produce a decline in the coverage of a problem which seems less important. Once the press has established expectations of doom and disaster which can not be met, the political aspects of the story, the conflictual aspects, must emerge, as a way to sustain dramatic interest. In the case of global warming, these stories emerge particularly (though not exclusively) on the "downside" of the attention cycle.

Thus, the late 1980s had set up an atmosphere in which greenhouse warming was an imminent disaster. The early 1990s coverage could only have been main-

tained by an outcome which actually matched predictions. With the turn of the decade, a variety of "outside" forces conspired to reduce attention to the problem. While Bush had campaigned as an environmental President, his actual attention to such issues was minimal. Then the Persian Gulf war and later economic woes seemed to subtract urgency from the problem. Indeed, in the face of Middle Eastern enemies and rapidly escalating economic woes, the predictions of just two years earlier acquired an almost comic or nostalgic character. The Rio "Earth Summit" provided one last hurrah for greenhouse coverage in the national press. When Bush signed an emasculated international agreement, the national press seemed willing to accept this as the final word on the issue. Record snow and cold in the nation's decision-making centers merely confirmed the wisdom of this approach.

More than this, the early enthusiasm for dire greenhouse predictions fueled an eventual "backlash." William K. Stevens, in the *Times* of September 14, 1993, discussed the attempt of scientists to counter the characterization of global warming as an hysterical "flash in the pan." Yet, given the nature of the coverage, it is perhaps not surprising that this characterization has met with increasing acceptance. Indeed, with environmental issues in general, as we have already seen, there has been a measured stepping back from the criticisms which were offered in the late 1980s. From a public opinion standpoint, a corollary result has been a drop in concern for and attention to environmental issues.

Indeed, as Stevens reported, the "rhetoric is the mirror image of some that was heard five years ago, at the height of the North American heat wave, when some environmentalists and politicians warned of climatic apocalypse on the basis of assertions by a minority of scientists that global warming was already under way" (Stevens, 1993, p. 1). In five short years, imminent disaster had become the cranky forecast of socialist environmental wackos. Speaking from a narrative standpoint, the resurgence of the "wise use" movement may be seen as a natural outcome of the environmental coverage of the early 90s.

Acid Rain

Compared to global warming coverage, the pattern for acid rain is less markedly "up and down." While a cyclical pattern of coverage is evident, the cycle extends over a somewhat longer period and is interrupted several times in the course of its decline. Seemingly, acid rain is less of a confirmation both of the Downs hypothesis and our explanation as well.

But the issues of acid rain and global warming were also fundamentally different and were covered in some different ways. One difference is that even during the

height of concern over acid rain, from about 1983 to 1988, the alleged effects were neither as frightening nor widely experienced as those connected to global warming. Thus, neither could they be portrayed in as alarming a manner. Most acid rain coverage focused on the dangers to rivers, lakes, streams, forests and fish, mostly in sparsely populated or remote areas. While some early reports attempted to portray acid rain as having human risks, these never successfully "took" in public opinion terms. However, the first peak of acid rain coverage bears enough resemblance to Downs' pattern to merit closer consideration.

As with the greenhouse effect, scientists did not "discover" acid rain in the 1980s when media coverage escalated. Rather, claims about the impact of acid rain in the Northeast had been circulating since the 1970s. In the early 1980s, media coverage focused on efforts to determine the sources and impacts of acid rain. Coverage did not significantly increase until 1983, when reports from the National Academy of Sciences and the federal task force on acid rain said anthropogenic sources were causing acid rain (Shabecoff, 1983, p. 16). Both the NAS and the task force, however, were hesitant to recommend solutions to this perceived growing problem.

During this period, nongovernment research groups contributed their own "proof" that acid rain was invoking serious damage, even extending toward a possible threat to human health (Clendinen, 1983, p. 1). Some coverage attempted to establish potentially disastrous outcomes. Decline in growth-rate of Eastern forests was called "scary" and compared to the death of Germany's forests during the past 35 years (Shabecoff, 1984, p. 1). Other articles cited research that linked acid rain to "billions of dollars of forest damage" in North America and Europe (Damage from pollutants is cited, 1984, p. 14) and said if acid rain continued at current levels, "it will effect more lakes and streams, kill more fish and plants and may irreversibly damage the environment" (Webster, 1984, p. 17).

Alongside the environmental impacts, the political debate surrounding acid rain controls and who would bear their costs moved into headlines. During this period, the United States and Canada came to odds over three documentaries, two on the alleged impacts of acid rain, the United States labeled political "propaganda" (Taylor, 1987, p. 28). Canada, blaming the United States for 50 percent of the acid rain falling in its borders, was overtly displeased with the "wait and see" position of the Reagan administration during the 1980s.

After peaking in 1984, coverage of acid rain took a downturn through 1985, soon after defeated Congressional attempts to enact a nationwide tax on sulfur dioxide emissions, acid rain's precursors. This failure

reportedly sounded a "likely death knell for stronger pollution controls" ("Senate subcommittee blocks acid rain plan", 1984, p. 1). However, debate over pollution controls would remain central to media coverage of acid rain, taking precedence over the presumably now-proven environmental impacts.

The resurgence that follows in coverage in 1986 and 1987, at face value, would seem to indicate either that another Downsian cycle was occurring or that acid rain was not following the prescribed pattern. In fact, a review of the articles appearing during those peaks demonstrates that although some of them did include further research on acid rain's impact, the majority focused on political events, such as meetings between Reagan and Mulroney, Bush's proposals for clear air legislation and the ultimate passage of the 1990 Clean Air Act.

Thus, the widely-experienced political drama surrounding acid rain controls, occurring at times at an international level, became more central and exciting to media discourse than the narrowly-felt environmental impacts of acid rain. When the 1990 legislation was passed, no further need remained to report on acid rain, even to cover the results of the 10-year \$500 million federal research effort that found acid rain's impacts were greatly overestimated (Kurtz, 1991, p. 3).

Summary

In our view, global warming is an excellent issue by which to understand the potentially cyclogenetic properties of media coverage. Acid rain, however, provide less evidence for our views, yet it demonstrates how other factors contribute to the nature of coverage. In particular, it appears that some environmental issues have inherently more dramatic potential than others. Differences between the two issues suggest that not every environmental issue can be covered in the same way, although overall, as we have seen, the cyclical phenomenon is characteristic of many of them.

Our data do not prove that narrative factors outweigh the organic or objective qualities of issues in themselves. Yet clearly narrative properties are important to analyze in gaining an understanding of cyclical patterns in environmental coverage. The lesson of 1988-1994 is that environmentalists must pay closer attention not only to their facts and politics, but to how they themselves are used in a much wider process of story-making and selling.

References

- Benedick, R.E. (1991). *Ozone Diplomacy: new directions in safeguarding the planet*. Cambridge, MA: Harvard University Press.
- Blumenthal, R. (1981, January 25). Study finds that acid rain is intensifying in Northeast. *New York Times*. p. 30.
- Clendinen, D. (1983, June 29). Concern on acid rain extending to public health. *New York Times*. p. 1.
- Damage from pollutants is cited. (1984, April 2). *New York Times*. p. 4.
- Downs, A. (1972). Up and down with ecology: The 'issue-attention' cycle. *The Public Interest*, 28, 38-50.
- Gillroy, J. & Shapiro, R. (1986). The Polls: Environmental Protection. *Public Opinion Quarterly*, 50, 270-279.
- Kurtz, H. (1991, 14 January) Is acid rain a tempest in news media teapot? *Washington Post*, p. 3.
- McKibben, B. (1989). *The End of Nature*. New York: Random House.
- Senate subcommittee blocks acid rain plan. (1984, 3 May). *New York Times*. p. 17.
- Shabecoff, P. (1983, 30 June). Acid rain panel urges curb on pollutants in East. *New York Times*. p. 16.
- _____. (1983, 21 October). Haste of global warming trend opposed. *New York Times*. p. 1.
- _____. (1984, 26 February). Broad damage found in trees in Eastern U.S. *New York Times*. p. 1.
- _____. (1986, 11 June). Swifter warming of globe foreseen. *New York Times*. p. 17.
- _____. (1988, 29 March). Temperature for world rises sharply in the 1980s. *New York Times*. p. 1.
- _____. (1988, 26 June). Calculating the consequences of a warmer planet earth; a worse-case forecast. *New York Times*. p. 1.
- Stevens, W.K. (1993, 14 September). Scientists confront renewed backlash on global warming. *New York Times*. p. 1.
- Taylor, S. (1987, 29 April). Court backs 'propaganda' label for 3 Canadian films. *New York Times*. p. 28.
- Webster, B. (1984, 27 April). Acid rain danger seen as growing. *New York Times*. p. 17.

Figure 1: Frequency of Environmental Issue Coverage in *The New York Times*, by Year

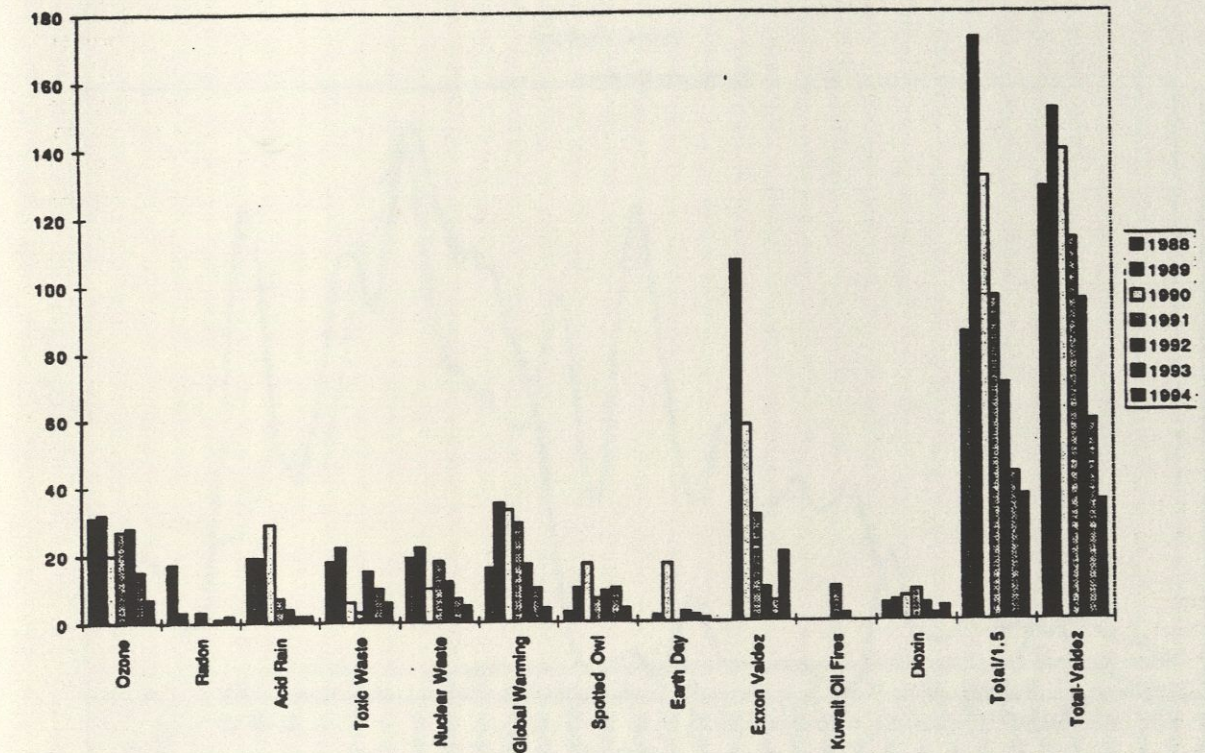


Figure 2: Trends in Global Warming Coverage

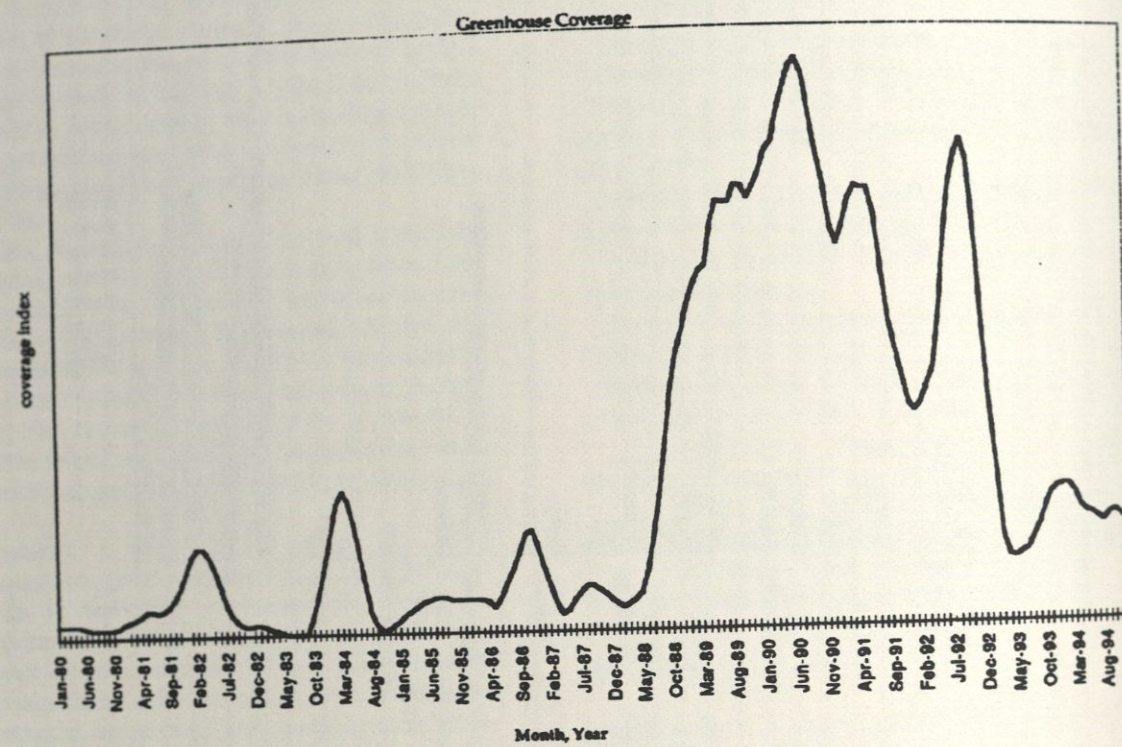
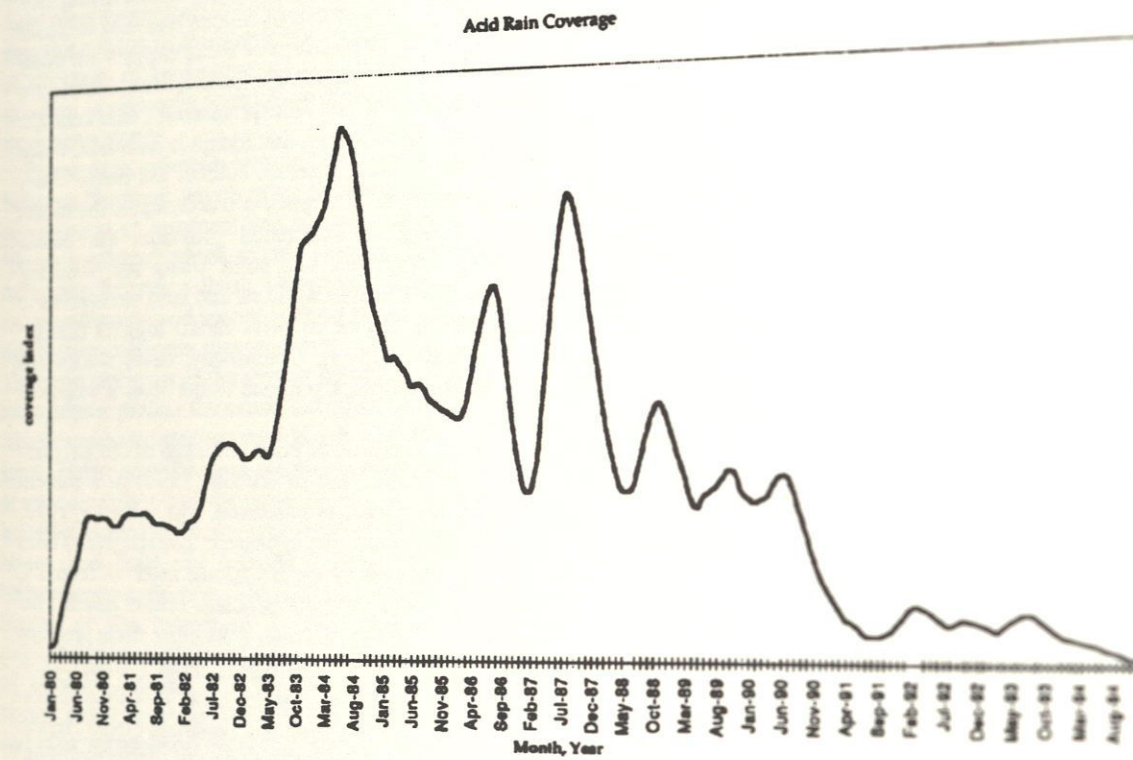


Figure 3: Trends in Acid Rain Coverage



Television News Coverage of the Environment: Polluted or Purified?

by Michael Nitz and Sharon Jarvis

Introduction

The American public is expressing increased concern over the number and variety of environmental problems (Lange, 1993; McClellan, 1992; Pope, 1992). A recent ABC News poll indicates that eight out of every ten Americans rate the environment as an important issue (McClellan, 1992). Because 81 % of Americans rely on the media for information about environmental issues, it would seem that environmental stories are important to report. Therefore, in an ideal world, the media would strive to present numerous, in-depth environmental stories producing a well-informed public. Unfortunately, in contemporary American society, people's belief structures about the environment have been referred to as a "confusing briar patch" of ideas (Cantrill, 1993, p. 81).

Much of this confusion has been blamed on the news media. Critics have alleged that news coverage of environmental issues is poisoned by inconsistencies, distortions, and misrepresentation of data (Adler, 1992; Atkin & Wallack, 1990; Boyle, 1993; Greider, 1992). In an effort to be sensational, timely, and simple, the media underemphasize risks and overdramatize spins on disputes (Sachsman, 1991). An expectation that the media will discuss actions to improve the environment is unrealistic. When covering environmental issues, the media mostly identify problems without spending much time on discussing solutions (Grunig, 1977; Jaehne, 1990). Wiebe (1973) labels this phenomenon well-informed futility. Citizens tend to see their responsibility as simply being informed about environmental issues rather than assisting in solutions. As a result of this deficient coverage, the potential exists for the concerned public to "throw up their hands in despair" when struggling to find ways to solve environmental problems.

The focus of environmental stories has been primarily political instead of informative in nature (Lacey & Longman, 1993; McClellan, 1992). Would Bush go to the Earth Summit? What is Clinton's position on the spotted owl? In these stories, minimal efforts were made to provide in-depth analysis of environmental problems and solutions.

This inadequate coverage is typical of the news media's tendency to cover the environment with a barrage of skewed uncertainties and misinformation (Atkin & Wallack, 1990; Cantrill, 1993; Chepesiuk,

1993). The media are scientifically biased in that they promulgate the opinions of anyone claiming to be an "expert". The motivations of these experts are often glossed over (Ward, 1992). Consequently, one hears testimony from a "top federal scientist", who consults for a chemical company, that dioxin is harmless, while a "biologist", who is on the rolls of the Sierra Club, sounds the alarm. The *real* experts castigate the media for shunning environmental problems the public considers important like solid waste and focusing instead on environmental issues that lend themselves to angry conflicts such as owls versus loggers (Lange, 1993; Moore, 1993). Continually, news stories are framed more from a political rather than a technical perspective.

The best example of poor coverage of the environment was illuminated by Ruben (1994) in a content analysis of newspaper headlines. On April 15, 1993, the following headlines appeared: *Los Angeles Times* ("Wider damage to earth's ozone layer is feared"), *Dallas Herald* ("Ozone problem seems headed for solution"), *New York Times* ("Satellite finds growing threat to ozone"), *Washington Post* ("After 2000, outlook for ozone layer looks good"). Such inconsistency is rampant. Lacey and Longman (1993) report that, despite an overall worsening of global warming, news coverage actually *declined*. Journalists themselves even admit that environmental coverage lacks credibility, with only 30% saying coverage is good (Chepesiuk, 1993).

Observing the aforementioned shortcomings of environmental news coverage, the following paper examines evening news programs for biases in media coverage of the environment. The theoretical focus centers on 1) the nature of coverage, 2) bias, 3) visual images, and 4) visual-verbal congruity. Television, as the medium of the observation for this content analysis, has been chosen for two reasons. First, television is the most utilized source for political and public affairs information (Ansolahehere, Behr, & Iyengar, 1993; Graber, 1989). A comprehensive survey of media use in 1990 by the *Times Mirror Center for the People and the Press* found that 74% reported watching news on TV regularly, compared to 54% who read a daily newspaper, and 46% who listened to news on the radio. And, second, "Television news is also deemed more credible than print news because 'seeing is

believing'" (Graber, 1989, p. 149). Because prior studies have noted the homogeneity of news coverage across networks (Bennett, 1988; Kenski, Jarvis, Reichert & Van Riet, 1994; Reese, Grant, & Danielan, 1994).

Nature of Coverage. In order to move beyond a mere classification of stories and to explore the detailed aspects of news coverage which could potentially affect viewer learning and processing of information, this content analysis will first examine the nature of coverage of environmental stories. In so doing, attention is primarily focused on the framing of network news stories.

Thematic vs. episodic. Iyengar (1991) distinguishes between "framing" which refers to alternations in the presentation of judgment and choice problems, and "framing effects" which regard changes in decision outcomes following these alterations. One way to examine framing and framing effects is to observe the distinctions between thematic and episodic stories. Thematic stories give the viewer helpful background knowledge regarding the cause and effect of problems, whereas episodic stories provide only snapshots of an issue. Environmental news pieces are often presented in episodic rather than thematic frames. A news story framed episodically focuses primarily on approaches to issues and does not provide helpful background knowledge on a situation. The plight of an unemployed logger, or the impact of a development on one particular animal, plant, or human would be examples of episodic framing. In contrast, thematic stories include details regarding the costs and effects of issues and offer information regarding the causal and treatment responsibility of programs (see Iyengar, 1991).

Responsibility is also an important aspect of news coverage, especially in environmental issues. Who gets the blame for environmental problems--the government, big business, or radical environmental groups? Iyengar (1991) discusses both causal and treatment responsibility. Causal responsibility addresses the source of an environmental problem whereas treatment responsibility asks the question: Who's responsible for solving the problem?

Clearly, environmental stories framed thematically contribute more to viewer learning and individual understanding of issues and problems. However, because thematic television is limited across many issues (Iyengar, 1991; Jamieson, 1991), we can expect that individuals who receive most of their information from television news are getting only "part the story."

In addition to episodic versus thematic framing, this paper deals with several other questions that delve into the nature of environmental coverage. First, lead stories are especially important, as networks carefully select the lead story to represent the day's most

important news items. The experimental findings of Iyengar and Kinder (1987) confirm that lead stories are more important in shaping viewer priorities about the importance of national problems than stories that appear elsewhere in the newscast. Second, the scope or frequency of environmental news stories is important. Amount of coverage is important to examine since news space/time is so limited (Atkin & Wallack, 1990). Stories that are given extensive coverage are clearly those that the news media deem to be important. The more something is mentioned, the greater its potential influence on the priority people view it as a national problem (Iyengar & Kinder, 1987, p. 117). As Brody sees it, "Volume of coverage signals importance because news space/time is limited" (1990, p. 110).

Third, the type of environmental story could be important. The media's ability to "prime" the public's perception of a story's salience has been well-studied (Iyengar, 1991; Iyengar & Kinder, 1987), and has recently been extended to environmental issues (Gersh, 1992). Gersh notes that what the media's perception of what is an important environmental problem may not necessarily correlate with experts' opinions.

Fourth, the sources selected for environmental information could be significant determinants of the media's potential ability to prime viewers about the nature of a particular environmental issue. The potential risk involved is largely perpetuated and created by the media's selection of sources (Stallings, 1990). Journalists tend to use the most available outlets when seeking information for environmental sources (Friedman, 1991; Hendry, 1994). Government officials are usually the first choice, followed by environmental group leaders and "people on the streets".

Fifth, this paper will explore the question of whether news coverage of environmental issues is technical or cultural. Paystrup (1994), in addressing the issue or re-introducing wolves into Yellowstone National Park, notes that technical approaches focus narrowly on scientific risks or report the results of scientific studies. 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 "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.

Bias. Bias is continually alleged in news coverage of the environment (Greider, 1992). Greider asserts that most coverage favors business interests. Media coverage is also criticized for "trivializing" environmental issues by focusing in on beautiful nature scenes

or cute, little animals (Lange, 1993; Moore, 1993). Iyengar (1991) states that news stories have a "priming effect" on the public by guiding viewers into evaluating political leaders by the criteria discussed in news stories (p. 133). The same argument can be applied to environmental coverage and evaluations regarding the environment and big business. Thus, it is possible that specific statements within a news story prime viewers on how to evaluate that particular story.

Visual Images and Verbal-Visual Congruity. A third section of analysis concerns visual images and the congruity between verbal messages and visual images in television news. The importance of visual images is a burgeoning topic in media studies (Crigler, Just, & Neuman, 1994; Messaris, 1994; Neuman, Just, & Crigler, 1992). A question for research regards whether visual images or verbal messages have greater impact on viewer learning. Thus, this paper examines both visual images, and is taking special note of stories in which the visual image contradicts, or is incongruent with the verbal message of the story.

An example of the importance of verbal-visual congruity can be found in the television coverage of Ronald Reagan. Lesley Stahl ran a story with negative verbals and positive visuals of the former President (Alger, 1989). The day after this story ran, Reagan's Deputy Chief of Staff, Mike Deaver, called Stahl and thanked her for running what she considered a very negative attack on the President. Deaver thanked her because he believed that viewers pay more attention to the visual images than the verbal messages in television news. Deaver's intuitions have been supported in the following research by Graber.

In examining how viewers process information, Graber (1990) 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 literate and illiterate alike are able to process visual televised images, and the processing of visual information does not depend on listening or reading 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 we know that 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. Fourth, audio-visuals enable persons to place information in contexts, and aid individuals in storing the information in their memory. 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. Because of our adeptness at processing visual information the visual images of an environmental story could affect the amount of learning and types of information individuals take away from watching television.

Method

The content-analytic scheme that will be used in this paper is centered around framing, bias, visual images and visual verbal congruity. The unit of analysis is the news story which is defined as a news segment. A news segment is defined as beginning any time the camera switches either back to the anchor in the studio or to a new reporter at a new location. Videotape recordings of ABC network newscasts (Monday-Friday) that aired in 1994 were examined. 48 environmental stories were coded both visually and with abstracts. Six stories were coded only with abstracts because the videotapes were missing for these dates. ABC was used as the sole data base for two reasons. One, ABC is consistently the leader in nightly news ratings and thus is more likely to be watched by a larger number of people (Kerbel, 1994). Second, a large body of research exists proving the homogeneity of news coverage (Bennett, 1988; Hendry, 1994). Consequently, it was felt that it would be redundant to code all three networks.

Three undergraduate students each coded the stories under analysis. Prior to the study, coders received two hours of training which included instructions describing the coding sheet and supervised practice sessions. Inter-coder reliability was assessed with Cronbach's alpha and was found to be acceptable ($r=.65$).

Nature of Coverage. This paper examined how these stories were framed. Iyengar's (1991) basic classification of news stories as thematic or episodic was utilized. The coding scheme included categories for stories that are completely episodic or thematic. Two additional categories allowed coders to code a story as mainly episodic or thematic. A two-thirds rule was utilized to classify stories into categories. If there was an even amount of episodic and thematic coverage in a story or if the type of coverage could not be determined, the story was coded as mixed.

Stories have been coded for presence or absence of the assignment of either type of responsibility. For both types of responsibility, a list of possible causal and treatment sources was listed. This list included: President, members of Congress, business leaders, environmental groups, government agencies, and other. Iyengar (1991) alleges that news stories often do not assign one type of responsibility. A seventh category

was included to address this option.

A lead story was defined as the first story appearing on a nightly newscast. Stories were timed using the timeframes given on the Vanderbilt Abstracts. The total number of environment stories was counted and then compared with the total number of stories of all types on the newscasts.

The type of environmental story was examined. The categories for this section included (1) political stories (how politicians dealt with environmental issues), (2) animal stories (how a particular species is coping with changes in its environs), (3) waste stories (stories dealing with the disposal of toxic waste, or other waste products), (4) food stories (how changes in the environment affect food supplies and drinking water), (5) jobs stories (how environmental policy affects employment), (6) recycling stories (stories dealing with recycling efforts, success, and/or difficulties), (7) water stories (focusing on environmental stories dealing specifically with rivers, oceans, lakes or other bodies of water), (9) eco-system stories (focusing on how an entire eco-system is threatened by an environmental problem), and (10) other. All stories marked as other were further described on the coding sheet by coders.

The sources of material in an environment story were coded as coming from President Clinton, members of Congress, business leaders or representatives, environmental group leaders, government agency officials, and "other" (a category for any other source not covered by the above coding scheme). In some news stories, no source is given. A final category of "none" was included to cover this option.

The focus of the story was coded as either technical, cultural, mixed, or neither. Coders used a two-thirds rule to determine the story focus.

Bias. Stories were examined for their coverage in regard to both the environment and business. Stories were evaluated as either positive, negative, mixed/neutral, or none/unclear towards the environment and business.

Visuals. Visuals were coded by using the following categories: No visuals (just an anchor reading a story), Visuals only (moving pictures), Graphics only (cartoons, charts, graphs, etc.), and Visuals/Graphics. If a story included visuals, coders described the visuals in detail. Graphics were operationalized as "two dimensional visuals especially prepared for the TV camera such as illustrations, maps, graphs, charts, electronically generated titles or animation, and photographs" (Foote & Saunders, 1990, p. 502). A visual was defined as any videotaped moving image, excluding graphics.

Verbal-Visual Congruence. Congruity is operationally defined as a similarity between the verbal message and the visual image. Incongruity occurs when

the visual image does not match the positive or negative tone of the verbal message. Stories were coded for presence/absence of a match between the verbal message and the visual image.

Results

Nature of coverage.

Thematic vs. episodic. The results of this study indicated that news coverage of environmental stories was heavily slanted toward an episodic framework. Over half of all stories were either episodic (33%) or mainly episodic (24%). This figure could be even further amplified by the fact that 17 % of stories were coded as mixed. Only 23% of all stories were thematic (17%) or mainly thematic (6%).

The results for causal and treatment responsibility are particularly illuminating. First, it appears, at least on television newscasts, that business is responsible for most (25%) of this country's environmental messes. Other causes such as the President or Congress received only a smattering of blame, although government agencies were the cause of problems approximately 14 % of the time. The "other" category has the highest percentage (38%). Analysis of coders' descriptions within this category revealed that blame was widely divvied out. Students, Indian reservations, and even nature itself were blamed for environmental problems.

Second, while the media seem ready to assign blame for the cause of problems, the results of this study indicated that they are more uncertain about assigning responsibility for the solution of problems. Only 11% of stories failed to assign responsibility; yet, 28% of stories failed to assign treatment responsibility. The figures for government agencies and business were nearly reversed. For causal responsibility, businesses received 25% of the blame and government agencies received 14%. However, for treatment responsibility, business received only nine percent of responsibility, and government agencies received 25%. The "other" category was also sharply reduced to 20% and was comprised primarily of "positive" stories such as an individual or a town cleaning up a mess or developing ingenious recycling methods such as the Georgia school that uses worms to get rid of compost piles.

Lead story/frequency/amount/time. If lead stories indicate important news stories, then environmental stories are not important. Environmental stories led off ABC's newscasts only five percent of the time. The frequency of environmental stories was rather sparse. ABC had approximately 250 Monday-Friday newscasts in 1994. Each newscast averaged a dozen stories per day. Thus, there were approximately three thousand stories. Of these, 54 were environmental for a percentage of two percent. In order to ensure this

result was not an aberration, the Vanderbilt Abstracts for CBS and NBC were checked for the same period and the results were the same. CBS had 57 environmental stories and NBC had 61 environmental stories. Clearly, the environment is not a critical issue for television news. The only saving grace was that when an environmental story appears, it receives on average three minutes of news time.

Story type. There was an unexpectedly large number of stories in the "other" category (29%). These stories covered topics such as overpopulation, reports of oil spills, royalties for natural products, and nuclear plant problems. Animals received the lion's share of coverage (23%). Stories that dealt with nuclear waste, toxic waste, or other waste were second with 14 %. The effect of environment on jobs was third with 11 %. The remaining stories were broken down as follows: water (5%), eco-system (4%), air/ozone (4%), recycling (3%), political (2%).

Source. A plethora of sources were used. By far the largest number of sources were average "people on the street" (42%). Beyond this fact, however, the television media did not appear to favor one source over the other. Environmental groups were cited 14% of the time, government officials 13% of the time, and businesses 11% of the time.

Technical vs. cultural. The results of this study indicated that elements of cultural framing are ubiquitous on television. Nearly 41% of stories had a cultural focus. An additional 31% of stories were mixed. Technical, scientific coverage was present in 22% of environmental news stories. When analyzed in conjunction with episodic vs. thematic framing, it was found that episodic stories were more cultural (33%) than technical (28%) in their focus. A Pearson chi-square found this difference to be significant: (1, $N=79$) = 12.79, $p < .001$.

Bias. The television media in this study were quite negative toward business. Almost 41% of stories painted a unflattering picture of business and its relationship with the environment. However, there were threads of negativism running throughout all stories. The media tended to choose negative stories about the environment nearly half the time (52%). Only nine percent of environmental stories focused on individuals or organizations striving to improve the environment.

Visuals. The environment is a topic that lends itself readily to pictures. Of the stories, 43% had visuals and 45% had both visuals and graphics. Almost every story had some natural, rather than artificial, backgrounds. Animals were a popular theme. Animals were shown struggling in oil spills, flying through the air, suffering in snares, and running free. Nature scenes were quite

common, especially at the beginning of a story. Close-up pictures of oil spills were rare unless an animal was caught in the mess. People were also prevalent in environmental visuals. Cameras would show people involved in cleaning up a spill, working on a study or recycling effort, or in a close-up interview. Sources—even those one would expect to find at a desk—were often interviewed outdoors in front of forests or lakes.

Congruence. Surprisingly, only ten percent of stories lacked congruence between the visual and verbal components of the message. However, a closer examination of the visuals revealed contradictions. Idyllic snow-capped mountains were juxtaposed against leaking oil drums. Environmental problems were discussed as animals were shown in action scenes such as horses running through the wilderness or frogs swimming through the water.

Discussion

Nature of Coverage. Televised environmental news coverage is largely episodic, full of isolated dramatic vignettes of conflict and jeopardy in which animals play the starring roles. Overall, there was a lack of coherence across stories. Stories focused on symbols more than substance. Moreover, villains were more common than heroes. The television media were more adept at ferreting out those responsible for causing environmental problems than excavating potential solutions for these problems.

Exacerbating the matter is the fact that these vignettes are often featured as "movies-of-the-week". Environmental stories are rare. When they are featured, they are often placed in the back of the newscasts or in novel, entertaining special features such as American Agenda segments. Clearly, the environment does not appear to be an important topic for television newsmakers as it is for the general public. As McClellan mentions, eight out of every ten Americans consider the environment important. This study found that only two percent of all news stories were on the environment. Of this figure, only five percent were lead stories.

Technical information is an endangered species in televised environmental segments. Maintaining its image as an entertainment medium, television provides more cultural symbolism than scientific information about solutions. Thus, it is likely that viewers are learning very little about the intricacies of environmental problems and solutions. The majority of sources are average people on the street as opposed to experts from the EPA or business. Viewer learning is inhibited because newscasts are quick to air trivialized, event-driven stories instead of heartier news pieces on the "real" issues. For example, the results of this study indicate that, in the wake of an oil spill, the television

media are more likely to broadcast pictures of individual animals' plights rather than discussing or focusing on the spill's impact on an entire eco-system, the local economy, and the potential avenues for solving the problem.

Bias. When it comes to bias, the media rain on the just and the unjust. Environmental groups, government agencies, and businesses are all recipients of this negative coverage. It is indeed rare for the television media to present examples of positive, constructive attempts to purify the environment. As previously mentioned, these positive portrayals are isolated to one community or person's attempts as opposed to those working at a more interconnected, societal level.

Visuals. Television information processing is driven primarily by visual cues (Moriarty & Sukanto, 1994). Viewers get most of their information from television (Ansolabehere, Behr, & Iyengar, 1993; Crigler, Just, & Neuman, 1994). Therefore, the visuals that are used by the media in environmental stories become quite important. The visuals identified in this study underscore the fact that televised news coverage is tertiary, entertaining, and dramatized. Television can be a very useful teacher of information (Atkin & Wallack, 1990). Unfortunately, students' learning from environmental stories on television would appear to be producing knowledge about worms, frogs, and wild horses. The importance of these animals in the big picture is lost when these visuals are not connected to larger environmental issues.

Congruence. This study was an exploratory effort at examining how the audio and visual channels collaborate in painting a picture of the environment. While it appears, at least from the data in this study, that the visual and verbal channels are a near perfect match, the conflicting visuals present some interesting questions for future research. Namely, it is interesting to investigate whether: 1) do vivid visuals carry more weight than pallid visuals?, 2) do individuals place more weight on visuals, audio, or a combination of the two?

Conclusion

This study was a clear contribution to, and advancement of, knowledge in the field not only of environmental news coverage, but of news coverage in general. The inclusion of visual images in the coding process elevates this effort above the status quo method of coding television news through Vanderbilt Abstracts. Future studies should examine the potency of visual images, especially when they contradict verbal messages in newscasts. Exploring this question with environmental coverage is ideal since the environment is a topic that readily lends itself to vivid, beautiful imagery.

Another contribution of this study was its focus on

the assigning of responsibility for the cause and treatment of environmental problems. Environmental issues are often complex with both sides deserving some modicum of blame. The framing or priming of environmental news stories is a potent factor in affecting viewers' beliefs, attitudes, and opinions about these issues (Iyengar, 1991). Examining television from an episodic/thematic framework allows us to get a more purified look at exactly what type of news people are getting. Unfortunately, with the case of the environment on network television news, viewers are receiving a polluted version of the big picture.

References

- Adler, J. (1992). Little green lies: The environmental miseducation of America's children. *Policy Review*, 61, 18-27.
- Alger, D. (1989). *The media and politics*. Englewood Cliffs, NJ: Prentice Hall.
- Ansolabehere, S., Behr, R., & Iyengar. (1993). *The media game: American politics in the television age*. New York: Macmillan.
- Atkin, C., & Wallack, L. (1990). *Mass communication and public health: Complexities and conflicts*. Newbury Park, CA: Sage.
- Bennett, L. W. (1988). *News: The politics of illusion*. New York: Macmillan.
- Boyle, R. (1993). All the news that's fit to twist: Misleading news on the environment. *The Amicus Journal*, 15, 9.
- Brody, R. (1991). *Assessing the President: The media, elite opinion, and public support*. Stanford, CA: Stanford Press.
- Cantrill, J. (1993). Communication and our environment: Categorizing research in environmental advocacy. *Journal of Applied Communication Research*, 21, 36-66.
- Chepesiuk, R. (1993). Covering the environmental beat. *Editor and Publisher*, 126, 18-21.
- Crigler, A., Just, M., & Neuman, W. (1994). Interpreting visual versus audio messages in television news. *Journal of Communication*, 44, 132-149.
- Foot, B., & Saunders, A. (1990). Graphic forms in network television news. *Journal of Communication*, 40, 134-155.
- Friedman, S. (1991). Two decades of the environmental beat. In C. L. LaMay, & E. E. Dennis (Eds.), *Media and the environment* (pp. 17-28). Washington, DC: Island Press.
- Gersh, D. (1992). Covering solid waste issues: Media shun crucial garbage, sludge issues for less critical global warming, water pollution coverage. *Editor and Publisher*, 125, 15-16.
- Graber, D. A. (1990). Seeing is remembering: How

visuals contribute to learning from television news. *Journal of Communication*, 40, 134-155.

Graber, D. A. (1989). *Mass media and American politics*. (3rd ed.). Washington D.C.: Congressional Quarterly Press.

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

Grunig, J. (1977). Review of research on environmental public relations. *Public Relations Review*, 3, 36-58.

Hendry, J. (1994, Nov.). *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: The University of Chicago Press.

Iyengar, S., & Kinder, D. (1987). *News that matters: Television and American opinion*. Chicago: University of Chicago Press.

Jaehne, D. (1990, November). *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. (1991). *Dirty politics*. Oxford: Oxford University Press.

Kenski, H., Jarvis, S., Reichert, T., & Van Riet, C. (1994, Nov.) *Perot: Media framing*. Paper presented at the Speech Communication Association Convention. New Orleans, LA.

Kenski, H., Walkosz, B., Nitz, M., & Wabnik, A. (1992, June). *Mediated realities: Media portrayal of economic issues*. Paper presented at the Visual Communication Conference. New Orleans, LA.

Kerbel, M. (1994). *Edited for television: CNN, ABC, and the 1992 presidential campaign*. Boulder, CO: Westview Press.

Kinder, D. R., Peters, M. D., Abelson, R. P., & Fiske, S. T. (1980). Presidential prototypes. *Political Behavior*, 2, 315-337.

Lacey, C., & Longman, D. (1993). The press and public access to the environment and development debate. *The Sociological Review*, 41, 207-244.

Lange, J. (1993). The logic of competing information campaigns: Conflict over old growth and the spotted owl. *Communication Monographs*, 60, 239-257.

McClellan, S. (1992). Gearing up for green coverage: Media coverage of the Earth Summit in Rio de Janeiro. *Broadcasting*, 122, 14-17.

Messaris, P. (1994). *Visual Literacy: Image, Mind, and Reality*. Boulder, CO: Westview Press.

Moore, M. (1993). Constructing irreconcilable conflict: The function of synecdoche in the spotted owl controversy. *Communication Monographs*, 60, 258-274.

Moriarty, M., & Sukanto, N. (1994, Nov.). *The role of the visual in TV viewing*. Paper presented at the annual meeting of the Speech Communication Association. New Orleans, LA.

Nimmo, D., & Combs, J. (1990). *Mediated political realities*. New York: Longman.

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.

Reese, S. D., Grant, A., & Danielan, L. H. (1994). *The structure of news sources on television: A network analysis of "CBS News," "Nightline," "McNeil/Lehrer," and "This Week with David Brinkley"*. *Journal of Communication*, 44, 84-107.

Ruben, B. (1994). Back talk: Environmental problems are being misrepresented in the media. *Environmental Action Magazine*, 25, 11-17.

Sachsman, D. (1991, May) *Environmental risk communication and the mass media*. Paper presented at the annual meeting of the International Communication Association, Chicago, IL.

Stallings, R. (1990). Media discourse and the social construction of risk. *Social Problems*, 37, 80-95.

Ward, B. (1992). American journalism has a new arrow in its quiver. *Safety and Health*, 145, 63-64.

Wiebe, G. (1973). Mass media and man's relationship to his environment. *Journalism Quarterly*, 50, 426-432.

Mass Media and Global Warming: A Public Arenas Model of the Greenhouse Effect's Scientific Roots

by Mark Neuzil

Over the past several years, scholars have been increasingly concerned with why certain social issues are defined as problems and others are not. The issue of global warming, for example, may be defined as a social problem for a specific group or as a concern for the whole of society. Ultimately, how problems are defined have consequences for action, power and other structural relationships in society.

Social problems are collective sentiments dependent on social consciousness, Herbert Blumer argues, rather than a straightforward reflection of objective conditions in a society.¹ Further, as Blumer asserts, social problems compete for societal attention: "among the wide variety of social conditions or arrangements that are recognized as harmful by differing sets of people, there are relatively few that achieve legitimacy."² Stephen Hilgartner and Charles Bosk agree with Blumer, but take his work an additional step. They propose that the collective definition of social problems occurs in a number of segments of society, which they call "public arenas."³ Their model assumes that public attention is a scarce resource and individual social problems compete for that attention in public arenas, one of which is the mass media.

In this research, the social problem examined is the global warming phenomenon, popularly known as the greenhouse effect. Using the Hilgartner and Bosk public arenas model, this study is an attempt to determine the historical framework involved in scientific interest in the greenhouse effect and what relationship, if any, that historical framework has to recent mass media accounts of the issue. The research examined articles, indices, references and footnotes on the effects of carbon dioxide on the atmosphere in scientific journals from the 19th century to the 1960s, using the cultural preoccupation/political biases subsection of the public arenas model.⁴ Using the competing problem definition portion of the model, the study compared news accounts of the greenhouse effect from 1987 to 1989 to the historical data.

The Public Arenas Model

The Hilgartner and Bosk model consists of six main elements: competing definitions, carrying capacities, principles of selection, problem-amplifying and problem-dampening feedback, communities of operatives and the institutional arena where social problems

evolve, which is defined as the mass media in this study. Further, the principles of selection are organized by four categories: competition for space, the need for drama/novelty and the danger of saturation, the rhythm of organizational life and cultural preoccupations/political biases. In this work, the competing problem definitions and the cultural preoccupations/political biases parts of the model are used.

The level of attention given a social problem such as global warming is not a reflection of society's objective conditions, but a process put in motion by a problem's collective definition. For example, attention to the greenhouse effect in the late 1980s was not because of a recent scientific discovery, but because certain scientists, politicians and others sought to place the issue on the American agenda.⁵ The public life span of a social problem does not necessarily correspond to the number of persons affected or the amount of "danger" involved. The degree of environmental risk, for example, is not an accurate determinant of television news coverage of a social problem.⁶ In some cases, rhetorical devices and political intentions play a role in the appearance of scientific problems.⁷ Attention focused on a particular problem for a moment in time does not necessarily mean the problem worsened; conversely, a lack of attention does not mean the problem was solved.

Competing Definitions

Competing definitions refers to a dynamic process of conflict among and within the sizable number of potential social problem claims. An almost infinite pool of potential problems exist, but only a limited few obtain "celebrity" status and become topics of discourse as the struggle for dominance continues. A greater number of problems develop into "lesser" social problems, marked by small but often intense groups of activists who keep them "alive." Motor vehicle safety issues, such as airbags in cars or a motorcycle helmet requirement, are examples of "lesser" problems.⁸ Still more social conditions remain marginalized or exist completely outside the area of public discourse and are all but unknown to the majority. As the amount of attention each social problem receives varies, so does the length of time an issue sits at the top of public debate, as does the time it takes to move through the system. Few problems

maintain a high level of attention over the years; problems which have received attention are in constant peril of being displaced.

Competition among social problems for attention in the mass media may occur on two levels: between problems (e.g., the greenhouse effect versus national health insurance) as well as within the problem itself (e.g., debates over the "real cause" in the hole in the ozone layer).⁹

Cultural Preoccupations and Political Biases

The most dominant cultural preoccupation may be the mythic theme of the apocalypse. The apocalypse is a cross-cultural preoccupation which can be defined in many ways, including global climate change, overpopulation and nuclear war. A consistent pattern in most, if not all, apocalyptic debates is the structure of group power and the idea that some will be saved from doom and others will not.

The apocalypse is a cross-cultural theme, but its form may vary between cultures. The nature of power and society is a factor; as a method of social control, citizens of the United States may blame Brazilian loggers for cutting down the rain forests or point to coal-burning Third World countries as adding to the global carbon dioxide buildup. According to this view, the world will come to a hot, dry, neo-Malthusian end if the Brazilians or the Third Worlders do not shape up and conform to U.S. policy or ideology.

Issues of scientific importance often are advanced in the media by powerful political groups. Powerful groups also can be involved in suppressing social problems, as did the steel industry in the air pollution debate in Gary, Indiana.¹⁰ Social problems which reflect mainstream attitudes have a better chance of success than those which do not.¹¹

The Greenhouse Effect Theory

The greenhouse effect, according to its theorists, is believed to be the result of the release of certain gases in the atmosphere such as carbon dioxide, methane and chlorofluorocarbons (CFCs). Most of these gases, which, according to the theory, cause heat to be retained near the earth's surface, are produced as a result of human activity. For example, the burning of fossil fuels -- coal, oil and natural gas -- results in carbon dioxide emissions. Methane is produced as a result of anaerobic respiration, such as animal wastes, landfills and waterlogged soils, as well as fossil fuel use. CFCs are gases invented in the last half-century for use in refrigeration, aerosols, foam-blowing and industrial solvents.

According to research, if the emission of carbon dioxide continues to grow at the present rate, the amount of the gas in the atmosphere will double within

50 years.¹² Should that happen, some scientists predict a temperature rise between 3 degrees Celsius and 5.5 degrees Celsius.¹³ Furthermore, these scientists predict a 1- to 2-degree Celsius increase is stored in the ecosystem, primarily in the oceans, even if all the greenhouse gases somehow can be turned off immediately.¹⁴ Estimates of ecological impact are many, including a sea level rise, increased drought/flood cycles, more forest fires, changing ecosystem boundaries and a shift in the Atlantic gulf stream.¹⁵

The Beginnings of the Greenhouse Effect Theory

Atmospheric global warming may be new to the mass media (and thus to the general public), the idea is not a recent one by any definition. This research found the first reference to carbon dioxide and atmosphere in a French journal in 1827. In that year, the French physicist-mathematician Baron Jean-Baptiste Joseph Fourier published observations of the issue using a hothouse metaphor.¹⁶ Fourier maintained that the atmosphere acts like the glass of a hothouse, letting through the "light" rays of the sun, but retaining the "dark" rays from the ground.

The author's status as a scientist and statesman in France fits into the political bias subsection of the Hilgartner and Bosk model. Fourier accompanied Napoleon to Egypt in 1798, and on his return in 1802 was made prefect of the department of Grenoble, and named baron in 1808. Fourier served as governor of lower Egypt under Napoleon, but eventually returned to his first interest, mathematics, in France and apparently did not pursue the study of atmospheric changes. He became well-known for the math series which bears his name, discovered while investigating the flow of heat.¹⁷

Novel Ideas

There was a three-decade lapse in the subject in scientific journals. The findings of John Tyndall, published in 1861, sparked interest again. Tyndall was well-known for the Tyndall Effect, which explains why the sky is blue. In 1861, the British physicist published the results of extensive experiments on the absorption and radiation of a number of gases, including carbon dioxide. "Our acquaintance with this department of physics is exceedingly limited. So far as my knowledge extends, the literature of the subject may be stated in a few words," Tyndall wrote.¹⁸

Ironically, Tyndall, like other scientists who followed, was interested in the formation of glaciers and glacial motion, rather than a warmer globe. Interest in glaciation theory fits the model's cultural preoccupation element; many 19th-century scientists began their careers as geologists, one of the Western world's earliest and most politically significant natural

sciences. Geologists were among the most respected scientists in the era, with Europeans producing important textbooks on geology before mid-century.¹⁹

In a series of experiments conducted in the spring of 1859 in London, Tyndall ran several tests on seven gases, including hydrogen, oxygen and nitrogen, and 20 "vapours," including ether, chloroform and "carbonic oxide" (carbon dioxide). He was stunned by the results. "...those who like myself have been taught to regard transparent gases as almost perfectly diathermanous, will probably share the astonishment with which I witnessed the foregoing effects. I was indeed slow to believe it possible..."²⁰ What Tyndall saw was that carbon dioxide was transparent to solar radiation, but largely opaque to thermal radiation.

Established scientific theory of the time -- a competing definition -- asserted that all climate differences were due to the "heights of the atmosphere," which meant latitude and altitude (it was colder at the poles and on the tops of mountains). Written when not all scientists accepted the idea of a particle as small as an atom, Tyndall attempted to connect climate change and the makeup of the atmosphere:

*"If, as the above experiments indicated, the chief influence be exercised by aqueous vapour, every variation of this constituent must produce a change of climate. Similar remarks would apply to the carbonic acid diffused through the air... It is not, therefore, necessary to assume alterations in the density and height of the atmosphere to account for different amounts of heat being preserved to the earth at different times; a slight change in its variable constituents would suffice for this. Such change in fact may have produced all mutations of climate which the researches of the geologists reveal."*²¹

More Detailed Research

It was another 35 years before a prominent scientist took a major view of carbon dioxide's role in climate and published an extensive work on the problem. In 1896, Swedish chemist and physicist Svante Arrhenius redefined the carbon dioxide theory of climate change and helped propel the issue into its most intensive period of research prior to the late 1950s. Arrhenius' work, "The Influence of Carbonic Acid in the Air Upon the Temperature of the Ground," flatly predicted a 4 to 6 degree Celsius rise in the temperature of the earth should the level of carbon dioxide in the atmosphere double -- predictions paralleling estimates of many scientists working on the subject in the

1990s.²² With data gathered from two mountain sites in Colorado, Arrhenius also made the following predictions which remain part of the greenhouse theory:

- The influence of carbon dioxide in the atmosphere is minimal near the equator, and "increases from this to a flat maximum that lies the further from the equator the higher the quantity of carbonic acid in the air."²³
- The temperature change would be greater in the winter than in the summer, greater on land than over the ocean, and greater in the Northern Hemisphere than in the Southern Hemisphere.
- There would be a diminished temperature difference between day and night.

Arrhenius' stature as a scientist was equal to or exceeded that of Fourier and Tyndall. Arrhenius won the 1903 Nobel Prize for his theory of electrolytic dissociation, and became director of the Nobel Institute for Physical Chemistry in 1905, serving until his death in 1927. He combined his carbon dioxide theories with other work in a major book, *Worlds in the Making*, published in 1908.²⁴

British Scientists Contribute to the Topic

Arrhenius was among the first to return to the carbon dioxide theory of climate change in the late 19th century. Joining him at about the same time was T.C. Chamberlin, a respected British geologist who advanced a glaciation theory in which a lack of carbon dioxide in the atmosphere led to ice ages. Chamberlin noted the long publication gap between Tyndall's 1861 research and his own work: "if (carbon dioxide theory) has failed to find much acceptance this has perhaps been partly from a doubt as to its adequacy and partly from the lack of any definitely assignable cause for the requisite intermittent depletion."²⁵ In three journal articles published over three years, Chamberlin attacked the carbon dioxide problem from a New Ice Age point of view, rather than a global warming position. He noted "atmosphere [has] received the least careful study from geologists" and called his work "very speculative," but claimed carbon dioxide was the "minimum factor of the atmosphere and the critical one" (italics his).²⁶

Chamberlin also took note of the ocean as a possible carbon dioxide storage bin, a point strengthened by the work of C.F. Tolman in 1899, who studied the role of the ocean in the global distribution of carbon dioxide.²⁷ As one American scientist wrote in the late 1950s, "as a result of those early articles, during that period the carbon dioxide theory was probably the most widely held explanation of climatic change."²⁸

The carbon dioxide theory again slipped from the scientific spotlight, however, as other competing definitions of climate change, particularly notions

about variations in solar energy and volcanic dust in the atmosphere, became more popular. Although the carbon dioxide theory was well-established in the scientific community by the beginning of the 20th century, no other major work appeared on the subject in the West until 1938.

The Human-Made Climate Definition

In that year, with world war on the horizon and a world-wide Depression seemingly locked in place, British scientist G.S. Callendar became the first to link the industrial activities of humans to a warmer globe. Although Arrhenius thought much of the carbon dioxide in the atmosphere came from dust escaping from coal mines, Callendar put the idea more concretely. "During the past half-century, man has added 150,000 million tons of carbon dioxide to the air," he wrote, estimating that three-quarters of the human-made gas remained in the atmosphere.²⁹ Callendar, who also studied the glaciation issue, predicted an annual temperature rise of 0.003 degrees Celsius due to carbon dioxide production, and estimated a rise of 0.005 degrees Celsius during the previous 50 years. "Few of those familiar with natural heat exchanges of the atmosphere, which go into the making of our climates and weather, would be prepared to admit that the activities of man could have any influence upon phenomena of so vast a scale."³⁰

Redefinition: Adding the Deforestation Issue

Callendar was a voice in the carbon dioxide wilderness, however, until the late 1950s, when Gilbert Plass, a physicist who had worked for Ford Motor Company's Aeronutronic Division, resuscitated the British scientists' work. "In contrast to other theories of climate change, the carbon dioxide theory predicts a warming trend that will continue for centuries or as long as fossil fuels are burned in significant quantities," Plass wrote in 1956.³¹ He also noted the lack of recent attention to the theory: "Fifty years ago, CO₂ theory was perhaps the most widely-held theory of climatic change, but in recent years it has had relatively few adherents."³² Plass published three articles on the topic in 1956 and another in 1961. He theorized a 3.6-degree Celsius increase in global temperatures after a doubling of the atmospheric carbon dioxide -- remarkably close to Arrhenius' predictions of nearly 60 years earlier.

Plass added what would become another cultural preoccupation -- deforestation -- to the list of carbon dioxide culprits: "In recent years, industrial and other activities of man have been adding considerably more carbon dioxide to the atmosphere than any of the above factors from the inorganic world... combustion of fossil fuels, clearance of forests, drainage and cultivation of

lands, industrial processes."³³ Plass, writing at the beginning of the nuclear power age, noted that what would become two important methods of generating power may have serious disadvantages when used over long periods of time. "The burning of fossil fuels increases the temperature of the earth from the CO₂ effect; the use of nuclear reactors increases the radioactivity of the earth. It is difficult to say which of these effects would be less objectionable after several centuries of operation."³⁴

Early Mobilization: Warning Humans in the 1950s

The worth of the ocean as a CO₂ drain was damaged further in a 1957 article by two American scientists, Roger Revelle and Hans Suess. Based on work done at the Scripps Institution of Oceanography, their tests of the average lifetime of CO₂ molecules showed "a rather small change in the amount of free carbon dioxide dissolved in seawater corresponds to a relatively large change in the pressure of carbon dioxide at which the oceans and atmosphere are at equilibrium."³⁵ In short, the scientists theorized that the ocean absorbed very little of the carbon dioxide pumped out by humans.

Revelle and Suess authored a problem-amplifying warning repeated often more than 30 years later: "Human beings are now carrying out a large-scale geophysical experiment of a kind that could not have happened in the past nor be reproduced in the future. Within a few centuries we are returning to the air and oceans the concentrated organic carbon stored over hundreds of millions of years."³⁶

Nearly all of the scientists writing in the late 1950s admitted that no precise measurements of CO₂ in the atmosphere existed. Revelle took advantage of a dramatic event -- the 1957-58 International Geophysical Year -- to call for more research. The actions of Revelle, as director of the Scripps Institute, led to the creation of measuring stations at Mauna Loa in Hawaii and at the South Pole, both supervised by his research center. Revelle became politically influential in the 1980s after one of his Harvard students, Al Gore, was elected to the United States Congress and wrote a best-selling book about global environmental problems.³⁷

It was not until 1967, however, when two scientists at the Geophysical Fluid Dynamics Laboratory in Washington, D.C., Sykuro Manabe and Richard T. Wetherald, published the first quantitative computer model for determining results of carbon dioxide-induced global warming.³⁸ The issue remained on the agenda of many research scientists throughout the 1970s, although the greenhouse effect did not appear in the popular press with any frequency until the 1980s. A front-page article in The New York Times

in 1981, inspired by a study published in Science magazine by NASA scientist James Hansen and others, began the movement of the issue from the scientific arena to the mass media arena.³⁹ Hansen had sent a preprint of the study to Times science writer Walter Sullivan, allowing him to be the first journalist to report the results, which noted an overall warming trend in the earth's atmosphere extending back to 1880.⁴⁰

Recent Implications

The greenhouse effect appeared, sporadically, in the mass media arena in the early and mid-1980s. This changed in 1988, when various groups used the drought as a dramatic event to allow them to thrust global warming into the media spotlight. James Hansen testified before Congress on June 23, 1988, a day the temperature reached 101 degrees F in Washington, D.C., 100 in Nashville, Tenn., and 97 in Dallas, Texas. Hansen's testimony -- that global warming was being caused by the greenhouse effect at that very moment -- received major media treatment from coast to coast, most of it tied to the drought. And most of the media attention failed to mention that the greenhouse effect theory -- in one form or another -- had been around for more than 150 years in the scientific literature.

Lack of historical mention in the mass media may have helped shape debate by giving the greenhouse effect issue a sense of urgency. When the global warming theory became a mass media story in 1988 (Figure One), did the media and their sources present the issue in historical context? The answer is clearly no (Table One). In more than 9 out of 10 stories in the Los Angeles Times, the Boston Globe, the Washington Post and the Chicago Tribune, no reference was made to the history of the greenhouse effect as a social problem. In the greenhouse issue, those wanting to influence public opinion have been better able to do so without giving the public a history lesson.

Headlines on stories in the days and weeks after the Hansen testimony certainly seemed urgent. "World Leaders Call for Drastic Action to Slow Earth's Warming," said one in the Boston Globe.⁴¹ "World Food Supply in Peril, Group Warns," read another.⁴² In the Chicago Tribune, the apocalypse seemed near: "Pollution Expert Warns of Rise in Deaths, Disease."⁴³ Local problems were magnified by the issue: "Global Warming Imperils State Water Supply, House Panel Told," read the Los Angeles Times.⁴⁴

Conclusion

The familiarity and fame of the early scientists who published work on carbon dioxide theory, particularly Fourier, Tyndall and Arrhenius, fit into the principle of selection element of the Hilgartner and Bosk model. In

terms of cultural preoccupations, topics like glaciation (for the early scientists), and fossil fuel use and deforestation (for the 20th century researchers) spurred interest in the subject. The historical research reveals competing definitions within the global climate change issue, notably other climate change explanations such as volcanic dust in the air, solar flares and atmosphere theory, vying for attention with CO₂ theory within the social problem itself. Problem-amplifying feedback was present in the appearance of several articles in given time periods, specifically the 1890s and 1950s, as scientists built upon their own work and the studies of others in their field.

In the 1980s, the greenhouse effect shifted from the scientific arena to more public arenas. An apocalyptic view of global warming, urged by politicians, bureaucrats, scientists, environmentalists and the nuclear power industry dominated debate in the policy-making arena, as well as in the mass media. When the groups succeeded in getting their definition across in the mass media, the historical nature of the problem was virtually ignored, lending a sense of urgency to the issue. Without that sense of history, the greenhouse effect groups avoided the "boy who cried wolf" syndrome, a common criticism of environmental movement activists.

Footnotes

1. Blumer, Herbert, "Social Problems as Collective Behavior," *Social Problems*, 18, 1971, pp. 298-306.
2. Blumer, p. 303.
3. Hilgartner, Stephen, and Charles L. Bosk, "The Rise and Fall of Social Problems: A Public Arenas Model," *American Journal of Sociology*, 94, 1988, pp. 53-78.
4. This research is not meant to be an exhaustive summary of all scientific literature, but a representation of the scientific work published in the last 150 years.
5. See for example, Allan Mazur and Jinling Lee, "Sounding the Global Alarm: Environmental Issues in the U.S. National News," *Social Studies of Science*, Vol. 23, 1993, pp. 681-720; and Lee Wilkins, "Between Facts and Values: Print Media Coverage of the Greenhouse Effect, 1987-1990," *Public Understanding of Science*, Vol. 2, January 1993, pp. 71-84.
6. Greenberg, Michael R., David B. Sachsman, Peter M. Sandman and Kandice L. Salomone, "Risk, Drama and Geography in Coverage of Environmental Risk by Network TV," *Journalism Quarterly*, Summer 1989, pp. 267-276.
7. Killingsworth, M. Jimmie and Jacqueline S. Palmer, *Ecospeak: Rhetoric and Environmental Politics in America*, 1992, Carbondale, Ill., Southern

Illinois University Press.

8. Kingdon, John W., *Agendas, Alternatives and Public Policies*, 1984, Boston, Little Brown and Co., p. 7.

9. Mazur and Lee, pp. 685-93.

10. Crenson, Matthew, *The Un-Politics of Air Pollution: A Study of Non-Decisionmaking in the Cities*, 1971, Baltimore, Johns Hopkins University Press.

11. Barbrook, Alec A., and Christine Bolt, *Power and Protest in American Life*, 1980, New York, St. Martin's Press, p. 287.

12. Ramanathan, V., "The Greenhouse Theory of Climate Change: A Test by Inadvertent Experiment," *Science*, April 15, 1988, pp. 293-299.

13. Ramanathan, p. 293.

14. Roberts, Leslie, "Is There Life After Climate Change?" *Science*, November 18, 1988, pp. 1010-1012.

15. Crawford, Mark, "Planning for Climate Change," *Science*, October 28, 1988, p. 510.

16. Fourier, J.B., *Mem. de l'Academie Royale des Sciences de l'Institut de France*, 7, 1827. See also Fourier, *The Analytical Theory of Heat*, 1878, trans. by A. Freeman, 1955, New York, Dover Publishers.

17. *World Who's Who in Science*, 1968, Chicago, A.N. Marquis.

18. Tyndall, J., "On the Absorption and Radiation of Healthy Gases and Vapours, and on the Physical Connections of Radiation, Absorption, and Conduction," *Philosophical Magazine*, 1861, Series 4, 22, p. 169.

19. Dott, R.H. Jr., "The American Countercurrent -- Eastward Flow of Geologists and Their Ideas in the Late Nineteenth Century," *Earth Science History*, Vol. 9, No. 2, 1990, pp. 158-162.

20. Tyndall, 1861, p. 179.

21. Tyndall, p. 276.

22. Arrhenius, S., "The Influence of Carbonic Acid in the Air Upon the Temperature of the Ground," *Philosophical Magazine*, 1896, Series 5, 41, pp. 237-276.

23. Arrhenius, p. 268.

24. Arrhenius, S., *Worlds in the Making*, 1908, New York, Harper.

25. Chamberlin, T.C., "A Group of Hypotheses Bearing on Climatic Changes," *Journal of Geology*, 1897, 5, p. 677.

26. Chamberlin, p. 653.

27. Tolman, C.F., Jr., "The Carbon Dioxide of the Ocean and Its Relations to the Carbon Dioxide of the Atmosphere," *Journal of Geology*, 1899, 7, p. 785.

28. Plass, G.N., "The Carbon Dioxide Theory of Climatic Change," *Tellus* 8, 1956, 2, p. 140.

29. Callendar, G.S., "The Artificial Production of CO₂ and its Influence on Temperature," *Quarterly Journal of the Royal Meteorological Society*, 1938, 64 pp. 223-237.

30. Callendar, p. 223.

31. Plass, G.N., "Effects of CO₂ Variations on Climate," *American Journal of Physics*, 1956, 24, p. 376.

32. Plass, p. 377.

33. Plass, p. 379.

34. Plass, p. 385.

35. Revelle, R., and H. Suess, "CO₂ Exchange Between Atmosphere and Ocean and the Question of an Increase of Atmospheric CO₂ During the Past Decades," *Tellus* 9, 1957, p. 25.

36. Revelle, p. 19.

37. Gore, Senator Albert, *Earth in the Balance*, 1992, Boston, Houghton Mifflin.

38. Manabe, S., and R.T. Wetherald, *Journal of Atmospheric Science*, 24, 1967, p. 241.

39. Sullivan, Walter, "Study Finds Warming Trend That Could Raise Sea Levels," *The New York Times*, August 22, 1981, p. 1.

40. Mazur and Lee, p. 964.

41. Dumanoski, Dianne, "World Leaders Call for Drastic Action to Slow Earth's Warming," *Boston Globe*, June 28, 1988, p. 1.

42. Dumanoski, Dianne, "World Food Supply in Peril, Group Warns," *Boston Globe*, October 2, 1988, p. 16.

43. Kotulak, Ronald, "Pollution Expert Warns of Rise in Deaths, Disease," *Chicago Tribune*, June 29, 1988, p. 5.

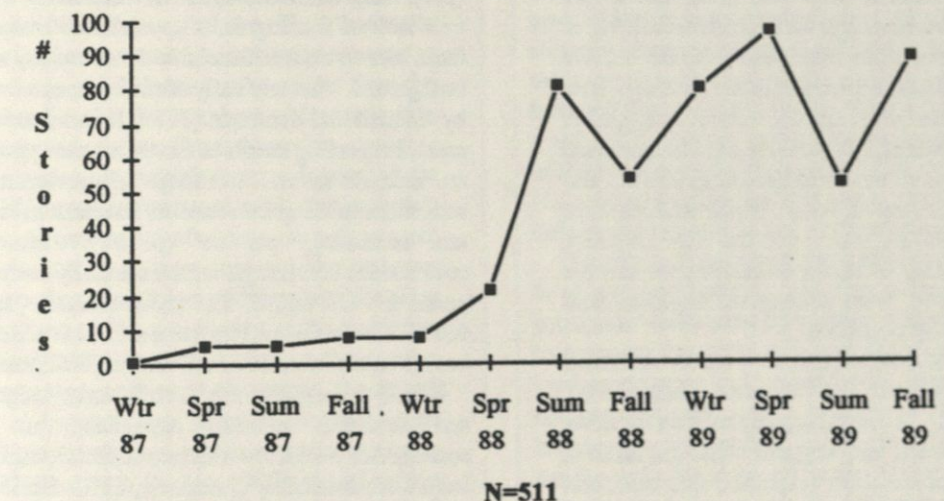
44. Duncan, Laurie, "Global Warming Imperils State Water Supply, House Panel Told," *Los Angeles Times*, September 28, 1988, p. 3.

Table One: Historical References to Greenhouse Effect Research in the Los Angeles Times, Boston Globe, Washington Post and Chicago Tribune in 1987-89.

Years	Freq	%
1970-present	1	0.2
1969-69	0	0
1950-59	2	0.4
1910-49	1	0.2
1890-1909	6	1.2
1860-89	1	0.2
Pre-1860	0	0
19th Century	3	0.6
"Years old"	16	3
None	481	94
Totals	511	99.8*

*Total not 100 percent due to rounding.

Figure One: Frequency of Stories About the Greenhouse Effect in Four Newspapers in 1987-89



The Right to Remain Indian: A Content Analysis of Newspaper Coverage of the Isleta Pueblo Waters Standards Case

by Patricia A. Curtin

Introduction

When Congress reauthorized the Clean Water Act in 1987, it gave Indian tribes the power to adopt surface water-quality standards. In late 1992, Isleta Pueblo, a reservation of about 4,500 people approximately 12 miles downstream from Albuquerque on the Rio Grande, became the first tribe to have standards approved by the Environmental Protection Agency (EPA). Isleta leaders said they adopted standards stricter than those of New Mexico because they were alarmed by low-level radioactive waste discharges into the Rio Grande, their rising cancer rate, the quality of food raised in irrigated fields, and because they use river water in religious ceremonies. Albuquerque, which discharges its effluent into the Rio Grande just above Isleta, sued the EPA, claiming that the Isleta standards were arbitrary and unscientific and that it would cost the city \$250 million to build a new wastewater facility to meet the standards. In April 1994 the city and Isleta negotiated a settlement, although the lawsuit between the city and the EPA has yet to be resolved.

This study uses quantitative and qualitative content analyses to determine how one local newspaper presented this environmental conflict to readers. Three main research questions were posed: (1) the relative importance news gatekeepers placed on the story—how often it made the news agenda, how it was ranked relative to other stories, how actively reporters pursued the story; (2) source use—who served as sources and with whom were they affiliated, which sources were used most extensively, which sources were not used; and (3) the courses of action outlined—how was the conflict articulated, were alternatives explored, and were they critically examined.

The resulting data demonstrate how reporters framed the story. Tankard et al. (1991) describe framing as the process of defining "a central organizing idea for news that supplies context and suggests what the issue is through the use of selection, emphasis, exclusion, and elaboration" (p. 5). Framing is an essential journalistic tool for making sense of events to readers by supplying a common reference point by which events are given meaning. Research demonstrates that journalistic frames tend to be similarly constructed across media

based on occupational constraints, such as deadlines and equipment shortages, and journalistic values, such as objectivity and newsworthiness (Dunwoody & Griffin, 1993). Recent evaluations of environmental news coverage suggest journalists seldom employ scientific frames, preferring more commonly used news frames such as risk or political conflict, which more easily conform to traditional journalistic values. Bendix and Leibler (1991) concluded that environmental issues are often framed in crisis terms to increase their news value because timeliness, the most common news value, does not apply. Griswold and Swenson (1993) suggest standard reporting models do not lend themselves to the long-term analysis that environmental framing requires. Instead, journalists are trained to report discrete events, a "facts as given" approach, rather than an exploration of alternatives (see also Fishman, 1981).

Friedman and Friedman (1989) found the complexity of most environmental stories provides an additional constraint: "Environmental issues involve not only technical information, but also financial, political, and social considerations, add[ing] to the complexity" (p. 9). They concluded economic constraints often lead to a lack of funding for a specialized beat reporter; those who do exist seldom have the necessary scientific background. An early study of environmental reporters by Goodell and Sandman (1973) found that "environmental reporting seems to have attracted people with an interest in the workings of government and sometimes in the great outdoors but seldom in science and technology per se" (p. 39). Although the environment beat has grown substantially in the last 20 years, a 1993 poll of 512 environmental journalists found 72% believed reporters still lack training and background in environmental issues (Williams, 1993).

Research suggests this lack of knowledge makes environmental reporters dependent on "expert" sources, that is sources who have official status, which lends them credibility (Anderson, 1993; Dunwoody & Ryan, 1987). Corbett (1992) found coverage of wildlife issues was dependent on expert scientific sources associated with government agencies. Specialized environmental reporters were more source dependent than general beat reporters, framing stories

within the state management viewpoint while ignoring issues of land use, habitat, and pollution. Sachsman (1976) found environmental beat reporters relied heavily on government agency press releases and wire stories routed to them, making official spokespersons the most frequently used sources and their viewpoint the news frame most often used. Dunwoody and Griffin (1993) concluded environmental reporters relied heavily on official government agency sources, giving sources the ability "to exercise substantial control over story frames" (p. 46). Environmental journalists were not skeptical of their sources but dependent on them, reinforcing the government's interpretation of events.

Method

This study employs both quantitative and qualitative content analyses to examine newspaper coverage of Isleta Pueblo's adoption of water-quality standards. Only two of the 29 newspapers included in the Newspaper Abstracts on-line service carried any mention of the controversy (*The Denver Post* and the *Los Angeles Times*); consequently, this study concentrates on coverage of the issue in the *Albuquerque Journal*, for which the story had local prominence and direct impact.

For the quantitative content analysis, manifest content was coded into discrete categories. Two independent coders analyzed the data and an inter-coder reliability index of .91 was obtained (Holsti, 1969). Articles were coded for several physical factors (i.e., page number, placement on page) to determine the relative importance assigned the issue and for the main news value used.

Sources were coded according to their institutional affiliation, name, and frequency of use. Note was made of metonym use (i.e., the use of an institutional name or title as an actor), which distances the reader from the source and implies that the members of the institution all share one point of view. From these data, determinations were made about which sources dominated the coverage. Which sources were not used—that is, which individuals were written out of events—was also noted.

For the qualitative content analysis, the text was coded by a single coder; the resulting categories were reviewed by the second quantitative coder and some operational adjustments made based on the review. Using the paragraph as the unit of analysis, the textual data were aggregated into units of meaning, then fragmented by open coding into etic or emic categories (Patton, 1990; Strauss & Corbin, 1990). Axial coding restructured the data into mutually exclusive and all inclusive categories to form an interrelated schema around a core category. The resulting taxonomic construction of categories reflecting the purpose of the research: to determine how the issue was framed.

Results

The *Albuquerque Journal* ran 35 articles about the conflict over a 20-month period: 25 hard news stories, 4 features, 1 news brief, and 5 editorials. Hard news stories made the front page 50% of the time; 8 of the first 10 appeared there. Conflict was the main news value used (52.6%), followed by impact (26.2%), timeliness (15.8%), and prominence (5.3%). Proximity was not the major news value employed in any of the coverage.

City officials were the most heavily used sources (Table 1), with Public Works officials dominating. Pueblo officials were the second most frequently used, with tribal council officials dominating. The EPA was the third most used source, led by regional officials. The EPA was the only metonym used as a source. State officials overall were in fourth place.

Although two stories mention scientists employed by the Pueblos, they never serve as sources. Despite many independent scientists in the area, including those with the U.S. Geological Survey Rio Grande water quality monitoring stations, the faculty of the University of New Mexico at Albuquerque, and personnel at the New Mexico Water Resources Institute, none appear as sources. Business and industry sources are lacking, as are spokespersons from the government nuclear laboratories. The only environmental group mentioned was headquartered in Brownsville, Texas; no local environmental groups are mentioned.

The quantitative results, then, demonstrate that although the story did not receive much national play, the local paper ran the story on the front page and above the fold much of the time when the story was new, although as the controversy continued coverage slipped to the inner pages. Conflict was the main news value employed. City sources predominated, particularly officials from the Public Works department. In order of frequency, other sources used were those affiliated with Isleta Pueblo, the EPA, and the state of New Mexico. Sources that were not used include independent scientists and environmentalists.

The schema that emerged from the qualitative coding is shown in Figure 1. The first category—"lack of enterprise"—addresses how committed reporters were to pursuing the story. Although the story was one of local prominence and impact for the *Journal*, they did not cover it until almost two weeks after the story broke in *The Denver Post*. A close reading reveals that the *Journal's* first story, appearing September 1, 1992, was sparked by a media advisory for a news conference. Similarly, the paper reported on October 21 that Isleta had been granted state status, adding that approval of Isleta's water standards would follow within 60 days. Yet the newspaper staff let the deadline pass, reporting approval of the standards only after

receiving a pueblo press release one week later.

The same pattern holds for the approval of water-quality standards for two other pueblos. Coverage dated May 21, 1993 noted both pueblos had submitted water-quality standards earlier in the month, with the deadline for approval set for early July. Yet news that one's standards were approved did not break until October 24, 1993, when a controversy developed over a related issue. That same story notes that the other is sure to follow with their standards; but in fact the standards had been approved 3 months earlier.

Another category—"lack of alternatives"—emerged from the courses of action legitimized. Although the story broke when a city councilor called a news conference to discuss an alternative to the Public Works department \$250 million technological fix, this alternative receives no mention after the first two days of coverage. Independent scientists and environmentalists are never asked for their opinion either of the Public Works' plan or of the alternative. Public Works officials' statements concerning the sources of pollution, amount of pollution, and possible ways to clean up the pollution are presented without question or alternative viewpoints, such as the statement that "even if Albuquerque's effluent is sparkling clean, river pollution from other, uncontrollable sources such as soil erosion and storm runoff is far more significant." The fact that most storm runoff in Albuquerque is channeled through an extensive arroyo system to prevent flooding and is available for treatment is never mentioned. Also not mentioned is that all upstream users must comply with the new standards, not just Albuquerque, making the Public Works department's argument that "Albuquerque's sewage effluent is only 2% of the pollution in the Rio Grande so cleaning it up will not help" specious. The city Public Works department technological fix becomes the only alternative discussed should the city's legal action fail.

Coding for source use and presentation revealed the Public Works Department to be the primary definer of events, which led to development of a third category—"reliance on official sources." Because the city's effluent permit was up for renewal at the same time Isleta's standards were being considered, the Public Works department dominates the coverage early on. Given the lack of enterprise reporting, subsequent coverage does not vary from this original interpretation of events. Robert Gurule, Public Works Director, and Gene Leyendecker, director of the city's Wastewater Utility Division, are the two most frequently quoted individuals in the coverage, presenting the "facts" of the argument and setting the tone. The dominance of the Public Works department viewpoint is blatant in the last news story, published April 8, 1994, in which the fact that surface water-quality standards are at issue

is forgotten in the following summary statement of events: "Isleta was the state's first Indian tribe to adopt its own *sewage-discharge regulations*" (emphasis added).

Axial coding demonstrates that "reason" is the core category around which the issue is framed for readers. In the first article, Leyendecker calls the new standards "unreasonable," noting Albuquerque will be forced to "pay big bucks to further purify the treated sewage," indicating the sewage is already pure and further treatment is not reasonable. He charges that "eventually each of the state's 19 pueblos will set water-quality standards, each different and possibly much stricter than the state's surface water standards." It is not certain even today, however, that all 19 pueblos will present standards for approval, and of those which have, the same standards have been submitted in each case. But his unquestioned statement that every pueblo will set a different standard underlines how unreasonable the pueblos' position is. Additionally, only Isleta is downstream of Albuquerque; therefore, only Isleta's standards would directly affect Albuquerque, a point city officials and reporters alike never make.

Should the pueblos upstream of Albuquerque have standards approved it could only help the city by requiring upstream users to reduce pollution in the Rio Grande before it reached Albuquerque. Yet this point is never mentioned. Instead, the point is made that Albuquerque's sewage plant was built "in good faith," "has generally met the terms of its discharge permit," and "meets the EPA requirements." But Isleta's "demands on Rio Grande water quality" and use of "force" to make upstream users further purify their effluent amount to asking for "unreasonable improvements" that will serve only to make "the currently legal plant, illegal." Further, "Albuquerque contends the standards are unreasonable [because] for some pollutants they exceed federal drinking water standards." In fact, only the arsenic standard exceeded federal standards, but the coverage never gives the comparative standards. Also not questioned is whether exceeding federal drinking water standards is *de facto* an unreasonable act.

Although the word unreasonable is used throughout, after the city filed its lawsuit the wording of the suit became common: "the pueblo's standards cannot be supported scientifically [and] are arbitrary." To stress how unreasonable and arbitrary they are, coverage beginning October 6, 1992 shifts from quoting the \$250 million cost to using the phrase "hundreds of millions of dollars." An October 23, 1993 story lead states the city will appeal the District Court decision to avoid the "unreasonable consequence" of making "Albuquerque customers pay hundreds of millions of dollars." In other stories city officials term Isleta's

standards "irrational regulation" having "absurd" results, indicating a more extreme form of lack of reason.

Two options are offered for ways in which Isleta can act reasonably: to negotiate with the city and to help fund a study commissioned by the city. The October 6, 1992 story lead states "Isleta Pueblo probably will have to negotiate directly with Albuquerque over strict water quality standards the tribe has proposed for the Rio Grande." Not mentioned are Isleta's call for talks or the lack of response from Albuquerque's mayor. Instead, the coverage states Isleta must negotiate with the city, not the other way around, implying that even though Isleta has acted within government regulations reason demands that it now negotiate with the city on the city's terms.

Following approval of the standards, the city commissioned a study to determine the "economically and technically feasible" uses of the river water. But Gurule notes the pueblo declined to contribute financially to the study, despite the fact "it just seems to me it would be to their advantage to have direct input into the study." Following the first mention of the study, every subsequent story notes that the city has extended an invitation to the pueblo to participate but that these invitations have not met with "success." Only once, in an October 23, 1993 story, is a pueblo source quoted on the subject. He notes the pueblo is satisfied with their own studies to date and they see no reason to pay for further studies.

The issue of the study, however, ties together the concepts of reasonable and scientific. Isleta's standards are unreasonable because they are not scientific, whereas the study will "determine what stream standards are scientifically defensible and what uses are appropriate for the river's water." In direct contrast to a scientific determination of appropriate uses is placed Isleta's ceremonial use of river water. Although Isleta's petition listed three uses—recreational, irrigation, and ceremonial—the coverage up until the last story mentions only the ceremonial use. Isleta's standards, then, are based on religion, not science. The first *Journal* story says Isleta is demanding that the river be "drinking water pure" because it is used in ceremonies. Just over a week later, the coverage notes: "The unusual aspect is a classification for ceremonial use of the Rio Grande. Ceremonial use includes immersion and both accidental and intentional drinking of river water." In a January 23, 1993 story, this use dominates the controversy to the exclusion of the others: "Among other uses, Isleta Pueblo designated the river for ceremonial use, which includes immersion and drinking the water intentionally or incidentally." This conflict between science and religion is apparent in coverage from February 19, 1993: "The city claims

the standards are arbitrary and would result in higher sewage bills. Isleta officials say they are tired of the city's pollution and the problems it causes, including infringing on the tribe's religious use of the river."

This opposition of reason and science to unreasonableness and religion is not resolved until the final news story on April 8, 1994, after a settlement has been negotiated. For the first time all three reasons for Isleta's adoption of water standards are mentioned. Now the reader is informed that the main reason for Isleta taking action was "concern about low-level radioactive wastewater." And Leyendecker notes that finally "the Isletas are going to be able to have a study done to determine if their standards are scientifically valid." The final editorial, run on April 10, congratulates Isleta Pueblo officials for showing "a laudable willingness to look at the scientific validity of their standards."

Discussion

The lack of coverage in the national media—only 2 of 29 papers in Newspaper Abstracts—is striking. With the federal government enabling Indians to assume tribal sovereignty over environmental issues and with 542 tribes on reservations in almost every state, the repercussions could be enormous.

In Albuquerque, where the issue was of immediate impact, newspaper personnel considered the story newsworthy, often placing the coverage on the front page and above the fold. But the story was not newsworthy because of its proximity or environmental aspects, but because of its inherent political conflict. Given a lack of enterprise reporting, journalists relied on official spokesmen, government agency sources, and routinized news channels, which allowed the city Public Works department to control how the story was framed. In Hall's (1986) terms, the Public Works officials became the primary definers of events. No scientific or environmental sources or studies, other than those referenced by the Public Works officials or a few far removed from the locus of controversy, were used. Even the actual surface water quality standards that form the basis of the controversy were not given. Events, then, are never presented in terms of a scientific frame of reference, but only a political one. Thus the short-term conflict over the city's waste permit becomes the defining issue of what is, in fact, a long-term environmental process of global import, given the international scope of watershed boundaries.

Science is used not to frame the issue and provide meaning but to lend credence to the political frame, to serve as a standard of reason for decision making. Given the Public Works department's technological fix as the only alternative, application of the straightforward formula of cost-benefit analysis demonstrates

that the costs of meeting the new standards are far greater than any perceived benefits. Not only is the city's position reasonable, then, but the coverage also provides readers with a clear method for demonstrating just how reasonable it is.

Against this reasoned basis is placed the Pueblo's religious practices. Because the coverage notes only the "religious" use of the water, readers uninitiated in the religion are distanced from the argument. In fact, following religious persecution by the Spanish, the Pueblos developed a great secrecy around their ceremonies which lasts today (Gordon-McCutchan, 1991; Harvey, 1972; Hill, 1982). The only basis for the Pueblo's position given in the coverage, then, is an underlying spiritualism with which most readers cannot identify. Many readers could identify with the recreational and agricultural uses given by the Pueblos, but these are not explicated in the coverage. Thus the coverage does not present a fully articulated presentation of the Pueblo position, choosing instead to concentrate only on that aspect that is most foreign to the majority of readers.

But for the Pueblos much more is at stake than just their quality of religious life. Typical of many Native American peoples, the Pueblos posit an intrinsic relation between the people, the land, and their culture (see Booth & Jacobs, 1990; Cornell, 1990; and Momaday, 1994 among others). Water quality of the Rio Grande, then, is intrinsically linked to issues of tribal sovereignty: the continuation and survival of the Pueblo people and culture. This larger issue underlying their concern over water quality in the river is voiced in a document they prepared in 1972 for a previous legal fight over water rights titled "The Right to Remain Indian":

The Pueblo Tribes of New Mexico have depended on the Rio Grande to sustain their lives for thousands of years. To the Pueblo Indian, the Rio Grande is a living part of the balanced scheme of nature, with which the tribes maintain a close relationship. Thus, the river is a part of the very life and existence of the Indian. When the river dies, so does the Indian. (AIPC, 1972, preface)

Many native peoples view the EPA policy changes that gave tribes sovereignty under state pollution control programs not just as a means of encouraging traditional religious practice but as an important step in enabling them to survive as a distinct people.

But the import of this issue to the Pueblos is not revealed by the political framing applied by the journalists to this case. By allowing the city Public Works officials to become the primary definers of the controversy, issues of tribal sovereignty and cultural

survival are written out of a political conflict frame. Had other frames been used, the issue may have been presented quite differently. Using a scientific or environmental frame may have provided a long-term analysis of pollution issues, examining the historical context of water rights struggles in the area and their interrelationship with environmental racism. As Brown and Rivera (1992) have noted, "water scarcity has probably had the strongest role in shaping the social character of the region" (p. 31). Within this framing, an informed dialogue of the merits of a more holistic approach versus a cost-benefit analysis and the social impact of reservations as sovereign states may have become major constructs around which the story was formed.

It is important to note that at issue is not whether one side was ultimately right or wrong in this controversy but to examine how reporting frames can construct the meaning of environmental issues for readers. Although framing is a necessary tool for any writer wishing to communicate meaning to readers, journalists and readers both must be aware that selection of one frame over another often results in whole ranges of alternative perspectives and actions being written out of consideration. Burgess and Harrison (1993) conclude that in the last 10 years the environment has been consistently reframed as a political issue. Sharon Friedman notes: "To the extent the media do cover the environment, they tend to focus on the political" (in McClellan, 1992, p. 18). In this instance, the political conflict frame allowed public officials to become the primary definers and thus present the only "feasible" alternative to a complex environmental conflict. These results support Hansen's (1991) conclusion that "studies of media coverage of environmental issues have repeatedly shown that it shares much of the 'authority-orientation' of other types of coverage" (p. 449). Further research is necessary to determine if other reporting frames, including fuller development of environmental frames, might be inherently more inclusive of alternative actions, thus broadening rather than constraining public debate and understanding of environmental issues.

Bibliography

AIPC (The All Indian Pueblo Council), (1972). *The right to remain Indian: The failure of the federal government to protect Indian land and water rights*. Albuquerque: U.S. Commission on Civil Rights.

Anderson, A. (1993). Source-media relations: The production of the environmental agenda. In Anders Hansen (Ed.), *The mass media and environmental issues* (pp. 51-68). New York: Leicester University Press.

Bendix, J., & Leibler, C. M. (1991, November).

Environmental degradation in Brazilian Amazonia: Perspectives in US news media. *The Professional Geographer*, 43(4), 474.

Booth, Annie L., & Jacobs, Harvey M. (1990). Ties that bind: Native American beliefs as a foundation for environmental consciousness. *Environmental Ethics*, 12(1), 27-43.

Brown, F. Lee, & Rivera, Jose A. (1992). The Southwest: Global issues in a regional setting. In Emery Castle & Barbara Baldwin (Eds.), *National rural studies committee: A proceedings of the annual meeting* (pp. 27-35). Las Vegas, New Mexico.

Burgess, J., & Harrison, C. M. (1993). The circulation of claims in the cultural politics of environmental change. In Anders Hansen (Ed.), *The mass media and environmental issues* (pp. 198-221). New York: Leicester University Press.

Corbett, Julia B. (1992). Rural and urban newspaper coverage of wildlife: Conflict, community and bureaucracy. *Journalism Quarterly*, 69(4), 929-938.

Cornell, George (1990). Native American perceptions of the environment. *Northeast Indian Quarterly*, 7(2), 3-13.

Dunwoody, S., & Griffin, R. J. (1993). Journalistic strategies for reporting long-term environmental issues: a case study of three Superfund sites. In Anders Hansen (Ed.), *The mass media and environmental issues* (pp. 22-50). New York: Leicester University Press.

Dunwoody, Sharon, & Ryan, Michael (1987). The credible scientific source. *Journalism Quarterly*, 64(1), 21-27.

Fishman, M. (1981). News and nonevents: Making the visible invisible. In J. S. Ettema & D. C. Whitney (Eds.), *Individuals in mass media organizations: Creativity and constraint* (pp. 219-240). Newbury Park, CA: Sage Publications.

Friedman, S. M., & Friedman, K. A. (1989). Environmental journalism. *Environment*, 31(5), 6-9, 32-37.

Goodell, Rae, & Sandman, Peter M. (1973). The environmental reporter. In David M. Rubins & David P. Sachs (Eds.), *Mass media and the environment* (pp. 36-53). New York: Praeger Publishers.

Gordon-McCutchan, R. C. (1991). The battle for Blue Lake: A struggle for Indian religious rites. *Journal of Church and State*, 33(4), 785-797.

Griswold, William F., & Swenson, Jill D. (1993). Not in whose backyard? The ethics of reporting environmental issues. *Mass Comm Review*, 20(1-2), 62-75.

Hall, Stuart (1986). Cultural studies: Two paradigms. In Richard Collins, James Curran, Nicholas Garnham, Paddy Scannell, Philip Schelisinger, & Colin Sparks (Eds.), *Media, culture and society: A critical reader*, (pp. 33-48). London: Sage Publications.

Hansen, Anders. (1991, October). The media and the social construction of the environment. *Media, Culture & Society*, 13(4), 443-458.

Harvey, Byron (1972). An overview of Pueblo religion. In Alfonso Ortiz (Ed.), *New perspectives on the Pueblos* (pp. 197-217). Albuquerque: University of New Mexico Press.

Hill, W. W. (1982). *An ethnography of Santa Clara Pueblo New Mexico*. (Charles H. Lange, ed.). Albuquerque: University of New Mexico Press.

Holsti, Ole R. (1969). *Content analysis for the social sciences and humanities*. Reading, MA: Addison-Wesley Publishing Company, Inc.

McClellan, S. (1992, May 25). Gearing up for green coverage. *Broadcasting*, 122(22), 14, 18-19.

Momaday, N. Scott (1994). Native American attitudes to the environment. In D. VanDeVeer & C. Pierce (Eds.), *The environmental ethics and policy book* (pp. 102-105). Belmont, CA: Wadsworth Publishing Company.

Patton, Michael Quinn (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage Publications.

Sachsman, David B. (1976). Public relations influence on coverage of environment in San Francisco area. *Journalism Quarterly*, 53(1), 54-60.

Strauss, Anselm, & Corbin, Juliet (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: Sage Publications.

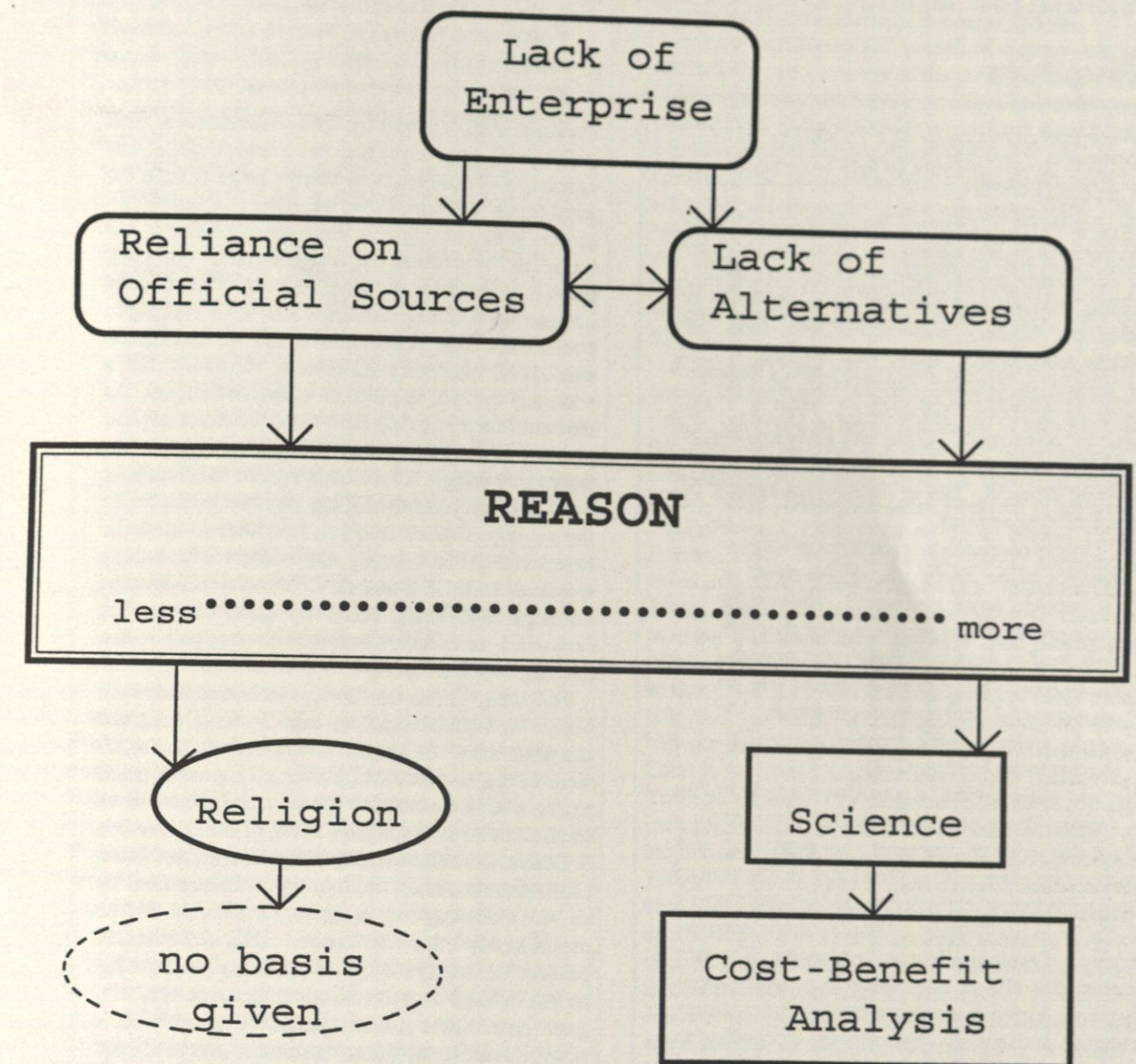
Tankard, J. W., Jr, Hendrickson, L., Silberman, J., Bliss, K., & Ghanem, S. (1991). *Media frames: Approaches to conceptualization and measurement*. Paper presented at the annual meeting of the Association for Education in Journalism and Mass Communication, Boston, Massachusetts.

Williams, B. (1993, November 1). Wanted: A few good quotes. *The Oil and Gas Journal*, 91(44), 19.

Table 1: Source Use and Frequency

Source Name	Quoted		Attributed		Total Mentions	Total Sentences
	No. of Stories	No. of Times	No. of Stories	No. of Times		
City	1	4	2	3	7	8
Mayor	1	2	1	2	4	5
Candidate-Mayor	2	2	6	10	12	12
City Councilor	12	21	19	58	79	86
Public Works Administrators	1	1	4	14	15	15
City Lawyer	4	10	6	14	24	28
Unnamed Documents	0	0	9	19	19	20
	1	1	2	2	3	3
Total		41		122	163	177
Pueblo						
Governor	4	8	4	9	17	19
Lt. Governor	2	2	2	3	5	9
Councilor	7	12	5	14	26	27
Former Council.	2	4	4	10	14	21
Tribal Official	2	7	6	12	19	29
Artisan	1	1	1	1	2	3
Tribal Lawyer	2	3	3	4	7	7
Unnamed Documents	0	0	5	5	5	6
	1	1	1	1	2	4
Total		38		59	97	125
EPA						
Regional	7	10	16	47	57	58
National	3	4	4	9	13	15
Unknown	2	2	7	9	11	12
EPA as metonym	0	0	3	3	3	3
EPA documents	1	1	0	0	1	1
Total		17		68	85	89
State						
Environmental	5	10	6	14	24	29
Engineering	0	0	1	2	2	3
Political	2	4	3	12	16	18
Other	1	2	0	0	2	2
Total		16		28	44	52
Miscellaneous						
Persons	2	1	7	12	17	19
Documents	1	2	4	6	8	11
Total		7		18	25	30

Figure 1: Qualitative Coding Scheme



Ecological Communications: Committed Business Goes Beyond Green Marketing

by Janet Dooley

"If you can promise not to change our ideas, we can promise to help you change the world."

Stephen Garey's "promise" was the headline on an advertisement he had placed soliciting clients for his new advertising agency devoted to environmentally sensitive products and services. After 30 years of writing ads "touting preservative-laden food and polluting automobiles" Garey was rebelling against "the culture of careless consumption he believes advertising promotes" (Rothenberg, 1990, p. C20). Reared to "do no harm," Garey said it never occurred to him that advertising would try to get him to do something different. But in opening his agency, he issued a striking apology.

Despite overwhelming evidence of serious damage to the Earth, tens of thousands of companies, large and small, continue to make products and profits in ways that can only lead to further ill health and tragedy. These companies can no longer be viewed as successful. But their advertising is. We ought to know. We created some of it. (Rothenberg, 1990, p. C20).

His advertisement and a subsequent article in *The Los Angeles Times* generated over 300 responses.

Garey is one of many in the marketing and advertising industries who are finding their ways out of pollution supporting, earth damaging business systems and trying to apply their talents to more environmentally and ecologically sound endeavors. They are demonstrating that it is possible to combine profit generating business decisions with prudent earth preserving and socially just actions. According to Garey the overall question is, "can anyone in our business afford to remain innocent?" His pledge to "change the world" is a succinct summary of the philosophy to which a cadre of businesses, large and small, are subscribing--that of ecological communication or e-comm.

E-comm Emerges

In an optimistic forecast, 180 degrees away from the cynical reviews of green marketing, Simon (1992) proclaimed that environmentalism, "long regarded as a nuisance from the fringes of activism, has now gone mainstream, turned upscale, made headlines and

impacted market shares" (p. 269). One manifestation of her predictions is the turn to ecological communications. E-comm that is currently emerging from the green morass is a comprehensive, integrated communications strategy that permeates every company policy including manufacturing, distribution, disposal, pricing, and hiring, all other aspects of conducting business as well as communication. It is working in conjunction with stakeholders, that is, customers, employees, and other community members that a company touches, as much as with shareholders. As Howard Marder (1990) said, "Don't claim that your product is environmentally friendly and forget the facility producing it. If you have a green label on your packaging, and you are pumping tons of chemicals into the air at your plant site, you will have to do some explaining" (p.55). Simply put, e-comm is "matching words and deeds" (Frankel, 1992). As this concept develops it is being called by many names, but ecological- or e-comm seems to be emerging as the most appropriate description.

Following green marketing embarrassments of Hefty's biodegradable garbage bags that didn't degrade and green claims that couldn't be delivered, marketers were facing a jaundiced audience that saw green strategies as "a term used by the advertising industry as an effort to exploit" (Rigney, 1992, p. S-2). Johathan S. Baskin, Corporate Manager, Public Affairs, Nissan North America, Inc., describes the problem colorfully as "the hollow green linings we creatively find to promote our otherwise brown clouds of business behavior" (Baskin, 1992, p. 50). He is stressing what he has dubbed e-communications because symbolic green gestures have produced perceived added benefits without incurring significant additional cost or change in lifestyles. Baskin added that appreciating and buying real environmentally-responsible products and services will require considerable consumer education which is something most corporations have been unwilling to do so far.

Bob Viney, vice president of marketing for Church & Dwight Co.'s Arm & Hammer Household Products called green marketing "a code word for yet another corporate hypocrisy" (p. S-2). He is advocating an "alternative moniker" that implies "credibility, thoughtfulness and thoroughness." His suggestion is environmental communication, because green implies

an end result and marketing oversimplifies what's being done. According to Viney, environmental communication is not just marketing, it's R&D, distribution, manufacturing, health and safety.

Delving into the e-comm philosophy even deeper, Bruce Harrison (1992), Chairman of E. Bruce Harrison Company, Inc., an environmental issues consulting firm, coined a parallel description, sustainable communications.

Sustainable communication is a results driven process to be used by the organization wishing to benefit from the creation of long-term relationships with the firm's stakeholders. It is continuous, open, interactive, it is consistent, with measurable results, and ever-improving. Unsustainable communication is an unsupported statement by a company about its green commitment or a meaningless claim on a product label. On one level, sustainable communication is not misleading consumers, but that level does not reach the deeper meaning of the concept. In fact you have to not rest while you are not misleading. The green scene is dynamic. Unsustainable communication is any communication that does not advance a good, lasting relationship. (p. 245)

Contained within Harrison's concept of "sustainability" is the e-comm commitment to cradle-to-grave marketing. Gitlitz (1990) identified cradle-to-grave packaging as including recycling plans and decomposition in the grave. Earth Day organizer Dennis Hayes (Bean, 1990) is also among those promoting the concept of cradle to grave standards for marketers. This approach holds a marketer responsible for every step of the manufacturing and marketing process, from the fuels and chemicals used to disposal of the packaging in a landfill. Once a total e-marketing plan is in place it is the responsibility of e-communicators to announce every phase of the plan and follow-up often. "Consumer education is the real backbone of an environmental marketers long-term strategy" (Frankel, 1992, p. 37). Stakeholders must be thoroughly informed about a company's e-comm aspirations before the program can deliver any impact.

As business practitioners e-communicators are seeking a profit, but their business decisions are not exclusively driven by bottom line financial considerations. For them the bottom line is sustaining the planet, and their business decisions are guided by a desire to "make peace with our natural environment" (Taylor & Muller, 1992, p. 6). Communications programs are the visible evidence of broad ecological commitments, but genuine e-comm and e-marketing

initiatives penetrate all levels of the business operation, even those not seen by consumers.

Backlash Ripples through E-comm Efforts

A slow acceptance and growth of e-comm can be attributed in part to many of the poorly managed and ill-fated green marketing endeavors. The bandwagon popularity of green strategies engendered superficial, opportunistic, unsubstantiated and risky premature environmental claims. The first corporate response to consumer demands for more environmentally safe business practices was manifested in the form of green marketing, an exercise "posited on the belief that getting there first with a packaging or advertising claim would help a brand's image and sales" (Kiley, 1991, p. 32.).

A plethora of environmentally safe and eco-friendly claims, fraught with inconsistency and lacking substantiation, backfired on many marketers as they tried to outgreen one another in a wave of "greenwashing" (Elkington, 1991; Gitlitz, 1990; N. Goldstein, 1990; Kiley, 1991). During the green backlash (Elkington, 1991; Fierman, 1991; O'Brien, 1992; Simon, 1992; Snyder, 1992; Taylor & Muller, 1992) consumers shied away from green products in a "thicket of confusing language" and an "assortment of dubious labeling and advertising practices that tainted the whole field of environmental marketing" (Taylor & Muller, 1992, p. 6). Mobil's biodegradable Hefty trash bag *faux pas* ended in cash settlements for the \$1.1 billion market leader (Simmons, 1992). Friends of the Earth in the United Kingdom initiated the "Con of the Year" award, which they publicized liberally following each presentation, for the company that had made the most false green claims (Elkington, 1991; Marder, 1990). "Unfortunately, the years of non communication between business and the stakeholder communities has contributed to a level of distrust and disparate beliefs regarding the standards by which corporate environmental performance should be measured" (Mastrandonas & Strife, 1992). Even though some companies were striving legitimately to respond to consumer interest in the environment, hype exceeded good faith efforts and penetration of genuine messages was minimal.

When Americans were asked in 1990 where they got most of their environmental information, they listed mass media first, with 75% citing television and 65% naming newspapers as their first choice for environmental news. Environmental groups were the second major source at 32%, ranking slightly higher than government, and in last place, with an 11% ranking, were large corporations, the purveyors of "e" and green information (Simon, 1992, p. 276). A 1991 *Advertising Age* survey (Green marketing revolution,

1991) revealed that 66% of the 1500 respondents could not name a single environmentally conscious company. Procter & Gamble was the most mentioned firm in that category, but with a mere 6% of the responses. For accuracy of information, advertising, an e-comm medium, ranked last, well behind product labeling (63%) and self-education (75%).

The apparent ineffectiveness of green marketing sounds as if it could be a death knell for e-communication. However, the shift from "green" to "e" indicates recognition of some of the core problems have plagued green efforts. Unsupported environmental claims and confusing guidelines induced justifiable skepticism. Market driven green decisions were too shallow to capture market share much less any depth of consumer commitment.

Global Green

Though Garey, the innovative advertiser from Santa Monica, California, was operating a small, locally focused business, the problem of how to maintain production of goods demanded by a society and, at the same time, maintain a livable world is a global dilemma. Preservation of the planet would suggest a universal or "global" appeal useful for e-communications, but different levels of environmental activity from Third World countries to nations of the Triad (identified by Simon, 1992, as Canada, Denmark, Japan, West Germany, the Netherlands, the U.S.A. and the United Kingdom) make a uniform strategy nearly impossible.

Global "e" or green strategies also present a special problem inasmuch as they involve a complex set of players whose relative power varies greatly from country to country (Simon, 1992). While environmental groups such as the Sierra Club and the Environmental Defense Fund and the media exposure they can generate are major forces in the U. S., they are virtually nonexistent in Japan. Strong recycling and packaging programs stem from manufacturers initiatives in the U.S., whereas in Europe they come from the retail sector. Each strategist, whether a local business operator or an international manager, must be tuned in to the level of environmental concern in which he or she is working and must be aware of the nexus from which problem solving proposals emanate in a given region.

Advertising Age's Gary Levin (1993) summarized the findings of London based Research International's 1992 survey of environmental conditions and attitudes in 22 countries. Researchers segmented the countries into five groups according to consumers' degree of environmental awareness and action. E-communicators should note the progression with which respondents move from holding governments responsible for

environmental concerns among the least involved countries to placing the problems squarely at the feet of manufacturers and marketers among the more deeply involved nations.

Spectators: Least developed countries who have relatively low awareness of environmental problems and hold their governments, not manufactures, responsible.

Passive environmentalists: While they are similar to spectators this group displayed more serious concerns about their environment, but appear passive in their responses.

Lip-service environmentalists: Highly consumer driven societies that profess awareness of and concern for environmental effects, but seem unwilling to trade convenience and disposability for a reduction in preservatives and additives. Manufacturers were almost entirely absolved of responsibility for environmental problems.

Negotiators: Consumers are aware of and concerned about environmental problems, but take a measured approach to them based on trade-offs. They use eco-friendly products when the price is acceptable, but they rarely focus on greenness as a goal. Most are willing to accept some personal responsibility for their surroundings, but place the onus for environmental problems on marketers.

Anxious experts: These are the "desperately worried" environmentalists living in Scandinavian countries, Germany, Canada and the U.S. Simon Chadwick, chairman and ceo of Research International, described this group as "almost off the edge where naturalness is concerned. The more old-fashioned the product, the more it can be proved to be natural, the more interested they are" (Levin, 1993, p. 29). Anxious experts emphasize the role of marketers but also accept blame themselves for factors influencing their own health as well as the global environment.

Carincross (1992), pointed out, for e-marketers planning long term strategies, that the pressure to go green in the next decade will be seen in industrializing countries that have just begun to realize links between the environment and development.

According to Simon (1992), across the Triad, business is perceived as the chief cause of environmental problems. Of particular significance to e-comm is the perception among U.S. respondents that a lack of education about environmental issues is an important factor. Apparently a notable education gap exists in the U.S. particularly in comparison with Europe. A Simmons Market Research Bureau study said 60% of the U.S. favors boycotts of polluting companies. "This unanimity strongly suggests that companies' efforts to self-regulate and publicize their achievements may be a case of too little, too late. Negative perceptions of

business and the public's wish for punitive action such as bans appear well-entrenched" (p. 273).

Conscientious business owners and managers, however, are disentangling themselves from the muddle and refocusing with a sharpened vision of environmental and ecological issues. The shakeout that is currently underway in the marketplace will separate the greens, classified by this author as Jade Greens, Forest Greens and Deep Greens.

Jade Greens. Frankel (1992) noted that two years after the first wave of green hoopla is over, "two groups of businesses have emerged to serve 'green' consumers. One group extracts whatever short-term returns are available from this new marketing strategy. The other group assumes that green consumerism is here to stay" (p. 34). Jade greens are of the former description. They embark on green ventures for whatever share points they believe it can garner—green should equal greenbacks. Environmentalism is an appeal used to attract a specific niche, while it remains invisible when other market segments are targeted. Meticulous attention is devoted to compliance with environmental regulations because "false or misleading 'green claims' can lead to hefty fines and damages, injunctions and embarrassment or negative publicity" (O'Brien, 1992, p. 56). Fierman (1991) described compliance as "the hell many manufacturers have lived through while trying to do the right thing" (p. 91). While jade greens live within the law they should not be expected to assume any responsibility not required of them.

Forest Greens. Forest Greens grow from the second group identified by Frankel. They recognize that green consumerism is here to stay, and wish to profit from it, but their products targeted to the green niche are thoroughly researched and deliver their claims. Going beyond compliance is not unthinkable. Many large corporations with an environmental rather than ecological focus can be classified as Forest Greens. They manufacture solid environmentally safe products and frequently sponsor social marketing issues such as saving forests, maintaining whale populations and other non-controversial nature themes. Some Forest Greens may exhibit split personalities when other products in their corporate line that are targeted to non-green audiences fall short of solid green goals. Forest Greens are constantly adapting to new market conditions and have the potential to be much stronger ecological marketers as consumer interest in ecology heightens.

Deep Greens. Deep Green borrows from Rush's description of eco-communication as the "process by which each planetary species is brought into integrative equality through the access and use of appropriate and accurate information" (Rush, 1994, p. 4). Deep Green

strives to achieve the ambitions of Rush's Deep Communication. They recognize holism in which their businesses are viewed as part of a larger world. Communication can't offer only what a consumer needs to know at a particular moment in order to close a sale. The company must also make available information customers have a right to know about products, operations, manufacturing and policy at the time of purchase and otherwise. Deep Greens accept that they are part of a community. Their environmental marketing plans, as described by Frankel (1992), are comprehensive, built for the long term and, from the marketers' standpoint, destined to yield permanent increases in market share. "The long-term payoff will make the short-term troubles worth bearing" (p. 34). It is from the Forest and Deep Greens that most e-communicators will evolve.

The Ecopreneurs—from Seedling to Sequoia

Anyone can be an ecopreneur (adapted from "eco-entrepreneur," R. Goldstein, 1990 p. 48), a business owner or manager dedicated to the encompassing philosophy of ecological marketing. Corporate giants have made their attempts. McDonald's has been working with the Environmental Defense Fund, and Dow Chemical, Monsanto and Union Carbide can all cite their contributions to building a better world (Carincross, 1992; Elkington, 1991; Fierman, 1991; Harrison, 1992; Simon, 1992; Snyder, 1992), but at best they are Forest Greens with the potential to slowly retool, reimage and reposition to strengthen their ecological claims. Though they're the giants of industry, they're the seedlings of e-comm with plenty of room to grow and still highly vulnerable to outside forces.

It is smaller business practitioners and, more often, new business people who tend to embrace ecopreneurship. Nora Goldstein (1990) of *In Business* sees ecopreneurship as a well established business practice. "For years companies have labored in a certain degree of obscurity, selling products and services that make environmental sense, and many of us have carved out quite a nice market niche" (p. 36). Personal commitment often plays into ecopreneur decisions. Jacquelyn Ottman, president of J. Ottman Consulting, a New York firm specializing in environmental marketing and author of *Green Marketing*, said corporate direct response buyers are starting to think green. "Their consciousness has been raised as an individual" (Bertrand, 1991, p. 56). These businesses represent the sequoias, the firmly established and fully developed e-communicators.

More and more companies are adopting the "e" way of doing business—Ben and Jerry's Ice Cream; PreCycled, a retail store that sells only green products;

Tom's of Maine, personal toiletries manufacturer; Earth Care Paper Products, selling only environmental friendly office and personal paper products; Higgins Natural, makers of unisex sportswear using environmentally sound procedures from start to finish; Coop America; the Body Shop; Seventh Generation and others.

The E-Philosophy

An ecological communication philosophy can not be reviewed independent of other business considerations. Integration is the thrust of e-comm--integration with various company departments, integration with the community in which the business operates, and integration with the eco-system. Literature about e-comm is sprinkled with lists of guidelines, suggestions and steps to take for a successful program. In a broader perspective, however, the individual proposals can be collapsed into three overriding principles; depth of conviction, overcompliance and coalition formation.

Depth of Conviction. The most sincere e-comm practices tend to derive first from a personal involvement in and commitment to a sustainable world which then radiates outward to penetrate every aspect of a business operation. Communicating positive ecological stances of a company is not a publicity maneuver or a prostituted selling point, but an honest portrayal of a firm's desire to function complementarily to environmental concerns. Sacrifice, particularly foregoing profit for the benefit of the Earth's inhabitants, is recognized as a component of the commitment and often is incorporated into corporate policy.

Harrison (1992), following the Second World Industry Conference on Environmental Management in Rotterdam, declared a new era for environmentalism and encouraged moving out of the past and developing a realistic green mentality. The corporate mentality he described would have to comprehend longer time frames, realizing that the investment in communication may not return a dividend in the current quarter or in the current year, but over time would sustain relationships that would pay off for all parties. Communication, he said, has "moved from a proprietary need-to-know mentality to a right-to-know" (p. 256).

Glory is not the objective of e-comm executions. When Ace Hardware sought ways in which they could help the environment, they discovered the thick plastic shrink wrap that covers merchandise on pallets during shipping could be refabricated into house brand trash bags. The Gillette company cut use of water at its facility from 730 million gallons a year to 150 million gallons a year, yet neither company has received much publicity or credit for their accomplishments. And in the e-comm vein, they don't expect to; for Ace and Gillette though, it's the type of quiet, subtle behavior

that demonstrates deep e-comm conviction.

Overcompliance. E-communicators consistently mention self-regulation above and beyond government standards as a common practice. Compliance as interpreted by the corporate majority has come to represent the minimum standard for greening. "It is a static condition in the sense that it is not moving toward people's expectations" (Harrison, 1992, p. 245).

Achieving 100% compliance can push organizations to such high levels of environmental performance that the economic viability of their organization is in jeopardy. Straightforward compliance is very costly, but, like the Gillette and Ace tactics, attracts little attention and earns few "public-interest credits" (Harrison, 1992, p. 243). Companies can be in compliance and still suffer from public misconceptions if targeted by activists or the media. "Fewer organizations seem to have a handle on communications" and that can "spell success or failure in your effective transition to a new Green World. Public perception can support or devalue a company's green performance" (p. 243).

To counter these public perception issues, Harrison (1992) recommends 150% compliance, and Fri (1992) has suggested the "extra-systems game" (p. 92). The two names describe the same process of adopting a pro-active stance, voluntarily going beyond compliance to protect the environment in ways the system does not require.

Coalition Formation. Companies operating as a self-contained, independent unit will have difficulty functioning within an e-comm philosophy. Grasping the unavoidable interactive nature of doing business, environmentally savvy marketers have started cultivating sustained, two-way communication with their stakeholders.

One of the most valuable things to learn, according to Mastrandonas and Strife (1992), is the importance of dialogues between industry and its stakeholders. "Corporations must understand what stakeholders want to know and why they want to know it" (p. 236), and "the gap between business and stakeholders will only be closed when they begin to talk with each other" (p. 340).

Elkington, (1991) Mastrandonas and Strife (1992) and Harrison (1992) outlined a number of approaches that might be considered for stimulating dialogue with stakeholders. They encouraged teaming up with people outside ones' own firm to help solve general environmental problems, even if they don't originate from the firm. Harrison suggested empowering employees to achieve personal satisfaction of their individual environmental goals, and introduced "partnering," the establishment of community advisory panels that discuss environmental issues face-to-face with plant

managers, delineating expectations for both sides and identifying ways in which they can assist one another. Developing relationships with public regulatory agencies can further strengthen the foundation upon which an e-comm philosophy can flourish.

Conclusion

Green marketing has been unconvincing in its efforts to persuade consumers to purchase products that claim to do no harm to the environment or to upset the ecological balance of the Earth. If a business is sincere in its desire to sell to an ecologically concerned audience, they must go beyond green marketing and "greenwashing" into e-communications. With their experience in communication, advertising and public relations practitioners should not find the transition into e-comm difficult once a company has made the decision to adopt an "e" mentality. Whether through coercion or conviction the companies that produce society's goods throughout the world are having to assess their environmental impact on the Earth. Ecological performance records are becoming one of the criteria by which potential customers select the firms with which they will conduct business. E-comm is not just another format for message dissemination. It is the conduit through which audiences can learn of a firm's efforts to contribute to a livable world, but as green marketers learned, a convincing ecological image can't be constructed without the fabric of genuine internal commitment. The first steps to e-comm are coming through personal involvement in ecological concerns which ripple through corporate foundations, jarring its focus from production and profit to commitment and concern.

References

- Baskin, J. S. (1992). Are the days of green marketing numbered?: How and why corporate 'E-communications' must go mainstream or perish. *A.N.A./The Advertiser*. Summer, 50-54.
- Bean, T. (1990). The long, winding road to a cleaner, safer planet. *Superbrands: Adweek's Marketing Week*. pp. 54, 56, 58.
- Bertrand, K. (1991, November). Marketing directly, yet environmentally. *Business Marketing*, pp. 55-56.
- Carincross, F. (1992). UNCED, environmentalism and beyond. *Columbia Journal of World Business*, 28(3 & 4), 12-17.
- Elkington, J., Knight, P. & Hailes, H. (1991). *The green business guide*. London: Victor Gollancz, Ltd.
- Fierman, J. (1991, June 3). The big muddle in green marketing. *Fortune*, pp. 91-101.
- Fri, R. W. (1992). The corporation as nongovernmental organization. *Columbia Journal of World*

Business, 28(3 & 4), 90-95.

Frankel, D. (1992, April). Blueprint for green marketing. *American Demographics*, pp. 34-38.

Gitlitz, J. (1990, May/June). Industry response to environmental shoppers. *In Business*, pp. 40-41.

Goldstein, N. (1990, May/June). What does it mean to be green. *In Business*, pp. 36-37.

Goldstein, R. (1990, September/October). Who (and why) is an ecoentrepreneur? *In Business*, p. 48.

The green marketing revolution. (1991, January 29). *Advertising Age*, p. S.

Harrison, E. B. (1992). Achieving sustainable communication. *Columbia Journal of World Business*, 28(3 & 4), 242-247.

Kiley, K. (1991). The next leap forward. *Superbrands: Adweek's Marketing Week*. pp. 30, 32.

Levin, G. (1993, April 12). Too green for their own good. *Advertising Age*, p. 29.

Marder, H. (1990, March/April). Green marketing backlash. *In Business*, pp. 54-55.

Mastrandonas, A., & Strife, P. T. (1992). Corporate environmental communications: Lessons from investors. *Columbia Journal of World Business*, 28(3 & 4), 234-240.

O'Brien, K. A. (1992, April 20). Green marketing: Can it be harmful to your health? *Industry Week*, pp. 56-59.

On the environment, more apathy than activism. (1990, August 2). *U.S.A. Today*, p. 4D.

Rigney, M. (1992, June 20). Matter of semantics--or of survival? *Advertising Age*, pp. S-2, S-9.

Rothenberg R. (1990, February 22). New agency devoted to the environment. *The New York Times*, p. C 20.

Rush, R. (1994). *Deep Communications: Metaphor or Oxymoron of planetary unity*. Unpublished manuscript, University of Kentucky, College of communications, Lexington.

Simon, F. L. (1992). Marketing green products in the triad. *Columbia Journal of World Business*, 28(3 & 4), 268-284.

Snyder, A. (1992). The color of money. *Superbrands: Adweek's Marketing Week*. pp. 30, 32.

Taylor, D. W. & Muller, T. E. (1992). Eco-literacy and environmental citizenship: a social marketing challenge for public sector management. *Optimum*, 23(3), 6-15.

The Full Ecology of Communication

by Stephen Duplantier

Environment, Ecology, Deep Communication

The shrimp boats which trawl the warm waters off the coast of my home state of Louisiana always bring in a strange catch in addition to the shrimp. This conference, "Communication and our Environment" has brought in a similarly diverse catch. When I looked over the titles of the papers, I thought that my contribution might be an odd, if not rare species. My paper is one of the few which uses "ecology" in the title. The difference it makes to speak of ecology rather than environment instead is an important one.

"Ecology" is not just a useful metaphor for helping communication study to be trendier; it is also the substance of communication -- the processes, cycles and relationships of nature's life. The ecological function of communication is fellowship and right relation to each other, to other species and to the world in which all species live. This fellowship is worked out in place, in specific bioregional eco-communities. Communication and eco-communities both arise in one another. Their coevolution is a biophysical and valuational necessity. Communication scholar Raymond Williams (1960) wrote that "any real theory of communication is a theory of community." Although Williams did not have ecological communities in mind, his statement can be read to include the broader ecological view. Community must mean more than the human community. Humans are made common every moment of every day with the nonhuman: the invisible gases we breathe (which come from plant transpiration); the nutrients derived from the primal matter of the earth, transformed by energy from sunlight; water. These are the biogeochemical processes which all living things need, as they need each other.

Life-forms are concentrations of the energy and matter processes of the earth: they are related in ecological and moral ways as interacting and interdependent members of the earth's eco-community. Earth's inhabitants regularly turn into one another, usually through eating and being eaten. This is both a biological and sacramental interaction. Humans are plain members of the community of earth-dwellers and should not act as overlords (Leopold, 1966). This realization is the main idea of deep ecology which holds that there "is no bifurcation in reality between human and non-human realms...to the extent that we perceive boundaries, we fall short of ecological consciousness (Fox, cited in Devall and Sessions, 1985, p. 66). Ecological consciousness enlarges the

bounds of perception to include in eco-community soils, water, plants and animals. Human life was never possible without full participation in eco-community, although the pathology of scientific/mechanistic thinking since the 17th century has promulgated the disastrous practices of aloofness, disdain and separation from nature (Leopold, 1966, p. 239). The workings of the earth are so complex, that its intricate operations may never be understood (Leopold, 1966, p. 241). Yet ignorance has not prevented humans from conquering the planet. The human masters think they know how things work: economics, politics, power and exploitation seem to work in the short run. But the crisis upon us proves that this is not the way things work. The lesson being so sorely learned is that "a thing is right when it tends to preserve the integrity, stability, and security of the biotic community. It is wrong when it tends otherwise" (Leopold, 1966, p. 262). Deep communication describes the interchange of the biotic community.

Stanley Diamond (1974) sees the loss of a sense of community with nature as well as the exploitation and domination of man and nature by other men as the consequence of civilization. If the root crisis is domination and exploitation of man over other men (but especially over women), over other beings on the earth and over nature in general, then the way to begin the healing is by restoring the fellowship of the whole community of earth's dwellers. The various contemporary approaches to holistic ecology (contrasted to reductionist scientific ecology and environmentalism) each take different beginning points. Eco-feminism and social ecology begin with the problem of gender for the former and human domination for the latter. Deep ecology begins with the human/nature relationship; this is primarily a "spiritual" process--one which happens on the level of ritual communication of self to self, self to human community and self to nature's community. The inseparability of communication with ecology seems quite obvious. Yet communication study in academic settings generally bothers only with communication in the human community. The intrapersonal realm of communication is ignored or relegated to psychology; the suprahuman realm is usually not even considered or taken to be another discipline. The reason why academic communication studies are nearly exclusively anthropocentric has historical and philosophical reasons. The privileged place of human communication is intimately tied

to the instrumentalization of nature which does not prevent and, in fact, even encourages the domination of nature (McLaughlin, 1985, p. 300). Instrumentalization of nature means the desacralization of nature, making it devoid of any intrinsic meaning, and therefore ripe for the plucking. Desacralization is the disenchantment and dislodging which results from the removal of the numinous and sacred from nature. "What is lost is any sense of the sacred, and human activity is no longer constrained by any image of a 'greater' power placing limits on human conduct" (McLaughlin, 1985, p. 301). McLaughlin sees another force operating in the instrumentalization of nature: the thirst for power over nature and its domination and exploitation leads to a "ravenous hunger for exploration and the creation of global markets along with the imperial cultures it takes to sustain them" (McLaughlin, 1985, p. 301).

A Failure of Communication Theory. The term Oecologie was coined in 1866 by Ernst Haeckel, the German disciple of Darwin. Oecologie meant the "science of the relations of living organisms to the external world, their habitat, customs, energies, parasites, etc" (Worster, 1977, p. 192). Haeckel suggested that the living organisms of the earth constituted a single economic unit resembling a household or family dwelling intimately together, in conflict as well as mutual aid (Worster, 1977, p. 192). Ecology began with a promise of a holistic approach, but was stripped bare by positivist science.

A communications scholar can easily read the concerns of communication study into this description. Communication and ecology are obviously related, although there is not yet an accepted discipline of communication ecology nor of ecological communication. More and more frequently, however, the two words can be found in association, or at least proximity. Barnlund (1982) has an essay entitled "Toward an Ecology of Communication." Barnlund's use of "ecology" describes the relations of people to the physical world and to the human world. "Clearly communication deals not with objects, but with relations, with the way in which changes in organisms are related to changes in environments," explains Barnlund (1982, p. 88). The locus of meaning is not in the objects or events that comprise the universe. Though born into a world devoid of meaning - neutral in (e) very sense word - we invest it with whatever significance it acquires. One does not react to the world, for meanings do not reside in it. Nor is it accurate to say one interacts with the world, for there is no reciprocal interpretation by the environment (Barnlund, 1982, p. 92-93). A merely passive nature has been given the coup-de-grace with this thinking. The arrogance and absurdity of this position seems obvious.

Ecocentrism and Deep Ecology. Communication theory and practice seems obviously to need a deeper ecological understanding. The literature in this academic field rarely if ever contains references to nature. For all the concern of critical communication theory for human destiny, it had avoided taking the step toward the recognition of the importance of the earth, nature and the interwoven destinies of humans and nature. I wish to add a missing dimension to critical communication theory--that of ecological consciousness.

Deep ecology as an emerging philosophy is a biocentric (ecocentric or non-anthropocentric) approach to the whole earth community (Berry, 1988, Naess, 1995, Snyder 1990). Deep ecological consciousness is more searching, sensitive and spiritual than the surface ecology of managerial environmentalism. Deep ecology is related to communication and therefore to communication studies. It can be argued that there is no more important set of ideas to be studied and lived than those of deep ecology because, simply put, deep ecology is the right balance of organisms and processes to each other and to the whole planet. Also, deep ecology includes the communality and spirituality which animate the web of interrelationships. Deep ecology is not the study of communication but deep communication itself. The importance of developing a theory and model of deep communication for the field of communication studies seems obvious enough: communication theory is incomplete if it does not take the universe of communication as its domain. The human realm is radically connected to the non-human, but the anthropocentric perspective means being oblivious to most of our connections with nature. Deep ecology is about deep, archetypal communication. The shallow communication of both the administrative/empirical and even the critical schools of communication studies requires the therapeutic touch of deep ecology and a biocentric perspective. Communication theory can be improved when an ecocentric, deep ecological dimension is added to it. The omission of the ecosphere from communication theory is more than an error of epistemology, it is also an error of ethics and aesthetics.

"Deep ecology is a way of developing a new balance and harmony between individuals, communities, and all of Nature. It can potentially satisfy our deepest yearnings: faith and trust in our most basic intuitions; courage to take direct action; joyous confidence to dance with the sensuous harmonies discovered through spontaneous intercourse with the rhythms of our bodies, the rhythms of flowing waters, changes in the weather and the seasons, and the overall processes of life on Earth (Devall & Sessions, 1985, p. 7). Devall and Sessions suggest that it is not possible to change consciousness by only listening to others. The "direct

action" mentioned above is the basic "intuition and experiencing of ourselves and nature..." (Devall & Sessions, 1985, p. 9).

Bioregionalism. A vision of a better way of building cultures and communities is found in the way of bioregionalism. Bioregionalism is consciously and deeply ecological. Bioregions are the home life regions where deep ecology is practiced. The prevailing views and chilling rhetoric about "global" realities, politics, and communications is a metaphor gone out of control. A globe is a shape: global is a geometrical term, not a political or biological one. The earth is composed of a patchwork of highly diverse bioregions full of enormously varied geographies, life forms, cultures and interacting life communities. Bioregions are self-propagating, self-nourishing, self-educating, self-governing, self healing, and self-fulfilling (Berry 1988). This is not a resurrection of the superorganic metaphor. Describing the life and autonomy of bioregions is good science in addition to being good culture and politics. The earth is an interrelated community of bioregions. Nations are secondary. Corporations are functionally equivalent to viruses: shells of pure information and power which exploits bioregions for narrowly focused, anti-bio-regional gain. The practice reinhabiting bioregions is a powerful reordering of political, legal, and commercial practice.

The bioregional way of community and communication takes the world the way it is--the place you live will do just fine. It does not require new socialist people, capitalist new orders, massive rockets to send people to space colonies, haul icebergs to deserts, engineer genetic superhumans or any ideas of this kind (Sale, 1984). The way of bioregionalism suggests changes which can be made where people are actually living: preserving nature, becoming self-reliant, taking local control, and thus liberating people from domination and hierarchy.

The Contexts of Communication and the Deep Ecologies. Ecophilosophy (a contraction of ecological philosophy) is a word which is preferable to environmental philosophy in describing a current elaboration and development of a new trend in philosophy. "Ecological" is preferable to "environmental" because it refers to the relations between organisms and entities and their environment in a more dynamic way. By definition, an environment is merely external to an organism; the whole point of a deeper approach to understanding and acting on Earth is to break down the too-rigid distinctions between an individual and the environment (Cf. Fox, 1990, p. 8).

The domination of humans, genders, and races preceded the present domination of nature by millennia. Ecology is so subversive because it is a portal through which the inherent domination of humans by

other humans is visible past the obvious human domination of species and nature in general. When part of the mask covering the deceptions of civilization and rationality is ripped away, then it becomes sickeningly obvious that the problem runs so much deeper than a careless instrumental disregard for a nature considered to be alien to ourselves.

Deep ecology, then, is a fundamental philosophical critique of the view that nature has no intrinsic value apart from human (mis-) use. Arne Naess coined the term to describe an ecology derived from fundamental values. From the start, the term has been provocative; this has been an unfortunate turn of events which has distracted the movement to some extent. The use of "deep" has led to some misconceptions. The converse term, "shallow," can be construed as derogatory to the reform environmentalists to whom it is applied. "Deep" also seems redundant when used with ecology, somewhat like saying "wet water" (Fox, 1990, pp. 119 ff...). The pair deep:shallow are dualistic and an unfortunate either/or choice: "deeper" might have been a more processual term. In general, deep ecology as an orientation and practice means for all beings (including humans) "the freedom to unfold in their own way unhindered by the various forms of human domination" (Fox, 1990, p. 116).

The themes of liberty, non-domination and communication (between humans and between humans and nature as the means of achieving the awareness to bring about the liberation of nature) keep surfacing. Fox has philosophical objections to the term "deep ecology" and has suggested a name change to transpersonal ecology to describe the "realization of a sense of self that extends beyond ones egoic biographical or personal sense of self..." (Fox, 1990 p. 197). "Trans-" does not here mean "across" but "beyond." The action of some living in a transpersonal ecological way would be expanding one's worldview and realizing a "wider self." There is a cross reference in transpersonal ecology to transpersonal psychology which is more than accidental. There is a gentle polarity between the inner/outer direction of transpersonal psychology to the inner-to-outer direction of transpersonal ecology. The widest sense of self requires a permeable membrane between self and nature. The psychological step "inward" in transpersonal psychology does not linger unnecessarily on the authorial subject and the fixed (literate) point of view of an ego, but quickly moves beyond an isolated self to an openness, identification and sharing with what is on the outside of the boundary of the self. This is an extension of the self outward, not in a physico-technical sense of a mediated extension, but an openness to deeper, larger and wider dimensions of awareness.

Naess describes the wider identification of self: "identification is a spontaneous, non-rational, but not irrational process through which the interest or interests of another being are reacted to as our own interest or interests" (Naess, 1985, p. 261). In more shallow conceptions and practices of ecology, identification is characterized and explained away psychologically--as if it should not be taken that seriously (Naess, 1985, p. 262). In truth, the alienation which is the result of not widening the self past boundaries is more deserving of analysis as a pathology. Naess thinks that denigrations of the holistic, primordial identifications of deep ecology as irrational by people arguing from shallower ecological positions comes from their too-narrow conception of what constitutes rationality (Naess, 1985, p. 262).

The bright light of psychological explanation should be turned instead on those who do not have the wider identification. "If one loves and respects oneself, identification will be positive...Self-hatred or dislike of certain of one's traits induces hatred and dislike of the beings with which one identifies" (Naess, 1985, p. 262). In its most virulent form, total self-hate means total hatred of nature. Shepard (1982) has written extensively on the why environmental destructiveness should be considered literally as madness. The deepest and widest identification past the self is, on the other hand, the purest non-alienation and sanity.

The genuine experience of the widening is more than the "oceanic feeling" which Freud described, but apparently did not feel himself. The deeply ecological openness must be particularized, that is, bioregionalized. There are limits to wideness: unless the amplification of self actively takes place in a bioregionalized terrain of consciousness, there is a danger of a groundless, and ultimately ineffective etherealization. The trans-egoic awareness must be to a particular bend in a particular river, a certain rock or a favorite tree. A wider identification is just a dream unless it happens in a particular home place or bioregion. Indeed, I argue that the primary bioregional practice of re-inhabiting a place must include the extension and awareness past the self precisely to the limits of the bioregion. The result of bioregional practice of living-in-place is just this kind of awareness and transpersonal ecological consciousness. It is no coincidence that the practices of shamanism and of bioregional rituals (chanting, drumming, trance dancing, the talking staff, bardic poetry, Tai Chi, and other ritual aesthetic practices) all work to help achieve the awareness of place and allow the crossing over the boundary from the enclosed "civilized" self to the wild, unconscious larger self. This is all the realm of what I call archetypal communication.

After the discussions about the sociological and

political consequences of the term "deep ecology," and no matter what it is finally named, the work of transpersonal ecocentric ecological practice is art and imagination. Identification and widening of the self is a non-distancing while rejection of self and nature is the ultimate distancing. If identification is increased and distance reduced, the result will be "beautiful actions," in Naess' words (Naess, 1985, p. 264). Without denying the practical tasks of raising food, providing shelter and figuring out how to live in social groupings, the best part of reinhabitation is walking, climbing, singing songs and poems, telling stories, dancing, playing, loving, painting, carving, and drawing. The joining of communication and ecology takes the form of the committed artist/storyteller/poet familiar with past mythologies and religions as well as the history of science; able to participate in the rituals and ceremonies of the new awareness; unafraid of the mysteries of the whole system; a companion and friend to his own community of family and friends as well as the brother and sister species in his bioregion; bonded to Earth; dedicated to the survival and prospering of the whole system.

Nature into Culture. The story of the earth household is one of increasing complexity and interpenetration of the members of the household, one within the other. The interfolding of life forms is a mirror of the mixtures of earth household's chemical spice rack (itself obtained from the cosmic pantry of the big bang). The archaeology of past infoldings makes for the pleasant study of our real genealogy, pleasant, that is, until a startling discovery is made: "the history of the human-environment relationships, especially since the appearance of Homo sapiens, has featured a growing absorption of the physical environment into the cognitively defined world of human events and actions" (Bennett, 1979, p. 4). We have seen the physical tendency for lower forms to be assimilated into higher ones. But something peculiar happened to Homo sapiens in the development of his consciousness and cultures--a psychic distancing to his environment. Somehow the dualistic idea arose that humans are opposed to nature. Some cultures began an ecological passage "out of" nature into humanly-defined history. This idolatry of the human then conjured a deity in the form of a jealous, proud, haughty mankind, isolated in an ideological and made-up history. Was the seizing of natural phenomena and turning them into cultural objects a holdover from the time when nature seemed to have an upper hand to the newly self-conscious humans? Did the struggle to survive in the Ice Ages permanently color human's relationship to nature? If so, then the seizing of nature by humankind is understandable, but still a mistake. The split of the human from the natural was a mistake with serious

consequences.

We have seen that certain cultures are worse than others in their treatment of nature. Bennett gives the example of our own: North American culture has been seen as the apotheosis of the nature destroyer-the supreme example of a culture that has viewed Nature as a simple resource, as something to be immediately converted into benefits" (Bennett, 1979, p. 12). North American patterns are versions of those common to developing or industrialized societies everywhere. It is quite clear that an old era is passing and a new one is beginning. The past million years of nature-conquering can be seen as a "prolonged episode of juvenile enthusiasm and ambition, and we may wonder how man could have been so careless of his surroundings, so heedless of future dangers, so filthy in his ecological habits" (Bennett, 1979, p. 15).

If ecology is the awareness of past sins and the resolution to sin no more, then it truly is the subversive science. What does it subvert-nothing less than human history. Barry Commoner puts it in martial terms: "...the world is being carried to the brink of ecological disaster not by a singular fault which some clever scheme can correct, but by the phalanx of powerful economic, political and social forces that constitute the march of history. Anyone who proposes to cure the environmental crisis undertakes thereby to change the course of history" (Commoner, 1971, p. 299).

If human culture and nature are not actually a dualism opposed one to the other, but rather in a kind of gentle dialectic, then their differences can be resolved into a common social frame of reference. Nature will not absorb humans; humans cannot absorb nature, although there is a considerable attempt to do so. The return stroke of nature's retribution for the ecological disaster can be delayed by humans but not canceled. It is not revenge on the part of nature, nor vindictiveness. In doing what we have done to nature we have done it to ourselves. Instead of human warfare, a cease-fire is long overdue. The gentle dialectic of human/nature communication would bring both parties to the bargaining table. There is nowhere that is not common ground between man and nature. This is true on the biochemical level through the cognitive level.

Since we are not separate from nature, then, in the fullest sense of the term, human cognitive genius is not a sign that we are superior to nature, but that nature is superior in having figured out how to achieve consciousness through a certain hyperevolved primate which calls itself *Homo sapiens*. Human consciousness is actually nature made conscious, according to Bookchin (1982). The awareness brought by consciousness to its bearer has been too much: the messenger has been corrupted. Is this guilt man's

alone? Since nature can take credit for developing consciousness through one of its own, is nature at fault, too?

Tragically, it is the success of humankind and the excellence of its communication which has caused and accompanied the ecological and technological changes (Bennett, 1979). Here is the crux of the issue for communication theory: the histories of the passages of individuals, tribes, societies, cultures and civilizations out of nature and into humanly redefined consciousness, technical mastery, hierarchy, domination and conquest have added up cumulatively through communication. Communication has intensified and concentrated what was an isolated and radical experiment by nature into something which threatens the natural order itself.

Varieties of Deep Communication: Archetypal Communication, Bioregional Communication, Ecological Communication

An earlier draft of this paper showed how communication technologies threaten nature and freedom. I have substituted the following as an attempt to suggest a way to fix broken and biocidal communication theory and practice.

A full ecology of communication opens the boundaries past the traditional narrow limits of human communication. This fuller ecology can be called archetypal communication, bioregional communication or ecological communication. Archetypal communication refers to the original scale and contours of human semiotic practice which have evolved since the Paleolithic era. The recovery of the old patterns is not sought for sentimental reasons: full ecological communication is a prescription for psychological wholeness and sanity, cultural and social harmony and ecological survivability. Archetypal communication is ancient and familiar: aesthetic performance, ritual, rites of passage, ineffable communication of higher consciousness and realization, and the totemic ecological rites of the bioregion are gateways to liminality, *communitas*, sustainable culture, bioregional society and *ecocommunity*.

Jung insisted that archetypes were indefinable; Hillman finds that they are metaphors rather than things. Archetypes are "root ideas, psychic organs, figures of myth, typical styles of existence, or dominant fantasies that govern consciousness..., patterns of instinctual behavior, the genres and *topoi* in literature; the recurring typicalities in history; the basic syndromes in psychiatry; the paradigmatic thought models in science; the worldwide figures, rituals and relationships in anthropology" (Hillman, 1975, p. xi). This is a far richer base to build a communication theory and practice on than the mere delivering of a message from a sender to a receiver. Hillman observes

that using the word "archetypal" adds ennobling and empowering value to the thing in question. "Archetypal" frees understanding from trivial surface dimensions and allows a seeing through to the richer, hidden values which lie deeper (Hillman, 1989, 26-27). In this way, archetypal communication is "rooted in everyday life and culture, but echo(es) the wisdom, the artfulness, and the beauty of centuries of soulful work, love and play" (Moore, 1989, p. 11).

I have applied this description of archetypal psychology to the proposed archetypal communication. How, then, is archetypal psychology different from archetypal communication? Psychology is the *logos* of psyche--the speech of the soul. *Logos* also means understanding: the soul wants to understand itself and does so through imaginative activity (Moore, 1989, p. 16). Archetypal psychology is the communicative activity and dialogue of the soul with its many selves and other species in the bioregion. Archetypal communication is the imaginative, soulful activity of the community: the imagistic, metaphorical, aesthetic and poetic soul-talk of people in community. Archetypal communication is communication of the many selves within the individual with the many other selves of other individuals; this is community of the selves. For communities and their communicative acts, the archetypal is the ground for individuals who can relate primally and proximally to themselves and the people they live and work with. The archetypal dimension, from the individual to the group, heralds the return of the imaginative in culture, art, imagination and fantasy. It is simply more fun to live amongst the archetypes.

The aesthetic performances of fantasy, dream, myth, poetry, trance, dance, ecstasy and story are instances of archetypal communication which do not have to be reserved for special occasions. Archetypal communication means the restoration inside of us of the forgotten languages, rites, images and stories which have not been erased, but only covered up. These are the primal characteristics of our species. The restoration of ancient human ways which this suggests is scarcely yet imagined and re-evolved. This is the arena of primal communication experience.

Archetypal psychology explores the soul-making of the human adventure in the world (Hillman, 1985). Soul, for Hillman, is a perspective and not a substance or shadowy religious entity. Soul is a perspective which is an artistic type of functioning. The soul is the artist in the human (Hillman, 1985, p. x). Soul is what makes mere events into deep experiences. Soul is the "imaginative possibility" in human nature which works through dreams, images, fantasies, reflections and speculations. Soul is the perspective which sees all realities as metaphorical and symbolic. Hillman's

psychology doesn't start in brain neurophysiology, deep linguistic structures, social organization nor in behavioral analysis, but in imagination's processes (Hillman, 1985 p. xi). This is a deep psychology, a deep communication and a deep ecology.

A small scale society is the home for archetypal communication. This is its sociology and anthropology and also its *therapeia*--the therapy of deep communication analogous to the therapeutic aspect of deep psychology. Archetypal communication is approached through the imagination; it is a series of translations and paraphrases from one metaphor to another.

Hillman discusses how the work of the psyche is discourse and communication. The language of soul and psyche is archetypes. Archetypal communication is simply archetypal psychology of the community and bioregion. Archetypal communication is the discourse of souls, the realm of mythic consciousness where the gods and the worlds of our experience are alive. Non-archetypal communication is the "neutral language of numbers, structures or functions." Archetypal communication is a direct mode of seeing persons - animistic, primitive, even "mad" (Hillman, 1985, p. 21). Archetypal communication is communication like it was in the beginning of timeless, mythic time. A crucial discovery is that the moment of the ancient ways is not gone. Archetypal communication is not a description of old practices of a past, linear history, but is rather a "history" of the soul where there is always present the community of small groups, tribes, peoples, clans, covens, guilds, families and their poetry, myths, arts.

The individual is a community of persons and, beyond the individual, of personified images and alliances with other beings in the non-human realms. The individual is not atomistic, defined, nor a pure isolate, measured, regular and distanced. Rather, the individual is polycentric, polytheist, polyphrenic, and full of multiple personalities. None of this is pathological but is simply the archetypal mode. If anything, the nominalist mode of single values is the pathological condition. An individual's cast of personalities may be child, hero, rational manager, and madman. When these personifications and their mythic counterparts in the psychic community of individual collective unconscious come out of their closets and speak to one another, their dialogue becomes therapeutic (Cf. Hillman, 1985).

This is where a life world emerges which is no longer centered but disordered, spontaneous, relative, discontinuous, aharmonic, ambivalent. This condition might be seen as an illness when the ego is single and monocentric. When the central command of a dominant ego loses control, the resulting fragmentation is a reaction against the fascism of the center. This is when

we do and say things that are "alien" to us, when we take on characteristics and habits of others, new personalities and parts of personalities arise to challenge the empire of the ego (Hillman, 1985, p. 25). The pagan deities of the back country and rustic peasant areas are where the different psychologies and personalities arise to challenge the power and domination of the "Roman imperialism" of the center. The engineers of Rome have tried to reclaim the land in order to build the empire. The legions drain the marshes, build bridges, construct roads and level hills. The powerful central ego emperor banishes the darker parts of the self to the salt mines. But when the barbarians revolt and sack Rome, then full consciousness is released from its exile. The periphery releases the hinterlands from the control by the center.

Archetypal communication is "soul" communication which requires the grounding of a local community and ecology. The rich exchanges and the polyphrenic varieties of archetypal communication require specific sacred places, groves, caves, mountains and deserts. Archetypal communication comes alive when grounded in a bioregion. Archetypal communication is the ritual interplay of all-species interaction or, in other words, a kind of dance of a bioregion. Utopia is a yoga of community--the active bending, stretching and shaping into a good shape.

Archetypal communication means both removing the dissociation between individual and collective psyche -- the "civilized" person and the primeval "savage." This is what Jung tried to do in his practice of analytical psychology; it is also the task of each person on a similarly therapeutic level. Communication between the inner and the outer, the conscious and the unconscious, the wild and the domesticated is not merely a psychology of communication, although it is an excellent one, it is also a sociology of communication. Archetypal communication calls for a fantasy discourse and primal dialog with the wild and untamed. The integration of the consciousness into the unconsciousness is the individuation process. The process of individuation is the traveling and meeting of consciousness and unconsciousness. When the two great realms meet and communicate, there is the whole individual crystallized.

The integration and communication of the archetypes is autonomous and numinous. It is not a simple rational act of will but a dialectic and often a dialogue. Here is the alchemical meditatio - the inner conversation with our "good angel." The method of individuation, synthesis of conscious and unconscious is communicative dialogue. The course of this dialogue has its ups and downs; it is dramatic and represented in primitive, powerful symbols and myths. This is communication at its most zestful and exciting.

The archetypal world is the real world. Archetypal communication means dwelling in the real world and, not just an instrumental use of the archetypes in order to neutralize them and return to the narrower world of commerce, statecraft and politics. Communities can live the archetypes in ways which do not suppress the archetypes in the unconscious. This is a transcendent function of joining the conscious with the unconscious applied to communities. When there is a balance of consciousness with unconsciousness on a community scale then cultures can grow without the pathologies of race, class and gender bias. Whole, individuated people make whole communities.

There is an ecological, pan-species aspect to archetypes as well. We must also allow the animal archetypes to flourish, first, by not exterminating them as species; and also by that mysterious process of transformation where one animal "becomes" another one. Humans need Bear's strength; Bear, on the other hand, could use human cleverness and creativity. In mythic times, humans looked to animals and made identification with them, based on the evidence of shamanistic practice. There may also be ways in which animal have become us. This is more threatening for the animals at this stage of evolution because of what humans have become, but presumably the animals are openly interested, in their own poorly understood ways, in what our species represents as a hypertrophied development of all animal nature itself. The full bioregional community of animals, plants and all species is the archetypal community where species fill in for other species the aspects which need development.

Techniques of the Old Ways of Communication.

To put it bluntly, polluters, ranchers, and even most scientists simply do not know enough about nature. The problem of communication and ecology has been an epistemological one. What is needed is newer ways of knowing which supplies the missing information. Exploration of a full ecology of communication practice requires going beyond the boundary of civilization into the woods of the unconscious. Just why a boundary exists is a irreducible problem (Diamond, 1974). Alphabetization may have been the occasion for the drawing of the boundary which forbade access across it into the "dreamtime" (Cf. Goody, 1986, Havelock, 1963). No matter when, why, how or by whom the boundary between nature and culture was drawn, the aesthetic modes of ritual and trance are ways for people to see the boundaries and cross back over them. Nietzsche saw that dream and elation loosened artistic powers of vision, poetry, passion, song and dance. There is in the ecstatic widening of the Dionysian state a peacefulness which is a "slackening of the feeling of time and the reduction of the feeling of space" (Nietzsche, 1924, p. 241). The pleasure of

intoxication and elation is a basic state in which:

"Sensations of space and time are altered; inordinate distances are traversed by the eye, and only then become visible; the extension of the vision over greater masses and expanses; the refinement of the organ which apprehends the smallest and most elusive things; divination, the power of understanding at the slightest hint, at the smallest suggestion; intelligent sensitive-ness; strength as a feeling of dominion in the muscles, as agility and love of movement, as dance, as levity and quick time; ...as bravado, adventurousness, fearlessness, indifference in regard to life and death.... All these elated moments of life stimulate each other; the world of images and of imagination of the one suffices as a suggestion for the other. Artists should not see things as they are; they should see them fuller, simpler, stronger; to this end, however, a kind of youthfulness, of vernality, a sort of perpetual elation, must be peculiar to their lives. The aesthetic state represents an overflow of means of communication as well as a condition of extreme sensibility to stimuli and signs. It is the zenith of communion and transmission between living creatures; it is the source of languages" (Nietzsche, 1924, pp. 242-243, 253, emphasis added).

The crossing of the boundary may be as old as our species since the archetypes, expressed as myths, refer to journeys made outside of familiar territory into the unknown and back again. Campbell (1983) reminds us that the memories of the Paleolithic lurk inside of us. We dream the same dreams as the cave shamans. The old stories live in us because all the stages of human development are in us. The myths of the first stories are our guide to the life of the spirit. Myths harmonize the body and mind in rites for our bodies which are the vehicle of consciousness.

The image of death is the beginning of mythology. Death and the life beyond death was a concern. The idea that there is a plane of being behind the visible, an invisible plane supporting the visible one is the basic myth and the origin of dream, myth, communication, theology. The idea is that what we do not know supports what we do know. The unseen is the ground of the seen: this is the primal displacement and distancing which is always trying to be reconciled and brought close again. The original mythic insight is that there is more than we know and that it is important to try to find out what it is. The imaginative life of humans

and what we call communication, communion and transcendence is the quest to try to close the gap between the seen and the unseen (Cf. Campbell, 1983).

This reconciliation first took the form of a covenant between the animal world and the human world. The rites of appeasement were necessary because the death of the animals offended and troubled the ancient hunters. The hunt itself was a ritual which involves respect for the animals. The animal was a messenger of dual power; the animal was killed but the guilt is wiped out by the rite. The ritual was ecological not only in a symbolic sense but also in the sense of the restoration of the harmony of the bioregion. The animal master thanked the animal for the meal. But when the new environment has not been assimilated, artists are required for mythologization of environment and life world.

Although these archaic Paleolithic rituals of the hunt have been supplanted by later myths as cultural and ecological conditions changed, there is an archetypal core which has remained. The "archaic sacred sphere" of human community and communication is countless generations of men and women committed to each other and their young, living the archaic values of compassion, economy and conservation and man/animal solidarity; talking, playing, working and celebrating in face to face communities. These are the social, religious and ecological sensibilities which are as ancient as the cave people of our past and our own self and families (Cf. Beane, 1979). There is a solid, ineradicable core of this archaic consciousness and daily practice of living in all humans, though much of it is obscured by the pseudo-communities of nation-state politics and boundaries, and the overbearing empires of civilizations. The destructive, dehumanizing tendencies of big government, colonialism, racism, sexism and corporatism are internalized in media. The teleproxemic illusions of politics and civilizations overshadow the archaic sacred sensibilities of organic groups and cultures.

When the content and practice of the old ways is suppressed into the unconscious then a pathology erupts. The unconscious cannot be either dismissed, condemned or especially ignored. For Jung, the loss of unconscious or its suppression leads to a counter position building up which breaks out with generally malevolent consequences (Jung, 1969, p. 73).

The Transcendent Function: A Technique to Re-balance Communication between the Human Sphere and Wild Nature. Jung (1959) has suggested a specific method of balancing the psyche: the conscious and unconscious can be joined through what he called the transcendent function. This function is not a mystery but a process of the removal of the barriers between conscious and unconscious. Artists and

creative people, it seems, have an easily-permeable membrane between conscious and unconscious; their problem is not the joining of the two, but telling the difference between them. Not everyone has such easily crossed boundaries. The transcendent function is necessary because the loss of awareness of the unconscious, or its suppression, leads to a counter-position building up and erupting in a person's life with generally ill consequences (Jung, 1959).

Jung saw that the definiteness and direction of the conscious side had its attendant rationality and purposefulness. But, he thought, the price was heavy. Science, technology and civilization are presupposed by consciousness, continuity and directedness, he wrote. But Jung might have misjudged the source of continuity and directedness; these are actually products of literacy and alphabetization. Jung noticed that primitives need no special techniques to access the unconscious (1959, p. 78). The experience of the world is not continuous. Pre-alphabetic consciousness is not the same as alphabetic consciousness. "Directedness" is linear and authoritarian, the precise result of alphabets and text, whereas oral poetry, ritual, myth, festival, pilgrimage and community are anything but continuous and direct. Yet they are fully conscious and more likely to be in transcendent balance with the unconscious. Consciousness only needs rejoining with unconsciousness because of the separation posed by literacy and alphabetization.

The use of the transcendent function is not just intended to avoid psychosis. Consciousness is widened through contact and integration with unconsciousness, but this means a state closed to the "primitive." Jung's work is an argument for a return to archaic, integrated consciousness without the media of writing and alphabets. Getting rid of these media is not as important as the transcending strategy of going around them. Access of the unconscious is the antidote to civilization, literacy and the alphabetized word of the daylight consciousness (Cf. Jung, 1959, pp. 69-91). The transcendent function is the birthright of everyone's psyche, but is harder to activate in tele-extended media communities. The intractable problem here is that the more extended the media make us, the harder it is to recover the full sensorium and thus the full range of consciousness.

Jung's psychological practice of transcendent function is a process of confronting the unconscious to remove the separation between it and conscious waking reality. The transcendence is the "union of conscious and unconscious contents" (Jung, 1959, p. 69). The conscious and unconscious behave in complementary ways toward each other. Elements of the conscious part of a person's awareness has a threshold intensity; anything below the threshold is

forgotten and unnoticed and sinks into the unconscious, Jung observed. The censorship by consciousness toward unconscious elements is not quite so passive: active censoring of anything incompatible with consciousness goes on. In this case, the aberrant material is banished to the unconscious and all conscious records of the banishment are removed and destroyed (Jung, 1959, p. 69).

When the complementary, and by necessity, disturbing, aspects of the unconscious arise, they can be defused, if the separation between conscious and unconscious is removed. Reduction of the psychic distance is the method to acknowledge the significance and important work of the unconscious in making up the deficiencies of the censored consciousness (Jung, 1959, p. 73). Although the gambit of allowing the unconscious to show through seems like another clever control method of the rational, conscious side, something happens when the boundary is dissolved. There is a healing and growth; the imperious and controlling conscious side has lost some of its one-sidedness and arrogance. Even the attempted act of transcendent function is already a victory of healing and restoration of full complementary psychological wholeness, because paradoxically, those the least aware of the unconscious working in them are the most influenced by it. This is a paradox because, if the "goal" of recognition by consciousness can be attributed to the working of the unconscious, then the least influence the unconscious exerts upon conscious, the more effect it will have. By doing less, the unconscious achieves more. There is a lesson for the unconscious as well in the healing process of transcendental function. This could be accomplished through the transcendent function of "dream amplifications, active imagination, symbolic expression through painting, sculpture and music. All of these are ways which could help integrate conscious and unconscious or, to put it another way, "the person of today and the two million year old person inside." This integration is what the panoply of personal religious practices of humans tries to achieve through prayer, chants, rituals, trance, yoga (Stevens, 1982). The balance in human life comes about through the transcendent function of symbols. The inner and outer are balanced in the sacred realm of the numinous. The archetype of proximity is the balance of near and far. The balance in terms of human sociality is small groups living in balance with their surroundings, something virtually precluded by the politics of the state. Archetypal communication is the practice of the old patterns of human scale ways of communication which sustains cultures and communities. Sustainable communication is the recovery of the patterns of cultural expressiveness hidden in archetypal unconsciousness. These are brought to the surface and

become lived experiences through the transcendent functions and practice of community, ritual and human scale activity. The actualizing of the archetypes is both an individual's healing process, in traditional Jungian practice, and a larger-scale, utopia-making activity by the transcendent function of restoration of the archetypes to community practice.

Conclusion

Archetypal Communication in Bioregions.

Jung recognized the collective nature of the images and experiences of the archetypes but he seems to have stayed on the individual level in small group practice and therapy. Our times call for a bioregion-wide transcendent function because the collective unconscious is best actualized in living eco-communities. The bioregion as the locus of the archetypes grounds the archetypes and makes them not only specific, but specific in a real place. Archetypes without bioregions are adrift, anomalous, and alien. The archetypes need senses, bodies, places, rituals, art, images, songs and dances. Here is a sketch of what this might mean. The setting: a small scale, face to face village; the people in the village know each other. They are self governing but part of a loose federation of bioregional cultures. Natural cycles dominate the year: there are crisscrossing pilgrimages, sacred cycles of songs, ritual dances and ceremonies. The culture is full of cooperative and sustainable economic activities and crafts. Conflicts are mediated by the group; there are no weapons and no domination. The biota have been restored to full partner sharing of the bioregional culture. This culture works because bodies are in proximal brother and sisterhood with other species in a lived and ensouled place.

Peter Berg, who named the practice and refined the ideas of bioregionalism, describes a bioregion both as a "geographical terrain and a terrain of consciousness" (1992, p. 21). There is a mutual "resonance" among the species and the biogeochemical processes and manifestations of the particular bioregion (Berg, 1992). The borders and limits of the bioregion are not lines on a map, but the contours of the interwoven consciousnesses of all the species in their interlocked destinies.

Bioregionalism has many voices: eco-feminist, ecocentric, gylanic, anarchist, pagan, animist, polytheist, placist. Placism is the most radical (that is, rooted); it means here, not there, wherever here may be. Additional descriptors are non-violent, aesthetic, non-teleproxemic, face to face, oral ritual, slow, sharing, cooperative, collective equality, egalitarian, mutual aid, respect for life; bioregionalism is, as Jim Dodge put it, the naming of something that is already going on (Dodge, 1990). The transition to a full bioregional style of living like this may take a while,

but we hope it will be less than the 5000 years it took to lose it in the first instance.

If we return to bioregional practice, what will happen to Dow Jones averages, global corporations, airplanes, computers, telephones and the super-structure of the global information/power web is for the people of the future to decide. What does not seem likely from the perspective of today is that a newly re-primalized future will have many space and time conquering technologies in it. The most radical question is disentanglement from chains of media, power and control. Higher consciousness and technics are generally incompatible. Ritual and consciousness could fill the need for media and money which constitute ersatz news; real news is higher consciousness. Gossip is better than news, it is exciting, aural, oral, sensual and embellished stories about local people and places. The need for news may be the root impulse to expand awareness to go beyond local experience. This may be the impulse to plot theologies and stories and nations of inordinate scale - creations which take on lives of their own after their creation? It may only be the sad result of failed personal development which hasn't learned to create fantasies of consciousness and awareness and gain insight from within rather than literalizing and concretizing it from without. One path leads to gentle enlightenment and peaceful, small scale cultures and the other to despotism, hierarchy, rule, state and unfreedom. Bioregional, chthonic, archetypal communication is a critique of society and a prescription for healing.

The conscious communication of the psyche, the face to face, human scale is bioregional communication in the proxemic realm. Size and scale can make communication sublime but communication is never sublime when it goes beyond its human dimensions and size. The very unlimitedness and expansiveness of electronic, teleproxemic communication precludes its sublimity (Cf. Kohr, 1978, Daly & Cobb, 1989).

An archetypal and ecological reply to overextended, teleproxemic situations of contemporary societies is a "feralization" (making wild) of communication and the lives it supports: a return to basic non-extended communication media: breath, trance, body, rhythm, song, walk, run. Archetypal communication is the stuff of dreams, meditation, fantasy, myths, rituals, and cultural symbols. The transcendent function is how archetypal communication happens; it takes place in utopias of the imagination. Archetypal transcendence is anarchic, liminal and utopoid and takes place in the play of dream, fantasy and random, anarchic association and transcendence. There is not one clear formula for utopia but it will never be created in an tele-extended space and time world: utopia is only possible in a non-teleproxemic world where liminality

induced by archetypal communication is epidemic.

A prescription for ecological utopia seems to be less media, smaller scale and deeply ecological, bioregional thinking, acting, and community-making; the practice of trying to achieve it is animated by life at a smaller scale and with a creative, artistic spirit in natural bioregions with friends and neighbors. Utopia does not take well to mass production, distribution and marketing. *Communitas* cannot be easily and massively institutionalized into utopia, because it immediately turns from anti-structure into its opposite, structure. A better gambit might be an anarchic world suffused with unpredictable acts of liminality, gratuitous, rampant *communitas*, and random archetypal communication.

To make it clear, the choice is between archetypal communication and the death of the earth.

Notes

¹ Goldsmith (1985) has explained that the word which, without any modifiers can generally be taken as "scientific" ecology, has been stripped of its full dimensionalities. Goldsmith quotes Simberloff: "Ecology has undergone, about a half a century later than genetics and evolution, a transformation so strikingly similar in both outline and detail that one can scarcely doubt its debt to the same materialistic and probabilistic revolution. An initial emphasis on a similarity of isolated communities, replaced by a concern about their differences; examination of groups of populations, largely superseded by study of individual populations; belief in deterministic succession shifting, with the widespread introduction of statistics into ecology, to realization that temporal community development is probabilistic; and a continuing struggle to focus on material observable entities rather than ideal constructs..." (Simberloff, cited in Goldsmith, 1985, p. 91). Without a digression into the recent history and philosophy of science, it is apparent that a wave of reductionistic ideology has swept over the ancient world view and insights lately called "ecology." Goldsmith is appalled that the scientific ecologists (which includes Simberloff) have rejected the idea of the balance of nature. This rejection of complexity and diversity was necessary so that the industrial economic development could proceed without any ecological impediments. If there is no balance of nature, then whatever humans did could be justified (Goldsmith, 1985, p. 90).

The scientific ecologists also threw out the holistic principle that the whole is more than the sum of the parts; the reason is clear: the practices of today's industrial growth society cannot be squared with holism. The first principle of ecological holism is exemplified by a forest being more than a collection of

trees. Such subtleties stand in the way of profits and growth, so holism is denied. Yet without holism, there is no ecology worthy of the name (Goldsmith, 1985, p. 91).

Afterward: The Sources of Bioregional Archetypes

Archetypal communication is bioregional communication. This is the full ecology of communication. The conversation of place where stories are told in strange dialects. Tales arise out of interpenetration of bodies. A gentle drift of genes, species, transmigration of enzymes and proteins. We are some other being's vitamins and minerals. Bird songs, clouds, weather tales told by bent trees and castrated branches loped off by prevailing winds. Myths emerge out of the story fragments of all species, swamps, hillocks, trees and lichens. All have their voice come out of living, walking, and dying in place.

Bioregional living is reinhabitation, creolization, nativization. The land, animals plants, culture, watersheds change slowly then make a decisive change. Fluid but genuine differences emerge. The traveler leaves one bioregion and enters another one. Bioregions are specific sources of knowledge and awareness and ways of communicating it. "Our relation to the natural world takes place in a place, and it must be grounded in information and experience." (Gary Snyder, p.39)

Tom Berry says that the recovery of our presence in the earth community is an understanding of the communication among the members of the primordial community of universe, earth, and living beings. The result of that communication is an awareness that the wild community of earth will not be made an abused, exploited object.

There is a pathology of existing relationships of humans with the earth community because humans have become transbiological. Humans break the basic biological law that "every lifeform shall have other lifeforms of conditions that limit its expansion, so that no single lifeform or group of lifeforms, should suffocate other lifeforms." (Berry, p 11)

References

- Barnlund, D. C. (1982). Toward an ecology of communication. In C. Wilder and John Weakland (Ed.) *Rigor and imagination* (pp. 87-126). New York: Praeger.
- Beane, W. C. (1979). Archaic sacred values and the modern world. *Communication* 4, 49-72.
- Bennett, J. (1979). *The ecological transition*. New York: Pergamon Press.
- Berg, P. (1992). Post-environmentalist origins. *Raise the Stakes: The Planet Drum Review* 18/19, 1, 21.

Berry, T. (1988) *The dream of the earth*. San Francisco: Sierra Club Books.

Bookchin, M. (1982). *The ecology of freedom*. Palo Alto: Cheshire Books.

Campbell, J. (1983). *The way of the animal powers*. San Francisco: Alfred van den Marck Editions; Harper and Row.

Commoner, B. (1971). *The closing circle*. New York: Bantam Books.

Daly, H. E. & Cobb, J. B., Jr. (1989) *For the common good*. Boston: Beacon Press.

Deleuze, G. & Guattari, F. (1983) *On the line*. (Tr. by John Johnston) New York: Semiotext(e).

Devall, B. & Sessions, G. (1985). *Deep ecology*. Salt Lake City: Gibbs M. Smith, Inc.

Dewey, J. (1925). *Experience and nature*. Chicago & London: Open Court Publishing Co.

Diamond, S. (1974). *In search of the primitive: A critique of civilization*. New Brunswick: Transaction Books.

Dodge, J. (1990). Living by life: Some bioregional theory and practice. In Andruss, V., Plant, C. Plant, J. & Wright, E. (Ed.) *Home! A bioregional reader*. Philadelphia and Santa Cruz: New Society Publishers.

Fox, W. (1990). *Toward a transpersonal ecology: Developing new foundations for environmentalism*. Boston & London: Shambhala.

Goldsmith, E. (1985). Whatever happened to ecology? *The Ecologist*, 15 (3), 90-91.

Goody, J. (1977). *The domestication of the savage mind*. Cambridge: Cambridge University Press.

Goody, J. (1986). *The logic of writing and the organization of society*. Cambridge: Cambridge University Press.

Havelock, E. A. (1963). *Preface to plato*. Cambridge, MA.: Harvard University Press.

Havelock, E. A. (1982). *Harold A. Innis: A memoir*. Toronto: Harold Innis Foundation.

Hillman, J. (1975). *Re-visioning psychology*. New York: Harper and Row.

Hillman, J. (1985). *Archetypal psychology: A brief account*. Dallas: Spring Publications.

Hillman, J. (1989). *A blue fire: Selected writings by James Hillman*. (T. Moore, Ed.) New York: Harper & Row.

Jung, C. G. (1959). *The archetypes and the collective unconscious*. Princeton: Princeton University Press.

Jung, C.G. (1969). *The structure and dynamics of the psyche*. New York: Pantheon.

Kohr, L. (1978). *The breakdown of nations*. New York: E. P. Dutton.

Leopold, A. (1966). *A Sand county almanac*. San Francisco and New York: Sierra Club.

McLaughlin, A. (1985). Images and ethics of nature. *Environmental Ethics*, 7:4, 293-321.

Naess, A. (1985). Identification as a source of deep ecological attitudes. In M. Tobias (Ed.) *Deep Ecology* (pp. 256-270) San Diego: Avant Books.

Naess, A. (1995) "Deep ecology for the Twenty-second century," in Sessions (1995) (pp. 463-468)

Nietzsche, F. (1924). *The complete works of Friedrich Nietzsche* Vol. 15: The will to power [Der Wille zur Macht] (Paragraphs 798-810) London: George Allen and Unwin.

Sale, K. (1984). A bioregional vision. *Rain X*, 28-29.

Sessions, G. and Naess, A. (1984). The basic principles of deep ecology. In Sessions, G. & Devall, B. *Deep ecology: Living as if nature mattered* (pp 69-76) Salt Lake City: Gibbs M. Smith.

Sessions, G. (Ed.) (1995) *Deep ecology for the twenty-first century*. Boston & London: Shambhala.

Shepard, P. (1982). *Nature and madness*. San Francisco: Sierra Club Books.

Simberloff, D. (1984). The great god of competition. *The Sciences*, 4:4, 17-22.

Snyder, G. (1990). *The practice of the wild*. San Francisco: North Point Press.

Stevens, A. (1982). *Archetypes: A natural history of the self*. New York: William Morrow.

Stevens, A. (1986). Thoughts on the psychobiology of religion and the neurobiology of archetypal experience. *Zygon*, 21(1), 9-30.

Williams, R. (1960). *Culture and society, 1780-1950*. Garden City: Doubleday & Co. Inc.

Worster D. (1977). *Nature's economy: The roots of ecology*. San Francisco: Sierra Club Books.

Creating an Environmental Conscience: Form as a Rhetorical Strategy in Rachel Carson's *Silent Spring*

by Perthenia Eilers

Three decades ago, when Rachel Carson wrote *Silent Spring*, the American public was just becoming aware of the interconnected character of the natural world. We were beginning to understand that humans, as well as other species, could suffer from the changes we make to "nature." *Silent Spring*, one of the most popular environmental books written, profoundly influenced this developing ecological sensibility.¹ This paper describes how Rachel Carson developed her argument against synthetic pesticides as an ethical challenge to her audience's understanding of humanity's position in the natural environment. The form of *Silent Spring* reconciles an essentially instrumental perception of the natural world with an ecologically informed approach. By imbedding a biocentric appreciation for the inherent value of life in a homocentric hierarchy of values—an ethic that interprets reality exclusively in terms of human experience—Carson successfully blends competing world views.

Published in 1962, *Silent Spring* warned of the danger synthetic pesticides by linking human health to the quality of the natural world through the principles of ecology. Technology developed during the second World War—atomic power as well as advances in chemistry—promised humans an even greater ability to control their physical environment. Scientists and industrialists alike touted these innovations as "progress;" synthetic chemicals in particular, because they were inexpensive and easy to make, became the "saviors of mankind."² The chemical industry produced several of these new compounds, proudly advancing under the advertising slogan "Better Living Through Chemicals."³ The overwhelming majority of Americans believed that engineered chemicals would safeguard the world from disease, malnutrition, and pests.

While enthusiasm for these scientific advances dominated the early post-atomic era, problematic evidence soon began to appear that disputed technological "progress" as saving the human race. Headlines around the nation reported increasing incidents of chemical contamination in food. In 1959, for example, the Food and Drug Administration withdrew cranberries contaminated by a carcinogenic weed-killer from grocery store shelves just before Thanksgiving.⁴ These fears of radiation and chemical pollutants provided the backdrop for vast public interest in *Silent Spring*. Rachel Carson helped focus this general

unease. She demonstrated to her large audience that the abuse of synthetic pesticides was a direct threat to human health by introducing them to an ecological environmental ethic.

In altering her audience's belief in technology that aggressively and short-sightedly controlled the natural world, Carson faced a complex rhetorical challenge. She needed to present her case for an ecologically informed ideology in a way that would attract an audience entrenched in conventional resource-oriented perspectives: she had to cast her arguments in a form that would appeal to their values as well as their interests. Not only did Carson have to make her arguments acceptable, she also had to make them approachable. She had to explain the problem clearly, educating as she persuaded. Even perspicuity was not enough: in order to move people to act, she had to create a compelling and immediate threat. To address the deeper ethical problem of anthropocentrism, she had to persuade her audience to accept a radically different conception of nature and their position in the environment.

Rachel Carson meets this challenge through the internal structure, or form, of her argument. Form, as a critical construct, provides a framework for understanding the unique qualities of a persuasive discourse and how that discourse works to achieve its rhetorical ends.⁵ Edwin Black defines the concept of form succinctly: it is "the shape, the structure, the essence of a thing...its inherent structure—its constituents and their relationships to one another."⁶ Form describes the complex relationships among a discourse's internal elements, structural patterns, and internal arrangement. Argumentatively, form works through association: the patterns and structures act as a medium that allow a rhetor to make experiences and emotions intelligible to others.⁷ Forms consolidate perception with feelings, beliefs, and fundamental attitudes; they both manifest and subtly affect consciousness.⁸ By allowing audiences to identify with other ways of knowing, form can invite us to move away from our conventional framework.

Silent Spring is a clear example of how form works to influence cognizance: Carson structures her argument in a way that encourages her audiences to comprehend their existing convictions about the natural world in a new way. Through form, she

integrates her biocentric ideology within a homocentric structure. A homocentric view is essentially vertical and hierarchical; it perceives reality exclusively in terms of human values and experience. It accords ethical status and importance to a single species—*homo sapiens*—and judges all other elements of the environment in terms of their resource, or indirect, value. Unlike homocentric conceptions that assign axiological value primarily or exclusively to humans, biocentric world views place value on all life. Biocentrism integrates humans within the natural world and focuses on relationships between living and nonliving elements of the environment. By formally constructing her argument along a biological hierarchy that culminates with the effects of DDT on human health, Carson successfully resolves much of the inherent tension between these two world views.

Throughout *Silent Spring*, Carson's arguments build upon each other, magnifying the problem, underscoring her moral precepts and ecological views, and most importantly, persuading a predominately anthropocentric audience that harming the physical environment will eventually injure humans. First I will look at the overall form of *Silent Spring*. Then I turn to the ways the first two chapters prefigure the overall structure and prepare the reader to access its form.

Silent Spring's seventeen chapters follow a biological hierarchy: beginning with nonliving elements of nature, then moving through nonsentient life like plants and insects, Carson gradually builds the discourse toward the effects DDT has on "higher" life forms—sentient animals and ultimately, humans. This form replicates the "great chain of being" metaphor that describes nature's structure as hierarchical.⁹ In its Augustinian formulation, the chain began with God and the angels, then moved through human males to other, "lesser" life forms; evolution is a similar, secular articulation of this trope that characterizes nature as a teleological process. Carson begins at the "bottom" and follows the chain to its human end. Ecocritic Lawrence Buell likens this form to building a "novelistic momentum."¹⁰ Carson organizes the chapters along a progressive trajectory; each presents a problem of successively greater significance to humans. The first chapters frame the arguments that Carson develops throughout the book. Chapters four through seven focus on the threats DDT and other synthetic pesticides pose to the "earth's life support system"—the water, soil, and plant life. The next three chapters deal with the effects of chemical pollution on more developed (sentient) life forms: birds, fish, and other wildlife. The discourse reaches its apex with chapters eleven through fourteen: these arguments deal directly with the consequences of synthetic chemicals for human life. In the final three chapters, Carson

reiterates the pragmatic dangers and philosophical implications of current utilitarian approaches to the natural world, and suggests alternative pest control programs that respect the balance of nature. *Silent Spring's* form, while roughly paralleling biocentric ethics like Aldo Leopold's land pyramid, implicitly acknowledges and incorporates her reader's value priorities.¹¹ Structurally, each chapter amplifies Carson's central argument for an integrated view of nature within a hierarchical pattern; each chapter is more encompassing and moves the focus of the discourse closer to the individual reader.

After she sets up the framework for her arguments in the first two chapters, Carson devotes the majority of *Silent Spring* to argumentative substance: after explaining what synthetic chlorinated hydrocarbons are in chapter three, she concentrates on amplifying the extent of the damage these chemicals cause in ecological systems. She presents the information simply and clearly, building her credibility and her reader's understanding simultaneously. In the chapter on water pollution, for example, she first addresses contamination of the unseen aquifer, then moves to the invisible pollution of our rivers, streams, and lakes. Finally, she explores the threat DDT poses to our drinking water. The form of this chapter, moving from the least directly applicable threat to a danger focused on humanity, mirrors the overall structure of *Silent Spring*. The argument repeatedly advances along this hierarchical trajectory: from bugs and beetles to birds and fish, Carson's argument moves increasingly closer to human life.

As she progresses through her biotic hierarchy, Carson pauses. Chapters seven and ten suspend the vertical progression and supply volumes of factual, scientific detail. In these chapters, Carson's rhetoric comes into sharp pragmatic focus. In the first of these pauses, she suspends the momentum to look at the broad implications of synthetic chemical use: "As man proceeds toward his announced goal of the conquest of nature, he has written a depressing record of destruction, directed not only against the earth he inhabits but against the life that shares it with him."¹² The consequences of instrumental science become inescapable as Carson details the effects of several pesticide programs throughout the country. Later, she again pauses the biological hierarchy to return to specifics, exploring the ramifications of the gypsy moth "eradication" program. These chapters act like punctuation, separating the progression of Carson's cumulative argument: chapter ten is like a semicolon that signals the end of the non-human section and the movement into the highest rank of the argument.

Carson's form reaches the point of greatest intensity in its ascending progression with chapters eleven

through fourteen. In this section of the discourse, Carson turns her attention to the direct effects that DDT and related pesticides have on human beings.

*We have seen that they [pesticides] now contaminate soil, water, and food, that they have the power to make our streams fishless and our gardens and woodlands silent and birdless. Man, however much he may like to pretend to the contrary, is part of nature. Can he escape a pollution that is now so thoroughly distributed throughout our world?*¹³

In the last chapters of *Silent Spring*, Carson answers her rhetorical question. The final chapters are the apex of the discourse: they deal with the dire potential for serious direct harm to humans resulting from chlorinated hydrocarbons. Beginning with a detailed look at chemical contamination of food, exploring the effects of this family of synthetic chemicals on human nervous systems, and then illustrating the long-term dangers of genetic changes, Carson propels her readers toward what she sees as the greatest threat—cancerous mutations within human cells. Carson bases the chapters dealing directly with these immediate and long-term human dangers on her earlier explanations of DDT's detrimental effects on nonhuman life. The previous chapters incrementally lead to the conclusion that human beings have, unknowingly and unthinkingly, changed the life cycle permanently. Carson prepares her audience, through the gradual trajectory of her discourse that builds from micro-organisms to fish and wildlife, to accept her conclusions about the effects of DDT on people.

Structurally, the final chapters return to the ideological and practical tone of the first chapters. Chapter fifteen reiterates the contrast between the balance and integrity of ecology and the imbalanced disruption of "Neanderthal" science, while chapter sixteen points to the ultimate ironies of failed pesticide programs. As we unbalance ecosystems, we actually create an unnatural environment that fosters more insects and stronger weeds. The solution, Carson finds, is to use alternatives—like biological or organic controls—that respect and function with, instead of in competition with, ecological principles.

Carson compresses the overall hierarchical trajectory of *Silent Spring's* form in the first two chapters of the text, prefiguring her overall argument. The form of "Fable for Tomorrow" and its argumentative corollary, "The Obligation to Endure," create a structural framework for the whole discourse and dispose the audience to expect certain kinds of justification. By examining this contracted paradigm, we can see in even more detail how the form of *Silent Spring* integrates an

essentially biocentric ideology into a homocentric hierarchy.

In "A Fable for Tomorrow," Carson dramatically describes pesticide contamination through the conventions of the literary allegory or fable. Fables conventionally simplify an abstract moral thesis or principle of human behavior within a short fictive narrative.¹⁴ Carson's fable follows this convention—it is a short composite of *Silent Spring's* argument. The allegory clearly frames the moral principles of the discourse, while rendering a stark contrast between instrumental science—the approaches she ironically defines as "Neanderthal"—and the ecological balance she advocates. Using vivid descriptions, Carson creates an image of destruction that simplifies and makes the complex, abstract threat of pesticides concrete. This narrative makes implicit ideological appeals as it highlights the dangerous effect chemicals have on humans.

Carson begins her tale by cueing the audience that the following story is a fictitious tale told from the future: "There once was a town in the heart of America where all life seemed to live in harmony with its surroundings."¹⁵ The narrative unfolds an idyllic image of pastoral farmland and forest. It epitomizes natural order through the passing seasons from healthy spring blooms through autumn's "blaze of color" to winter birds feeding on bright berries. The environment is healthy and beautiful; humans are in perfect harmony and balance with nature. "Then," Carson narrates for her readers, "a strange blight crept over the area and everything began to change."¹⁶ Something unnatural—an "evil spell"—disrupted all natural cycles and destroyed the balance of this harmonious life. Instead of being an essential part of the natural cycle, death becomes an aberration: "mysterious maladies" and "new kinds of sicknesses" spread among normally healthy farm animals and people, particularly and perversely afflicting the young. Spring is accompanied by an uncanny silence:

*There was a strange stillness. The few birds seen anywhere were moribund; they trembled violently and could not fly.... It was a spring without voices. On the mornings that had once throbbed with the dawn chorus of robins, catbirds, doves, jays, wrens, and scores of other bird voices there was now no sound; only silence lay over the fields and woods and marshes.*¹⁷

The disruptions extended beyond the beauty of spring's bird songs to encompass the most basic natural processes: pollination, recreation, and birth stopped or were dramatically altered. Vegetation, fish, and wildlife withered, died, or disappeared. The reason for this

devastation was simple: "a white granular powder" fell "like snow upon the roofs and the lawns, the fields and the streams." People, and their use of chemical pesticides, changed the natural rhythm. "No witchcraft, no enemy action had silenced the rebirth of new life in this stricken world," Carson says. "The people had done it themselves."¹⁸

By framing her discourse with a fictional allegory, Carson dramatizes the facts of her argument and invites readers with diverse attitudes toward nature to participate in the discourse with emotion, as well as with intellect. She previews the form of the entire discourse and sets up audience expectations. The fable dramatically renders the conflict between life-affirming nature and the unnatural effects of controlling with synthetic pesticides while infusing *Silent Spring* with a sense of urgency. By setting the disaster caused by pesticide abuse in a fictional future's past—the narrative is a fable for the future—Carson makes her arguments for the threat of chemical damage a reality.¹⁹ By using this literary convention, however, Carson is able to introduce a powerful temporal ambiguity: she uses the danger from pesticides as a forgone conclusion to add a sense of immediacy to her argument, while at the same time projecting the danger into the future and giving her readers an opportunity to prevent the deadly outcome. The narrative's predictive language warns readers of impending danger and adds a sense of urgency that enhances Carson's plea for immediate political action. Carson's aphorism at the end of the fable shows both the predictive overtones and the ambiguity of the fictional allegory: "A grim specter has crept upon us almost unnoticed, and this imagined tragedy may easily become a stark reality we all shall know."²⁰ This single statement crystallizes Carson's vision and predicts a future destroyed by pesticide abuse.

Chapter Two, "The Obligation to Endure," is the fable's argumentative corollary. Carson uses this chapter to make the fable's implicit arguments explicit. The contrast and tension between ecological integrity and aggressive homocentric science becomes even more clear and direct, as do the consequences of each view. Focusing on gradual evolution and the delicate stasis of the natural environment, she draws a marked distinction between natural ecological process of development and balance over eons and the unnatural human power to radically alter the natural environment in a brief period. The threat to humans as individuals and to humanity as a species is clear: "Can anyone believe it is possible to lay down such a barrage of poisons on the surface of the earth without making it unfit for all life? They should not be called 'insecticides,' but 'biocides.'"²¹ The second chapter compliments the first, providing an overview of the major claims and launching Carson's argument along

its hierarchical trajectory.

The details of these two chapters reveal how *Silent Spring's* overall form functions with Carson's substantive and ideological arguments to appeal to a wide audience. She clearly illustrates the contrast between the pastoral, integrated world and the disastrous results of aggressive, rash, and artificial interference. The fable molds *Silent Spring's* practical arguments as well. As the discourse unfolds, Carson reveals the truth behind each of the fictional threats with scientific evidence and testimony. The list of plant life from the valley, for example, reappears in a later chapter as the Maine roadside flora is actually destroyed by spraying. She provides evidence for the fable's water contamination and loss of fish in chapter nine; the birds that visited the fable's pastoral valley before DDT are the same ones Carson documents as dying in urban and rural areas all over the United States. By the end of book, Carson has provided concrete evidence for all of the dangerous effects of DDT presented in the fable.

The fable's moral reverberates through *Silent Spring* as Carson argumentatively and poetically develops the theme that human beings have interrupted the natural order of life—a disruption that even they cannot escape. *Silent Spring*, like the composite picture within the fable, is a proof and an amplification of the ways humans, through the use of synthetic pesticides like DDT, have the power and ability to unknowingly upset the natural balance of all life, not just the nonhuman environment.

As these two chapters balance conventional homocentric appeals with biocentric appreciation and understanding, their form reveals the conflict between instrumental values of nature and an ethic based in respect for life. Carson's hierarchical pattern of organization uses the tension between these competing value systems—homocentric and biocentric ideologies—to appeal to a wide audience, while clearly demonstrating the dangers inherent in the dominant world view. Carson synthesizes the conflict between homocentrism and biocentrism through the structure of *Silent Spring*. She positions the discourse between these extremes, appealing to self-interest and human preservation as well as making ideological appeals based on her integrated ethic of life. As she builds her argument toward the human apex, she is clearly demonstrating that humans are only a part of the larger ecology of the planet. The danger to people is the same as to the rest of nature: humans, whether they understand it or not, are part of the ecosystem and cannot escape the threat of pesticides simply because they created the compounds.

The effect of form in Carson's discourse, like the effect of the chemicals she argues against, is

cumulative. It gradually builds in concentration and intensity, following the fable's startling revelation of a future marred by chemical misuse. Each chapter builds on the central moral that disrupting nature's delicate balance eventually disrupts all life; each chapter expands the threat of pesticides and moves it closer to endangering human life. The structure of *Silent Spring* seamlessly blends anthropocentric appeals into an ecologically informed conscience, profoundly impacting the way we think about our role in the environment and our responsibility to the natural world. In this discourse, form mediates between competing ideologies: the familiar hierarchical pattern allows Carson to argue for an ecologically informed sensibility within conventional (and widely adhered to) ethical frameworks of self-interest and concern for others. She draws on the great chain of being metaphor, using it to make environmental world view intelligible to those who operate within an instrumental paradigm. The form of *Silent Spring* induces a wide variety of auditors to participate in an alternative way of knowing that recognizes the importance of all life instead by allowing them comprehend old their convictions and perceptions in a different way.

Many of today's environmentalists would argue that *Silent Spring* does not go far enough, that Carson implicitly favors human beings and allows people to perceive and manage the natural world as a resource. They are right: Carson does not, either in the form or in the content, completely negate instrumental approaches to the environment. Her proposed solution, for example, offers a more ecologically sound biological and organic methods of "pest control," but it is different only in means. The end remains an environment managed for humans. In practice, however, she accomplished what no environmental advocate since has been able to: because she imbedded her arguments in a compelling and accessible form, Carson's *Silent Spring* changed public opinion and radically altered public policy toward the natural world.

Notes

1. *Since Silent Spring* (Boston: Houghton Mifflin Co., 1970) Frank Graham calls *Silent Spring* the "first outstanding work on ecology that had reached a wide popular audience." Rice Odell, in his 1980 *Environmental Awakening: The New Revolution to Protect the Earth*, dates the beginning of environmental politics from the controversy over *Silent Spring*. As Stewart Udall points out in his *The Quiet Crisis and the Next Generation* (Salt Lake City, UT: Peregrine Smith Books, 1988), Carson inspired legislation and government action. In their 1992 book, *Ecospeak: Rhetoric and Environmental Politics in America* (Carbondale:

Southern Illinois University Press), M. Jimmie Killingsworth and Jacqueline S. Palmer argue that *Silent Spring* is the most successful environmentalist book ever written."

2. Frank Graham, *Since Silent Spring*, 15.

3. Udall, *The Quiet Crisis and the Next Generation*, 198.

4. Carol B. Gartner, *Rachel Carson* (New York: Frederick Ungar Publishing Co., 1983) 86; Frank Graham, 50.

5. Karlyn Kohrs Campbell and Kathleen Hall Jamieson make a similar argument for the importance of form to rhetorical criticism in "Form and Genre in Rhetorical Criticism: An Introduction."

6. Edwin Black, *Rhetorical Questions: Studies in Public Discourse* (Chicago: University of Chicago Press, 1992), 97.

7. Northrup Frye argues for this use of form in *Anatomy of Criticism: Four Essays* (Princeton: Princeton University Press, 1957) 95-115.

8. Black, *Rhetorical Questions*, 111-112.

9. Lawrence Buell argues that the "great chain of being" is one of several persistent and pervasive "master metaphors" that infuse our understanding of nature in *The Environmental Imagination* (Cambridge, MA: Belknap Press of Harvard University Press, 1995) 281.

10. Buell, 294.

11. Leopold reversed traditional ethical systems that privileged human beings by changing the criteria for moral standing. Where philosophers had traditionally used either a religious world view (like Augustine's Chain of Being) or rationality to position human within nature, Leopold's Land Ethic uses biological function. In his pyramid, humans share the same level as other omnivores above plants and herbivores, but below the carnivores. Leopold outlines this pyramid in his 1949 *A Sand County Almanac* (New York: Ballantine Books, 1970), 251-258.

12. Carson, 85.

13. Carson, 188.

14. M.H. Abrams, *Glossary of Literary Terms* (New York: Holt, Rinehart and Winston, 1988) 4-7.

15. Carson, *Silent Spring*, 1. All subsequent page references refer to the Twenty-fifth Anniversary Edition of *Silent Spring* (Boston: Houghton Mifflin Company, 1987).

16. Carson, *Silent Spring*, 2.

17. Carson, 2.

18. Carson, 3.

19. Killingsworth and Palmer argue that Carson is the first to use this type of apocalyptic rhetoric in environmental discourse, a strategy that has become conventional. See *Ecospeak* (Carbondale: Southern

Illinois University Press, 1992) 66 and their "Millennial Ecology: The Apocalyptic Narrative of Carson's *Silent Spring*" (paper presented at the annual meeting of the Speech Communication Association, Miami Beach, Florida, November 1993).

20. Carson, 3.
21. Carson, 8.

Resourcist Language: The Symbolic Enslavement of Nature

by Mark S. Meisner

Introduction

Questions of "language" are becoming increasingly important to those who theorize about the relationships between humanity and non-human nature. However, within environmental thought (which includes environmental ethics, deep ecology, ecofeminism, environmental sociology, etc.) there is little work that addresses language and nature in any more than passing or abstract ways. In this literature, when "language" is referred to, what is meant by it is not always clear, and what is said about it seems to be little more than the initial observation that it is important. To make matters worse, many people use "language" in a metonymical way to mean ideas, speech, discourse, or simply the things people say. Such uses only serve to confuse the issues in question.

In this paper I will explicitly consider one key linguistic issue relevant to environmental thought and communications: resourcist language. By resourcist language I mean words and phrases which reflect and in turn re-present a resourcist ideology of nature. By itself, resourcist language is but one of a number of such issues of language that relate specifically to concerns with the view of nature that dominates in Western industrial society (See Meisner, 1991). However, it is perhaps the most obvious and important of these eco-linguistic issues. My contention, then, is that resourcist language is both an indicator and a key part of the utilitarian view of nature that dominates in Western industrial society.

The Resourcist Ideology of Nature

This work proceeds from the understanding that how humans view, and indeed speak about, nature has a profound effect on how we relate to non-human nature. In other words, the complex synthesis of human attitudes, knowledge, beliefs, values, images, myths, ideas, concepts, and root metaphors that make up how we think and feel about the natural world (let us call it our environmental worldview) are central to the so-called environmental crisis. In a simplified framework, I see the hegemonic anthropocentric and resourcist view of nature being challenged by an emerging ecocentric and experiential sense of nature. However, I should note that the emphasis here is on non-human nature, and this should not be interpreted as a denial of the importance of such things as ethnocentrism, androcentrism,

consumerism, etc. that characterize this same problematic worldview.

The idea that our view of nature is a central part of the environmental crisis has been widely discussed in the environmental thought literature, so I do not feel that I need to discuss it in detail here, except to summarize as follows (See, for example, Berman, 1981; Devall & Sessions, 1985; Evernden, 1985; Fox, 1990; Livingston, 1981b; McLaughlin, 1993; Merchant, 1980; Oelschlaeger, 1991; and Worster, 1985).

The anthropocentric-resourcist view of nature is characterized by the following six general beliefs: 1. an attitude of human-centredness, self-importance, and chauvinism towards the rest of nature (anthropocentrism); 2. the idea that non-human nature's only real value is its utility—material, aesthetic, or even spiritual—to humans as a resource (resourcism); 3. the idea that humans are separate and distinct from the rest of nature (dualism); 4. the view of humans as superior to and above other beings (hierarchy); 5. the perception that non-human nature is a collection of things or objects (reification or objectification); and 6. the idea that nature is a collection of discrete parts (reductionism).

In contrast to this is an emerging, diversely-interpreted, and contested alternative sense of nature which can be seen as comprising the following six characteristics: 1. an attitude of respect and humility towards other beings, human and non-human, whereby humans do not seek to dominate or control, but rather allow those other beings their freedom (ecocentrism); 2. the idea that non-human nature is valuable in itself, independent of any real or perceived value to humans (the intrinsic value of nature); 3. the view that humans are within and part of nature (unity); 4. the idea that humans are but one facet of nature, each of which is special in its own way, but none of which is superior (equality); 5. the perception that nature is a living, relational, embodied process (process); and 6. the idea that nature is a comprehensible and meaningful whole (holism). Central to this emerging paradigm of nature is the idea that it is not simply a different view of nature that is required, but also a different way of being. Thus, there is a call for humans to experience the world differently, to regain a sense of wonder about nature and to resist fixed views of it (Evernden, 1985; and McLaughlin, 1985 and 1993). It is for this reason that I call this sensibility ecocentric-experiential.

Since this paper focuses on just one dimension of the dominant Western view of nature, namely resourcism, that dimension bears some discussion. The concept of resourcism has been most succinctly described by John A. Livingston (1985, 4) as follows: "Resourcism sees the nonhuman world, which is *all* external to man [sic] and his [sic] structures, as raw material dedicated without reservation to the human purpose." Neil Evernden (1985, 23) goes so far as to suggest that this perspective holds a special place in our worldview when he says that "resourcism is a kind of modern religion which casts all of creation into categories of utility". What this means is that all of nature, including all other species, the soil, the water, the rocks, the air and so on, are seen as actual or potential economic and material resources for human use. As Livingston (1985, 5) continues, "the moment a human use is perceived in any thing, that thing becomes a resource."

The ideology of resourcism is decidedly economic in its outlook. Nature is valued as a resource to the human economy, concern for which seems to be an obsession in this society. Furthermore, in this view, all of nature is seen through the lens of economics and commerce, a point made by Max Oelschlaeger (1991, 287-288) in his description of resourcism:

The value of wild nature is construed strictly in economic terms, either directly through operation of the market according to "laws" of supply and demand, or indirectly through cost-benefit analysis. The market makes a mountain meadow worth more as a ski development and resort, complete with condominiums and shopping centers, than as a wilderness preserve.

In *Nature's Economy*, Donald Worster shows the historical intertwining of economics and ecological science, and argues that "the 'New Ecology' that emerged in the middle decades of the twentieth century sees nature through...the forms, processes, and values of the modern economic order as shaped by technology" (293). Not only does the extended economic metaphor of nature that permeates ecological science, and to a lesser degree society generally, suggest a degraded view of nature, but it also serves to reinforce the idea that nature is simply an extension of the human economy, thereby legitimizing our continuing exploitation of it.

Resourcism, however, is not limited to the material transformation of nature into human commodities. As Evernden points out, it can manifest itself in so-called non-consumptive uses of nature. For example, we have wilderness areas which are considered to be visual or aesthetic resources and which are deemed to be so through quantitative measurement. As he puts it, "even

landscape beauty is now being commodified through attempts to measure the shape of the 'stimulus' that provides the sensation we deem indicative of aesthetic superiority" (Evernden, 1983b, 10; see also Evernden, 1983a).

In addition to valuing nature as an aesthetic resource, we also see it as having spiritual value, life support value (human society depends on a viable ecosphere), recreational value (boating, hiking, birding etc.), scientific value (beyond its material applications, there are some who pursue science as intellectual entertainment), "symbolic instructional value" (nature can teach us how to live), psychological value (nature as an aid to human psychological development) and more (See Ehrenfeld, 1981; Fox, 1990, 154-161; Livingston, 1981b; and Rolston, 1986). In keeping with the demands of our economic obsession, many of these are also converted into economic terms in order to satisfy the evaluative criteria (money) of the decision makers.

Of course humans must use facets of non-human nature, just as all species "use" others to live, and such ways of valuing it are all genuine and normal. However, when non-human nature is valued solely for human purposes, and when it is seen as dedicated to human interests and in strictly economic terms, then there is a problem, namely resourcism.

Resourcism is not simply a perspective; it is a thoroughly institutionalized way of being. As Livingston points out, resourcism is part of industrial society's imperative towards "growth" and "development." The claim by former Premier of Quebec Robert Bourassa that the rivers of Northern Quebec are "wasted" resources, allowing millions of kilowatt-hours of potential electricity to flow unused into the sea until they are "developed" and "harnessed" by humans is illustrative of this. Furthermore, Livingston argues that the resourcist ideology is part of the deeply rooted idea that humans were put on Earth with the express (Divine) purpose of domesticating, "improving" and exploiting non-human nature. He calls this the "development imperative" (Livingston, 1985; see also 1981a).

As a final note on resourcism, I want to say that this attitude and ideology is not directed solely towards non-human beings. The exploitation and domination of humans by humans which is so evident throughout history and which continues today in more subtle ways is part of the same instrumental orientation to the world. Indeed, the principal argument of Leiss (1972), not to mention many ecofeminists and social ecologists, is that these two forms of domination have an intimate and shared history.

Language and Nature

Language is a central part of how humans view and

act in the world. It is both a tool we use and a place where we live. So, through the study of language we can learn about ourselves, and in this case, specifically about our relationships to the non-human world. Furthermore, discussions around language can also be used as doorways into dialogues on the social issues to which the language issues relate. But "language" means many things in different contexts. Here, I will use it to simply mean words and ways of arranging them. I therefore distinguish between what people mean to say (propositional content), and how they say it (lexical and syntactic choices). Given that, a key linguistic question for social change advocates—as Deborah Cameron (1985, 6-7) suggests in the case of feminist linguistics—must be that of "the relation between language and worldview."

The relationship between language and worldview is complex and uncertain. The Sapir-Whorf hypothesis asserts the theories of linguistic determinism and relativity (Whorf, 1956). Though the strong version of this theory is not widely accepted, a weaker version is (e.g. Fowler, 1991; Lakoff, 1987). So, as Paul Chilton (1988, 47) puts it, "instead of making absolute claims about the *necessary* determination of *all* thought by *all* aspects of language, it is more useful to ask which parts of language influence which speakers in which contexts and to what degree." In other words, we can say that language does not necessarily determine thought, but rather affects it; language does not set the limits of thought, but it does guide it in certain directions. This view is supported by Wendy Martyna who says of the Sapir-Whorf hypothesis: "it has come to be generally accepted in its moderate version: that language may influence, rather than determine, thought and behaviour patterns" (1983, 34).

Readers, or decoders of texts generally, come to their readings with an obvious diversity of experiences and perspectives. As a result, they may read very different meanings from the same texts. Similarly, different writers or encoders of texts may use the same words in different ways to try to put different meanings into texts. This is simply the polysemic character of language. However, it is not the case that meaning is simply wide open and anything goes, because for in large part meanings are constrained by dominant social discourses and meaning systems. Just as texts can be relatively open or closed, and have preferred readings, so too can words have preferred meanings arising from their use in specific discourses. On all of this see Hall et al. (1980).

Language is the dominant medium with which ideas of nature are socially constructed and maintained. Through language we encode, reinforce and legitimate categories, values, concepts, and feelings relating to the natural world. Since words suggest values, the words

we choose to name and characterize nature are a significant part of how we view it. Furthermore, language serves a powerful legitimating function and can tend to reinforce hegemonic ideologies. However, it is also a creative resource and provides opportunities for change and transformation. Language, thought, feeling, and worldview are then mutually shaping dimensions of an ongoing process of perception, conceptualization, representation, construction, legitimation, reproduction, and sometimes transformation of ideologies. There is no such thing as neutral language (See Berger & Luckmann, 1966; Connolly, 1983; Fairclough, 1989; Hall et al, 1980; Spender, 1985; and Williams, 1983).

The representational feature of language that most contributes to our social constructions of nature is metaphor. Since metaphors have been widely theorized (See for example, Black, 1979; Lakoff & Johnson, 1980; Ortony, 1979; and Sacks, 1979), and since I have explored their environmental significance elsewhere (Meisner, 1995), I do not feel I need to go into detail here. It is enough to say that metaphors are pervasive in our linguistic constructions of nature, and that all representations of nature draw upon them. They serve to cognitively and emotively massage our understanding of the world. George Lakoff and Mark Johnson (1980) assert that metaphors are part of thought and action as well as language. As they say,

...in all aspects of life...we define our reality in terms of metaphors and then proceed to act on the basis of the metaphors. We draw inferences, set goals, make commitments, and execute plans, all on the basis of how we in part structure our experience, consciously and unconsciously, by means of metaphor. (158)

In addition to thinking about metaphors, I also find the concept of linguistic registers useful for looking at issues of language and nature. A register is a variety of language that is particular to a field of use (See Cameron, 1985; and Fowler, 1991). In the case of words, we can speak of lexical registers that are associated with specific situations or discourses. As Fowler (1991, 84) suggests, lexical registers can "mark off socially and ideologically distinct areas of experience: they have a categorizing function." So, in the case of resourcism, it is possible to say that there is a lexical register associated with this environmental ideology.

However, this is not to say that only resourcist meanings can be read from such words; all uses of these words are not necessarily resourcist in their intentions or effectivity. Rather, I want to suggest two things. First, that resourcist readings are simply preferred from this register because of the resonance of the

words with hegemonic cultural values which see non-human nature as essentially only a resource. And second, that when there is an encoding of a resourcist (though that's not the word they would use...maybe a euphemism such as wise use or sustainable use) message through language, that this is the form it is most likely to take. In other words, it is from the resourcist register that resource extractionists and their public relations firms will tend to draw their vocabulary. At present in this culture, it is unlikely that a term such as "living beings" will be used by a pulp and paper association in place of "timber stand" or whatever.

Now, before exploring my taxonomy of resourcist language, I wish to introduce several clarifications of my project. First, the idea that I am out to police language use will undoubtedly have already occurred to certain readers. However, though it may disappoint you and deflect your charges of "PC!", I am not here to tell people what should and should not be said or what words should and should not be used. Rather, I only wish to point out that some of these words may be part of the problem. It's a subtle but important distinction, akin to the difference between education and legislation.

Second, I am not even criticizing all uses of these (to follow in the next section) sorts of words. I think that even though they tend to favour resourcist readings and perspectives, they can sometimes be used in ways that may ultimately help to erode—or at least get around—the resourcist ideology. For example, a dialogue employing a shared vocabulary can lead to collaboration among different stakeholders in environmental controversies. For example, Monte Hummel, President of the World Wildlife Fund of Canada employs code-switching tactics to better reach his more extraction-oriented audiences and begin the process of reaching a consensus on the mutual benefits of protecting certain wilderness areas. His reasoning is that when he talks to loggers using their language, it promotes their trust in him and the sense that he knows where they are coming from (Hummel, 1991).

Third, an exercise such as this is, by necessity, a form of abstraction. I am taking words out of the contexts of their use and making generalized claims about them. It's true. However, as I have said, I am not trying to claim that the meanings of these words are fixed. Furthermore, I arrived at this taxonomy after impressionistic and incidental discovery, as well as purposive and empirical research. I'm not pulling my examples out of the air.

My final clarification is to say that language is not a problem that needs fixing. Instead, I prefer to think of it—with apologies to Susan Sontag (1978)—as a sort of contagious symptom of an underlying disease. Treating

language will not make the anthropocentric-resourcist ideology and its behavioural, economic and structural manifestations go away. Thus language change alone would be nothing more than greenwashing. But language is a sign of something wrong and it is a way to get the people concerned to think about the issues. The recognition of patterns in the language we use to talk about environmental issues can only help us to better understand how those discourses shape actions. With that in mind, I now turn to my taxonomy.

Taxonomy of Resourcist Language

In this section, I will look at the resourcist register and outline a taxonomy of types of resourcist language. In doing so, I want to assert that resourcist language is a real phenomenon, and that having named it, we can now look at how its critique offers an opportunity. Furthermore, I should point out that though I am dealing here strictly with lexical issues, resourcism is also encoded through syntactical choices. Some readers may know that there have been passing remarks about this sort of language for some time, so as much my knowledge allows, I have tried to draw from those remarks to illustrate my taxonomy.

Resourcist language can take many different forms and occurs in many contexts. It can be thought of as any word or phrase choice which tends to imply that the value of a facet of non-human nature is simply its value to some human purpose. In other words, resourcist language is language which suggests that non-human nature exists to supply human needs and wants, be they material, economic, recreational, aesthetic, or spiritual. The following taxonomy is an analytical tool, and is meant to help make sense of the range and scope of the issues and to show examples of how language can reflect the various dimensions of resourcism. I am not attempting to catalogue all of the possible examples of these issues, only to illustrate them. Furthermore, just as the dimensions of the ideology are intertwined and overlapping, so too are some of the linguistic issues...

Managerial language is that which implies that humans do or ought to *control* and *manage* nature, as suggested particularly by the use of those two terms and their derivatives. It also includes language which metaphorically constructs wild nature as an agricultural crop. This includes such phrases as "tree farm," "harvest the fish stocks," "sustainable yield," "surplus," "weed species," "wasted resources" and so on. When applied to non-domesticated species, such phrases suggest that *all* of nature is necessarily under human control. However, as Livingston (1986, 25; see also 1981b, 29-30) says, you cannot *harvest* something that you have not *sown*. Such metaphors seem to

legitimize the Western industrialist agenda of global domestication.

Probably the most blatant type of managerial resourcist language is that which directly asserts a resourcist view. This includes words and phrases which carry the presuppositions of resourcism, including "conservation," "resource," "natural resources," "furbearer," "fisheries," "parks," "wildlife reserves," "logging," and "timber." These words are part of the registers of the forest-cutting, animal-trapping, and fish-catching industries. Livingston (1989, 241) has said this about the word "resource":

Here we must note the power of language.

The word "resource" implies human benefit, for example. But it also implies dedication to the human purpose of something that is non-human. Further, it insists on the human right, and even the human duty, to exploit it. This is why the use of the term "resource conservation" is so sadly inappropriate when applied to wild species, communities, and spaces. The expression itself indicates that we regard as property and utilities those very beings and places we would protect. It projects a tame or domesticated status upon all of wild nature.

Living beings that are labeled "resources" soon start to be seen only as resources. This implicitly denies all other facets of their existence, and encourages a myopic utilitarian worldview. To use words that presume resourcism is to subtly reinforce its way of seeing nature, and of being.

A variation on managerial language is what I call *proprietary language*. This consists of those terms or expressions which directly assert human ownership of facets of nature. Managerial language can imply or presuppose ownership, but it does not always come out and say it. Proprietary language does, so it includes the use of the possessive determiners "our," "their," and "my" to refer to facets of nature, as in "our land." It can also be manifested in such terms as "natural heritage," "legacy," "ancestral land," "territory," and in such phrases as "we've got fewer species left," and "we're losing ecosystems." Arguably the terms "public land" and "national forest" are also proprietary. Livingston (1989, 244) laments that many reform environmentalists use the proprietary "our" and "heritage" in their advocacy statements. Proprietary language reflects and reinforces an attitude of selfishness and possessiveness in relation to the rest of nature. But it is easily avoided as it represents a conceptualization that may be abandoned rather than re-worded.

Economistic language is another variation on the theme. It is language that characterizes nature in

metaphorical terms derived from the world of business, industry and economics. This includes such phrases as "bankrupting the resources," "biological richness," "ecological capital," "nature's interest," "impoverished habitats," "ecological inventory," "investment of resources," or ecology's "producers," "consumers," and "efficiency." In applying an economic metaphor--and the mode of thinking that goes with it--to nature, such terminology may be subtly reinforcing the utilitarian view that sees nature's only value as being to the human economy. As Livingston (1985, 8) puts it, "by seeing ecosphere [sic] as functioning in ways analogous to a human economy, it then becomes possible to perceive all of nature as a natural and necessary element of the human economy."

Furthermore, economic language may give a false idea of how or what nature is. For example, does nature really represent a form of *capital* which produces biological *interest* that can be skimmed off the top without affecting the ability of nature to continue to produce, as is believed by those (See IUCN, 1980; WCED, 1987) who advocate "sustainable development"? Donald Worster's *Nature's Economy* contains what is probably the best exploration of the application of economic thinking to nature. In particular he shows how ecology is pervaded by economics and how scientific ecologists use a predominance of economic metaphors in describing how nature "works":

The metaphors used here are more than casual or incidental; they express the dominant tendency in the scientific ecology of our time. In their most recent theoretical model, ecologists have transformed nature into a reflection of the modern corporate, industrial system. (292)

The implications of this, suggests Worster, are an increasingly technocratic, utilitarian, and managerial approach to nature.

In less obvious ways, resourcism can be implied in language through the entailments of certain metaphors of nature that themselves are not obviously resourcist. A key case of this is found in *mechanistic language*, in which nature or facets of it are variously constructed as some sort of machine. Familiar examples include clocks, spaceships, computers, airplanes and so on. A key entailment of a machine metaphor is that the machine requires an operator. So, to see nature as a technological system is both to reify it, and to see humans as the control mechanism for the system, thereby legitimizing even more human manipulation and domestication of nature. Another entailment is that the machine serves the purposes of some owner, and that owner is likely to be us. Again, the resourcism is implicit. Aside from metaphors which liken nature to

specific pieces of machinery, such generic terms as "repair," "maintain," "linked," "connections," "function," "works," "integrated," and "environmental technician" are also indicative of a mechanistic view.

A more recent version of mechanistic language is comprised of a set of metaphors that characterize nature as a system. Such cybernetic language includes words such as: "ecosystem," "natural system," "biocomputer," "spaceship earth," "the life-support system," "early warning signals," "interface," and "ecological information networks," for example. These technological metaphors are perhaps even more degrading and human-centered than their predecessors, the mechanistic models. And this is despite the fact that system metaphors appear to be more process-oriented and holistic. Livingston (1986, 25) expresses this point with irony:

Today the clockwork solar system is viewed as an amusing archaism. Now that we know better, this planet is viewed as either a spaceship or as a giant information network--depending on your preference. In the days of the clockwork planet and solar system, God was still keeping the pendulum moving. Today, guess who is at the controls of the spaceship and programming the great computer.

So as Livingston says, under such a view of nature, as on a spaceship or in a computer program, nothing can be left to chance; everything must be controlled. Similarly, Wayland Drew (1986, 21) had this to say about the spaceship earth metaphor:

'Spaceship earth', a current catch-phrase among environmentalists, indicates their cooptation by the technological rationale, for the spaceship is the absolute in technical perfection. In its operation there is no room for the irrational and nothing can be left to chance. The survival of those who inhabit it depends on their subservience to technical processes, and hence on their diminishment as humans.

The managerial imperative that these metaphors suggest represents a central conceit of the dominant worldview. These metaphors are both anthropocentric and resourcist as well as being an extension of mechanism.

Finally, resourcism may even be implied in various forms of *sublime language*. So, for example when we talk of the "beauty of a landscape" we may implicitly be making nature into a visual resource to satisfy human aesthetic desires (On seeing nature as a visual resource see Evernden, 1983a). "Beauty" is clearly part of aesthetics, but so too is "landscape" since its

meaning is scenery. A phrase like "nature appreciation" could also fall into this category, as could the use of such cultural metaphors of nature as a "mosaic", a "tapestry", a "symphony," or simply an "irreplaceable" art object. Benign as it may seem, there is nevertheless the potential for such language to reinforce an attitude of resourcism because of the way it lets us objectify facets of nature. A similar argument can be made for language that asserts the spiritual value of nature as a "cathedral forest," "sacred landscape," and so on.

The possibility that sublime representations of nature can lead to consumptive attitudes towards it is raised by Christine Oravec in historical and political terms in her 1993 paper, "To Stand Outside of Oneself." She suggests that the idea "that the sublime encourages the consumption of nature, or at least a consumptive attitude toward nature, is fairly widespread" (13). However, she also suggests that sublime representations of nature may encourage political action to defend it, though there is no guarantee of this result. For Oravec, the potential power of the sublime view is that it will encourage action, and if it doesn't, then it fails its rhetorical litmus test. Furthermore, as Evernden suggests (1983a), the degree to which a natural place is considered aesthetically valuable will have implications for its preservation, or, more likely, conservation. Those places that are valued are more likely to be defended and see legislative protection than those that are not seen as sublime. So, as John Rodman (1983, 85) puts it, "in general, esthetic considerations are very subjective and therefore shaky foundations on which to base any kind of ethic." It is not that non-human nature can not have aesthetic or spiritual value to humans, but rather that there exists the potential for this way of speaking to reinforce a resourcist ideology, however benign such versions of it may seem.

Conclusions

When we use resourcist language it is easy to forget that we are talking about living beings with their own lives independent of us. The practice of resourcism is akin to slavery, and more often than not, resourcist language only serves to reinforce the view of nature as existing solely for human purposes. However, despite the entrenchment of it in our vocabularies and ways of thinking, resourcist language is often avoidable. Again, I want to say that I am not attempting to tell people what a "correct" environmental vocabulary should look like, merely to suggest that there are other ways of speaking about nature than those currently used by many environmentalists. Furthermore, although my purpose is to critique various types of words for seeming to reinforce a resourcist view of nature, I do not want to suggest that mine is the only possible

reading of such words. What I do believe is that in some contexts these words can be seen in this way.

What alternatives are there to resourcist language? Generally speaking, there are four broad options available to those who may wish to affect language use and its meanings. First, they can avoid using certain terms altogether and thereby avoid the concepts and categories those words assert. The label "natural resources" seems an obvious candidate for this. Secondly, they can try to find different (existing) words for the same concepts. For example, instead of using "timber stand," one could say "forest community," and "biological diversity" instead of "richness." This use of different but existing words includes using new metaphors. So, instead of using mechanistic language, one could use organic metaphors such as nature as a living being which can be "harmed," "injured," "healed," and so on. These have the effect of suggesting not an inanimate object, but a being with its own subjectivity.

A third approach to language change is to try to introduce new words (neologisms) into the vocabulary, but this is rarely successful. The term ecocentrism comes to mind in this context as one that *has* started to take root, although I do have problems with its implication of any sort of centredness, when really what it is about is a de-centredness ("eco-decentrism"?). A final tactic is to try to take control of the meanings of the problematic words in the way such pejoratives as "queer" and "Quaker" have been re-appropriated by those who they were originally intended to insult. This is possible because meanings are in people and their discourses, and not in the words themselves. However, this strategy is a little bit different in the case of nature because it is not the animals and plants themselves that are speaking back. Nevertheless, I have noticed some people using the term "weeds" in this way, as a kind of term of endearment.

Changing the language we use to talk about non-human nature is not a solution. As I suggested, language is not the problem. Rather, it seems more like a contagious symptom of a deeper and multi-faceted problem that has yet to be fully defined. Resourcist language is both an indicator and a carrier of the pathology of rampant ecological degradation. Furthermore, language change alone can end up simply being a band-aid solution that gives the appearance of change and makes the problem all the less visible. In a recent article on feminist language reform, Susan Ehrlich and Ruth King (1994) argue that because meanings are socially constructed, attempts at introducing nonsexist language are being undermined by a culture that is still largely sexist. The words may have shifted, but the meanings and ideologies have not. The real world cure

for the sick patient matters more than the treatment of a single symptom. Consequently, language change and cultural change must go together with social-structural change. It is naive to believe either that language is trivial, or that it is deterministic.

In addition to being a site of struggle over the representation of nature, language debates can also be a part of environmental education. From my own experience, I have found that people who are unfamiliar with the issues of anthropocentrism and resourcism find discussions of language an accessible point of departure. So, debates about language, if framed correctly, can be the catalyst for debates about ideology and power, as well as about ways of living and being.

In this paper, I have outlined several ways in which I see certain word choices as having the potential to reflect and reinforce a resourcist view of nature. As indicated, I have presented these for consideration. The women's movement and the civil rights movement, among others, have noted and continue to explore the importance of language, but the environmental movement seems not to have done so in any systematic way. In particular, those advocating cultural transformation of human sensibilities of nature need to look specifically at the role of language in the degradation of the natural world. In this light I urge not a dogmatic code of linguistic behaviour, but rather a critical self awareness about language and a leadership by example wherever possible. New words can rupture old structures and plant seeds for new ways of thinking.

References

- Berger, P., & Luckmann, T. (1966). *The Social Construction of Reality*. Harmondsworth: Penguin Books Ltd.
- Berman, M. (1981). *The Reenchantment of the World*. Ithaca: Cornell University Press.
- Black, M. (1979). More About Metaphor. In A. Ortony (Ed.), *Metaphor and Thought*, (pp. 19-43). Cambridge: Cambridge University Press.
- Cameron, D. (1985). *Feminism and Linguistic Theory*. New York: St. Martin's Press.
- Chilton, P. (1988). *Orwellian Language and the Media*. London: Pluto Press.
- Connolly, W. E. (1983). *The Terms of Political Discourse*. Princeton: Princeton University Press.
- Devall, B., & Sessions, G. (1985). *Deep Ecology: Living as if Nature Mattered*. Salt Lake City: Gibbs M Smith Inc.
- Drew, W. (1986). Killing Wilderness. *The Trumpeter*, 3:1(Winter), 19-23.
- Ehrenfeld, D. (1981). *The Arrogance of Humanism*. New York: Oxford University Press.
- Ehrlich, S., & King, R. (1994). Feminist Meanings and the (de)politicization of the Lexicon. *Language in Society*, 23, 59-76.
- Evernden, N. (1983a). Beauty and Nothingness: Prairie as Failed Resource. *Landscape*, 27:3, 1-8.
- Evernden, N. (1983b). The Environmentalist's Dilemma. In N. Evernden (Ed.), *The Paradox of Environmentalism*, (pp. 7-17). Toronto: Faculty of Environmental Studies, York University.
- Evernden, N. (1985). *The Natural Alien: Humankind and Environment*. Toronto: University of Toronto Press.
- Fairclough, N. (1989). *Language and Power*. London: Longman.
- Fowler, R. (1991). *Language in the News: Discourse and Ideology in the Press*. London: Routledge.
- Fox, W. (1990). *Toward A Transpersonal Ecology: Developing New Foundations for Environmentalism*. Boston: Shambhala.
- Hall, S., Hobson, D., Lowe, A., & Willis, P. (Eds.). (1980). *Culture, Media, Language*. London: Hutchinson.
- Hummel, M. (1991). Interview by author. June 24. Toronto.
- IUCN. (1980). *World Conservation Strategy: Living Resource Conservation for Sustainable Development*. Switzerland: International Union for Conservation of Nature and Natural Resources.
- Lakoff, G. (1987). *Women, Fire, and Dangerous Things: What Categories Reveal About the Mind*. Chicago: The University of Chicago Press.
- Lakoff, G., & Johnson, M. (1980). *Metaphors We Live By*. Chicago: The University of Chicago Press.
- Leiss, W. (1972). *The Domination of Nature*. New York: Braziller.
- Livingston, J. A. (1981a). *Arctic Oil: The Destruction of the North?* Toronto: Canadian Broadcasting Corporation.
- Livingston, J. A. (1981b). *The Fallacy of Wildlife Conservation*. Toronto: McClelland and Stewart Limited.
- Livingston, J. A. (1985). Moral Concern and the Ecosphere. *Alternatives*, 12:2(Winter), 3-9.
- Livingston, J. A. (1986). Some Reflections on Integrated Wildlife and Forest Management. *The Trumpeter*, 3:3(Summer), 24-29.
- Livingston, J. A. (1989). Nature for the Sake of Nature. In M. Hummel (Ed.), *Endangered Spaces: The Future for Canada's Wilderness*, (pp. 236-248). Toronto: Key Porter Books Ltd.
- Martyna, W. (1983). Beyond the He/Man Approach: The Case for Nonsexist Language. In B. Thorne, C. Kramarae, & N. Henley (Eds.), *Language, Gender and Society*, (pp. 25-37). Rowley, MA: Newbury House Publishers, Inc.

- McLaughlin, A. (1985). Images and Ethics of Nature. *Environmental Ethics*, 7:4(Winter), 293-319.
- McLaughlin, A. (1993). *Regarding Nature: Industrialism and Deep Ecology*. Albany: State University of New York Press.
- Meisner, M. (1991). Language and Nature: Are Our Words Environment Friendly? *Probe Post*, 14:2(Summer), 18-20.
- Meisner, M. S. (1995). Metaphors of Nature: Old Vinegar in New Bottles? *The Trumpeter*, 12:1(Winter), 11-18.
- Merchant, C. (1980). *The Death of Nature: Women, Ecology and the Scientific Revolution*. New York: Harper and Row.
- Oelschlaeger, M. (1991). *The Idea of Wilderness: From Prehistory to the Age of Ecology*. New Haven: Yale University Press.
- Oravec, C. (1993). To Stand Outside of Oneself: The Discourse of the Sublime in the Natural Landscape. In M. J. Killingsworth & J. G. Cantrill (Eds.), *Proceedings of the Conference on Communication and Our Environment*, (pp. 5-19). Marquette, MI: Northern Michigan University.
- Ortony, A. (Ed.). (1979). *Metaphor and Thought*. Cambridge: Cambridge University Press.
- Rodman, J. (1983). Four Forms of Ecological Consciousness Reconsidered. In D. Scherer & T. Attig (Eds.), *Ethics and the Environment*, (pp. 82-92). Englewood Cliffs: Prentice-Hall, Inc.
- Rolston, H., III. (1986). *Philosophy Gone Wild: Essays in Environmental Ethics*. Buffalo: Prometheus Books.
- Sacks, S. (Ed.). (1979). *On Metaphor*. Chicago: The University of Chicago Press.
- Sontag, S. (1978). *Illness as Metaphor*. New York: Farrar, Straus and Giroux.
- Spender, D. (1985). *Man Made Language*. (2nd ed.). London: Routledge & Kegan Paul Ltd.
- WCED. (1987). *Our Common Future*. Oxford: Oxford University Press & World Commission on Environment and Development.
- Whorf, B. L. (1956). *Language, Thought and Reality: Selected Writings of Benjamin Lee Whorf*. Cambridge: The M.I.T. Press.
- Williams, R. (1983). *Keywords: A Vocabulary of Culture and Society*. London: Fontana Paperbacks.
- Worster, D. (1985). *Nature's Economy: A History of Ecological Ideas*. (2 ed.). Cambridge: Cambridge University Press.

The Great Lakes: Public Knowledge and Perceptions of Environmental Issues

by Elaine Falk Katz

The EPA/GLNPO Program: An Overview

Into its scientific program of research and surveillance aboard the research ship, The Lake Guardian, the U.S. Environmental Protection Agency's (EPA) Great Lakes National Program Office (GLNPO) designed a public outreach, education and research program which:

- Invited the public aboard the floating laboratory ship to learn how scientists gather data about the physical, chemical and biological conditions of the Great Lakes;
- Invited educators and their students aboard to learn about the scientific programs and provided them with suitable classroom materials about the Great Lakes;
- Initiated research designed to assess (1) effectiveness of educator and student materials and programs; (2) attitudes and knowledge of Great Lakes publics about their visit aboard The Lake Guardian and about issues crucial to their lives and the future of the Great Lakes.

Results of the project include: improvements in educational programs; identification of knowledge and opinions of Great Lakes publics on key issues; identification of demographic characteristics of publics; plans for further research and future outreach programs.

Planning the Program

Since 1991, the EPA/GLNPO has combined outreach to the public and to educators and their students with the scientific work of the research ship, The Lake Guardian. The public information program began with the opening up of the scientific ship, as it visited some 16 different ports each year, to the public on one day, and for the next day, tours by appointment for teachers and their students.

Target publics in cities scheduled for a visit by The Lake Guardian, included teachers and their students contacted through curriculum directors of local public schools, and the general public, contacted through newspaper and radio/TV messages issued by the Public Affairs office of EPA region 5.

The program goal for each public was to enhance their knowledge of Great Lakes water remediation programs and the scientific studies sponsored by the EPA. Specific objectives were: (1) to provide teachers

and their students informational materials to be studied in class, and to provide an inspirational-educational tour of the research ship in each port and (2) to provide for the public an educational tour that increased specific knowledge of water research and remediation programs and enhanced their appreciation of the work of the U.S. EPA and GLNPO.

As the program of public information gained momentum, it became clear that the program objectives could only become measurable through research designed to answer such questions as: Who among the publics were attracted to the ship-program; what were they learning; what changes might need to be made in parts of the program? Under a Cooperative Agreement Grant, a nonprofit firm, Health Education Research, Inc., was retained to develop the research plan.

A long-term research goal of "informed consent" was established to undergird the short-term research objectives. Informed consent of the public means that agreements may be reached between the publics and government agencies, based on the public's knowledge that actions to be taken are beneficial—even if certain disagreeable economic or personal consequences may follow. Informed consent can only be achieved by public information and education programs. The type of research initiated through The Lake Guardian program is critical, so that public knowledge and attitudes can be assessed and addressed. Therefore, the research was designed to extend beyond the knowledge of how the publics liked their visits and what they learned from their visit to the ship, to: Who were the publics; what is their use of Great Lakes facilities; their feelings of personal responsibility for environmental issues, and their understanding of Great Lakes issues of pollution, environmental control and clean-up.

Additionally, the research was designed to determine whether and how the publics: understood the EPA's Great Lakes Program; appreciated the Lake Guardian mission and the work of the scientists; learned from their experience with outreach materials and tours; and how public information and education programs reached their targeted publics and whether and how programs could be generally improved.

Conduct of the Research

Pilot Test. A test of the research methodology in 1992, consisted of 1) a phone survey to 100 visitors to

The Lake Guardian who had voluntarily signed their names and phone numbers into a "log" book, matched with 100 members of the general public chosen randomly from the same sites; and 2) development of packets of educational materials to be used in classrooms and a quiz for students to determine what they had learned from their visit to The Lake Guardian. Educator responses were voluminous and resulted in many changes in the workshops conducted by the University of Michigan, Center for Great Lakes and Aquatic Sciences, where teacher workshops were being planned and conducted. Revisions were made in the telephone survey and the educator/students materials for the 1993 research program.

Survey Findings: The Completed Research

Educational — Teachers. Research returns from teachers from grades one through college level showed that for most of them The Lake Guardian visit was a first in environmental field trips. Teachers noted that if communication to students about environmental issues is to have some reality, educational trips and materials must be infused into varieties of classes including social studies, art and music—in addition to science. Teachers specifically want: grade-level-appropriate projects on how to clean up the Great Lakes. Teachers want information to send home for family usage; they want to know how to form "environmental" clubs and where to send students to summer camps dealing with environmental issues. College professors noted that computer software dealing with Great Lakes issues would be helpful.

Educational — Students. The largest group of students were from grades one through nine, with the first five grades most enthusiastic about their visit, and the students from grades one through eight most likely to tell their families what they learned from The Lake Guardian program—a significant communications effect, planned in the handout materials. A 12-question true-false quiz designed to help teachers find out what students learned from handouts and from The Lake Guardian tour, show specific conceptual difficulties in teaching about industrial pollution, harmful algae, acid rain, and fresh water supplies. Easier to grasp generally, were the concepts of how harmful trash can be, how The Lake Guardian functions as a non-polluting ship, and how fish can suffer ill effects from toxic chemicals.

Although findings of the educational portion of the survey are directed principally to the University of Michigan where educator workshops for the Great Lakes are being prepared, the results can be considered generally useful in teaching grades one through nine especially.

The Publics. Data from the EPA's completed

GLNPO research clearly depicted several types of publics. The EPA survey's demographic, knowledge and opinion outcomes were compared to other major national research, such as the 1990 publication, "The Environment: Public Attitudes and Individual Behavior" commissioned by S.C. Johnson & Son, Inc. and conducted by The Roper Organization; and the 1991 "Environmental Consumerism: What Every Marketer Needs To Know", by J. Ottman Consulting, Inc and Research alert. High levels of coincidence in research generally are indicative of a good base of reliability, and in the case of the EPA study, the coincidence of demographic data was outstanding.

The Johnson study categorizes American consumers into five distinct groups when it comes to environmental attitudes and behaviors, ranging from Brown to Green. Two groups, about one-quarter of the national population are environmentalists; two others, a little over one-half of all Americans—are not. A fifth group, the remaining one-quarter is considered the "swing" group on environmental matters.

By opening The Lake Guardian ship to the public, the EPA appealed to the publics who are most interested in environmental issues, who can be activated by communications messages. Visitors to The Lake Guardian resemble the Johnson studies' two environmental groups, the "True Blue Greens" and "The Greenback Greens". The Lake Guardian visitors are clearly environmental leaders and actively involved in pro-environmental practices; they are well educated; and rather affluent. They are younger than the general public, with a median age of 38; they are more concerned with and perceive more environmental problems, yet they are more hopeful about the future of environmental control and more aware of progress being made. The Lake Guardian visitors, like the "Greenback Greens" who are willing to pay to improve the environment, are also well educated and affluent and are most likely to have young children.

The "Grousers" and "Basic Browns" of the Johnson study constitute the groups least involved and interested in environmental activities because they think others are not doing much either or that indifference is the mainstream. These two groups are less affluent and less well educated than the environmentalists. The Lake Guardian study findings showed that persons who received communications issued by the EPA through local newspapers or radio/TV messages, but chose not to come aboard The Lake Guardian, and those who were unaware of the communications from the EPA, closely resembled the Johnson study groups' findings regarding the non-environmental Americans. These publics, from The Lake Guardian study, are not only less aware of problems of pollution in the Great Lakes, they are less likely to take action to become informed,

and at the far end of the group called "Basic Browns" are those who feel the government interferes too much; these are persons who would be unwilling to be part of environmental programs, or might oppose them.

Like the Johnson study's non-environmental groups, persons who did not come aboard The Lake Guardian are older, with a median age of 43; principally come from two-person households in smaller communities, and are most often retired or homemakers, with few or no young children at home.

The persons phoned at random to determine the differences between The Lake Guardian Visitors and others in the population, clearly demonstrate that communications can be "tuned out", ignored, or may even be considered an irritant to certain groups within the publics. Clearly, communications concepts must be tested and targeted carefully if environmental programs are to be maintained as a desirable goal for the nation.

Owning a Great Lake. The research identified that The Lake Guardian visitors take ownership of a specific Great Lake, far more often than do persons phoned randomly. The hypothesis leading to the question posed early in the telephone study "do you consider one of the Great Lakes to be your lake?" was that persons living near a Great Lake would know more and have more opinions about "their" lake and therefore would be likely to respond better to the survey generally and in specific questions. In this study, all respondents lived near a Great Lake since only port cities were involved. The Lake Guardian respondents not only claimed the lake they lived closest to as "their" Great Lake, they are more active in using lake facilities for fishing, jogging, walking, swimming, etc. Almost one-quarter of the respondents called randomly said they never even go to the lake, and one-third of the random respondents said they see no problems at all with lake water quality. Although The Lake Guardian visitors are more aware of the problems in water quality in "their" lake and in the Great Lakes generally, they rate water quality higher and believe water quality is improving, far more than persons called randomly. In fact, the randomly called public rated only Lake Erie as showing any improvements, all others as worsening.

Ten major Great Lakes problems used in the survey to determine levels of public awareness of pollution were specified by EPA technical staff as: acid rain, sediment pollution, chemical run-off from farms or cities, industrial dumping of chemicals, PCBs, DDT in the lake, intrusion of exotic species like the Zebra Mussels, lake fish unsafe to eat, lake unsafe for swimming. The Lake Guardian visitors were significantly different from the random respondents in their

assessment of all 10 environmental problems--they rated 8 problems as "major" and only the safety of eating lake fish and exotic species as "minor", and were unlikely to say they had "no opinion". The random respondents did not perceive problems or had no opinions. Findings from the survey show significant differences not only by visit to the ship, but in the perception of problems by lake, size of community, and type of problem--all potentially helpful in shaping EPA environmental policy and communication programs.

Lake Guardian visitors were more likely to feel that they personally could take action to help improve water quality in their lake, than did the random respondents. And there was a strong relationship between the perception of respondents that they can do something to help improve their lake's water quality and their perceptions of the numbers of major problems they perceived. The higher the number of problems, the more the respondents were inclined to feel there should be proper waste disposal, an increase in public awareness about environmental issues, recycling programs, etc. Inclination to take personal responsibility to help improve water quality, to take some actions about the environment, also correlates positively with Lake Guardian visitors who go to the lake often and belong to environmental organizations.

Better rule enforcement by government agencies, especially restrictions on chemicals, and fines for industries that pollute the Great Lakes, are strong beliefs among The Lake Guardian visitors. Almost none of the Lake Guardian visitors were inclined to want fewer restrictions or enforcement by government agencies, whereas the random respondents, especially those who recognized few or no problems with lake water quality, would be unwilling to take personal actions or to have governmental controls.

When asked who should be responsible for monitoring the quality of the Great Lakes, there were significant differences between The Lake Guardian visitors and persons called randomly. The EPA nationally was most often designated by The Lake Guardian visitors, whereas the random respondents for the most part did not know, or thought it might be state government. There is a very strong mandate for the EPA to pursue environmental activities in the Great Lakes, based on responses to the question of whether the agency is putting too much, too little, or about the right amount of emphasis on Great Lakes work. There is a dramatic increase in the percentage of respondents who wish the EPA would do more, as they perceived more problems in the lake. The mandate for EPA to pursue environmental activities principally came from The Lake Guardian visitors, but one-third of those called randomly thought the emphasis was about right and even more, 46% thought it might be too little.

When asked how they heard about the research ship, local newspapers were the highest ranking especially in small communities, for both The Lake Guardian visitors and persons called randomly. TV was a distant second, and word of mouth was third. Direct knowledge, by having seen the ship in port, also ranked high for the Lake Guardian visitors; thus there is the possibility that for environmentally conscious publics, special events and activities are an excellent channel of communication.

Evaluation

As a result of this study, the U.S. EPA has an empirical basis on which to plan and execute future outreach programs concerning the Great Lakes, for the citizen publics who rely on the vast waters for food, transportation, recreation and entire way of life. The agency is now extending The Lake Guardian study into a baseline research program of the entire eight-state area bordering the Great Lakes, not just the peripheral port cities. With this new research effort, the U.S. EPA's GLNPO can plan and execute future outreach programs based on the opinions of residents concerning the pollution of the lakes, water quality, clean-up efforts, governmental and industrial responsibility for lake water, and private individual and group responsibilities for the Great Lakes.

A Phantom Audience for Environmental Journalism?

by Len Ackland

As the battle over the federal budget began in February 1995, Secretary of the Interior Bruce Babbitt urged Congress to retain the Department's scientific units, which he considers key to policies supporting a sustainable environment.

"Good science is essential to good land management," Babbitt said. "Without a solid basis in fact, management and regulatory decisions will be based on politics and ideology."¹

Babbitt aimed his argument at two principal audiences: the members of Congress who would soon be debating the budget, and the general public who elected these politicians and would vote on them again in the future. The news media duly delivered Babbitt's message to the public, which, according to democratic theory, would add it to other information in order to rationally sort out this debate.

Unfortunately, a sizable percentage of the public may not appreciate either good science or the need for it. Some 79 percent of American adults flunked an elementary science survey conducted by Louis Harris & Associates and the American Museum of Natural History in spring 1994. Only 21 percent of the 1,225 adults questioned scored 60 percent or better on 20 questions that examined basic knowledge of subjects including space, Earth, and the environment. A majority didn't know, for example, that the Sun and Earth are in the Milky Way galaxy, one-third thought that humans and dinosaurs lived at the same time, and 46 percent said that human beings had not developed from earlier species of animals.

"The message here is clear and simple," said Ellen V. Futter, the museum's president and a former president of Barnard College. "Americans do not know enough about science or the scientific process."²

Additional evidence that nearly half of all Americans dismiss evolutionary science and don't understand basic Earth history was provided by two Gallup polls from recent years. In a 1993 poll, 46 percent of the respondents agreed with the statement that "God created man (sic) pretty much in his present form within the last 10,000 years." Two years earlier 47 percent picked this creationist view, up slightly but within the margin of error of the 44 percent who chose this answer in 1982.³

To be sure, these poll results are suggestive rather than definitive. The double-barreled nature of the polls' statement (God and the time period) makes interpretation of the polling data problematic. Also, a

somewhat more optimistic conclusion about the public's sense of history and science could be drawn from the full half of the survey. In the 1991 poll, for example, 40 percent agreed that "Man has developed over millions of years from less advanced forms of life, but God guided this process including man's creation." Another 9 percent expressed a strictly secular view of evolution.

The results of the Harris and Gallup polls indicate that a large percentage of Americans see the world through creationist goggles and an even larger percentage is scientifically illiterate. Although these two conclusions converge because both involve a certain ignorance or denial of science, that is not in and of itself the critical observation with regard to environmental issues.

More importantly, the survey findings -- when placed into the context of the contemporary U.S. environmental debate--say something disturbing about public thoughtfulness. They suggest a constricted public ability to think critically and reflectively about complex issues.

If the problem were simply scientific illiteracy, the fix might be seen in more science classes and the like. But "environment" encompasses much more than scientific understanding. It takes in culture, politics, economics, history, and technology as well as science. Indeed, the absence of formal science has not impeded, some may even say it has actually enhanced, the ability of individuals and cultures to do an excellent job caring for the "environment" -- the places where we live, work, and play. Cultures living in harmony with nature do best in caring for the environment in the long run. Such a long-term view is expressed by many Native American nations, such as the Navajo, who speak about making decisions valid for at least seven generations. The sense of environmental sustainability and the caring, long-term approach embodied in this outlook are assumed in this paper to be high priority global goals.

Creationists don't necessarily disagree with such goals. In fact, some evangelical Christian congregations have begun advocating a Bible-rooted approach to the environment, stressing that people have a responsibility to care for God's creation. "Green Cross," a new evangelical magazine carrying articles about congregations that save energy or reduce waste, began publication in fall 1994.⁴

What happens, however, when environmental

policies clash with economic desires, when contradictory evidence is presented and people must make or endorse tough choices? And when the evidence is presented in scientific terms, as is often the case with environmental controversies over everything from clean drinking water to global warming, how does that large number of creationists evaluate the argument?

The answer depends, in my opinion, on a person's ability to think reflectively. An insightful model of such thinking has been elaborated by Patricia M. King and Karen Strohm Kitchener in their 1994 book *Developing Reflective Judgment*.⁵ They note similarities between "reflective thinking" and "critical thinking," the latter defined usually as a set of problem-solving skills and inductive and deductive logic used to solve "well-structured" problems such as chess or puzzles, for example. Reflective judgment is more than critical thinking. Building on John Dewey's focus on problems where no clear-cut solution is readily identified and uncertainty is high, King and Kitchener argue that reflective judgments begin with an awareness of uncertainty. "Such judgments involve integrating and evaluating data, relating those data to theory and well-formed opinions, and ultimately creating a solution to the problem that can be defended as reasonable or plausible."⁶

Reflective judgment is particularly relevant for complex or "ill-structured" problems such as those involving the environment. The way people frame the problems and justify their answers reflects their pattern, or stage, of thinking, according to King and Kitchener, who lay out seven stages of development. Thus a person holding creationist views but having attained stage 7 of reflective judgment may see the 7-day Christian creation story as simply a creation myth just as most religions have creation myths. This person would be open-minded rather than dogmatic.⁷ A person in stage 2, by contrast, assumes that knowledge is absolutely certain, although not immediately available, and comes either through the senses or from authority figures.⁸ Creationists in this stage of thinking would accept the 7-day version literally.

Although the Gallup surveys cited above can't be parsed so specifically, the prevailing view is that many if not most creationists are literalists. From that perspective, notes Professor Stewart Hoover, a University of Colorado religion and media expert for whom the 1993 Gallup poll was conducted, "The creationist world view is fundamentally inimical to scientific approaches to evidence."

Thus, the most troubling conclusion from that poll and the others mentioned above is that a large number of people lack the ability to weigh evidence and judge arguments, many of which are packaged in scientific terms, about increasingly controversial environmental

issues. If belief and ideology can willy-nilly be substituted for fact, then reflective thinking is not being practiced.

This paper will argue that the public's ability to think critically and reflectively about environmental issues didn't matter as much in the past as it does today. At the beginning of the contemporary U.S. environmental movement some 30 years ago, a broad public consensus existed which encouraged public policies aimed at preserving the environment. While conflicts over the impact on jobs occurred even in the 1960s and 70s, the vast majority of people wanted a clean environment. Part of the reason for the consensus was that the "ouch factor" -- the economic cost to individuals -- of environmental preservation was perceived to be relatively low.

By the mid-1990s, the terms of discussion have changed. Although the public continues in poll after poll to voice support for an unpolluted environment, environmental-economic tradeoffs -- oversimplified as in the "owls versus jobs" debate -- have resurfaced vigorously. The arguments are fiercer, the potential individual sacrifices greater, and the need for public understanding more crucial. The understanding is often missing. In a January 1995 Time/CNN poll, for example, 66 percent of the respondents said that "a landowner barred from establishing a toxic waste dump on his property" should not be compensated by the government, while 64 percent said that "if the value of a person's land is reduced by environmental regulations" that person should be compensated by the government.⁹

After a discussion of the relationship between science and environmental issues and a critique of the public's role, this paper will turn to a narrative about the 1960s - 90s period in order to demonstrate the complex interplay of actors engaged in environmental journalism and decision-making.

Science and the Environment

A scientific approach is distinct from science itself. A scientific approach sets standards by which evidence is evaluated. Hypotheses are developed and then tested. Depending on the results, the hypothesis is reinforced, refined, or negated. Experiments must be reproducible. When purported results can't be reproduced by other researchers, as in the notorious case of cold fusion in the early 1990s, they are declared erroneous.

Above all, a genuine scientific approach demands an ability to think critically about subjects, including science. Science is a process which seeks to explain the workings of the universe, but by its very nature is filled with uncertainty and politics. Complete certainty is not needed for scientific knowledge to be applied.

Physicists in 1945 hadn't found the "top quark," but that didn't stop them from creating the atomic bomb.

The uncertainty surrounding any particular scientific issue can be thought of as an orange peel, which can vary in thickness depending on the maturity of the science and the phenomenon being examined. Increased knowledge is the fruit of scientific exploration and improved technology, but 100 percent certainty is rare. Thus, as will be discussed below, uncertainty can be used as a political tool. For any particular issue, whether dioxin or global warming or ozone depletion and so on, if people are not to be conned they need to understand the scientific process and at least recognize that an often fuzzy line exists between knowledge and uncertainty.

The professionalized practitioners of science, the scientists, often try to narrow the discourse to their own area of expertise and then appeal to their authority to monopolize the discussion. An example of this is the "nuclear priesthood" which dominated the nuclear arms race with technospeak. Eventually these technopriests were challenged by citizens increasingly concerned about the very non-scientific ramifications of global nuclear holocaust.

The Earth's environment is a subject where Ph.D. scientists have had to share their authority with the public. Everyone has a claim to nature and ecology, the study of nature's interrelatedness. "The persistence of this moral undercurrent in an increasingly quantified discipline means, for one thing, that mid-twentieth-century ecology belongs to the lay mind -- to the amateur naturalist and the conservationist -- as much as to the scientific establishment," writes Donald Worster. "Ecology has always been unusual among the sciences in its accessibility to the ordinary student of nature; throughout its history it has been shaped by and responsive to the everyday life of all sorts of people: farmers, gamekeepers, foresters, bird watchers, travelers."¹⁰ Along with its authority, the public bears responsibility for the environment's safekeeping over the long run.

The Public Role

A central theoretical concept of democratic societies is that the mass media make available information which is used by a citizen population to make rational decisions about important issues. And journalists, at least ideally, are people dedicated to understanding how the world works and to communicating accurate information to help the public sort out fact from fiction. At the core of this model, and its endless variations, is the notion that good journalism ultimately contributes to good public policy.

Skepticism about the ability of the public to remain informed is itself not new. John Dewey, for example,

contended that the technological developments of the late 19th century had broken down the idea of community. "The Great Society created by steam and electricity may be a society, but it is no community. The invasion of the community by the new and impersonal mechanical modes of combined human behavior is the outstanding fact of modern life."¹¹

Dewey worried that sophisticated entertainment and propaganda technologies allowed the public to be manipulated and distracted. He saw the public as "lost" and "bewildered," but still was confident that education and participation in politics could restore the public's role and revalidate democracy.

Walter Lippmann was less optimistic about the public's ability to fully participate in democratic decision making. He argued that the complex realities of the 20th century had passed the public by, leaving them too ignorant or disinterested to rationally affect policy. For him, the public had become a "phantom."¹² Leadership would be exerted by enlightened technocrats whose control of public opinion through propaganda and censorship would let them govern efficiently.

The world perceived as complicated by Lippmann and Dewey in the 1920s has grown more so. Scientific and technological advances have enabled scientists to better understand the Earth and entrepreneurs to better manipulate it. At the same time, some advances in knowledge have imperiled the Earth -- in the short term with incredibly destructive nuclear weapons and, in the long run, with unsustainable exploitation and destruction of resources and the environment.

Global warming, ozone depletion, toxic hazards, and desertification, coupled with socio-economic problems such as population growth in developing countries and excessive consumption by industrial nations, are among the environmental issues that have risen on the agenda in the aftermath of the Cold War.

The industrial and post-industrial information ages have generated their own elites, or vice versa, from the nuclear priesthood to the telecommunication moguls. Within the broader public a subgroup has been identified as the "attentive public," comprising perhaps 20 to 25 percent of the public. These are the people who, among other things, read newspapers, watch public television, and are active in the political process.

Clearly, in this day of specialization few people have the luxury of trying to stay abreast of pressing environmental and other public issues. Yet, these attentive people are themselves dependent to a large degree on the mass media for their information. These media are increasingly directed by accountant executives who have become more attentive to their profit margins than their "4th Estate" role as guardians

of democracy.

Driven by the broadcasters, "news" is increasingly packaged as entertainment. The "National Enquirer" has become the pacesetter in print and television alike. The media take the easy route by pushing the latest sex scandal or crisis rather than providing thoughtful information about serious public issues, from health care to environmental sustainability. Under these conditions even the attentive minority is unlikely to stay informed for long.

The attentive public focus also underestimates the catalytic function of public opinion, whether in support of good policies or bad. This function can be seen in the way environmental issues have played out over the past 30 years, involving the complex interplay among scientists, the media, the public, corporations, and policymakers.

From Carson to the Contract

Until the early 1960s, U.S. scientists generally viewed the Earth's environment in two different ways, according to the eminent geographer Gilbert White. First, it was territory to be surveyed -- the approach of John Wesley Powell and the U.S. Geological Survey -- and then it was a resource to be developed -- epitomized by the dam builders of the Bureau of Reclamation.¹³ Industrialization and development meant progress, and progress was good.

By mid-century, scientific research was beginning to turn up worrisome negative effects of industrial operations and chemicals, but they remained off the public screen. Rachel Carson was the first to gather such findings from obtuse technical journals, translate them, and, in her 1962 book *Silent Spring*, present strong evidence about the impact of modern industrial life on the environment.¹⁴ Her description of poisons such as DDT working their way through the food chain to kill birds inspired articles in the mainstream media and an increased awareness among the public.

The mass media's "discovery" of the environmental risks identified by Carson led journalists to pay more attention to environmental scientists and generated numerous articles. By their extensive coverage, the news media put environmental concerns on the public agenda and contributed to the public activism that created the first Earth Day in 1970.¹⁵

Did people become engaged with environmental issues because the articles conveyed technical scientific data that persuaded them that the risks of inaction were too great? That is unlikely, according to subsequent studies of audience behavior. "Getting technical information into the media isn't only difficult, it is close to useless," writes Peter Sandman, citing his earlier 1991 study. "Technical information might be expected to reassure people that the experts are on top of the

situation; or it might frighten them with all those polysyllabic words and scary possibilities; best of all it might reassure them when the hazard was low and frighten them when it was high. Instead, it simply doesn't matter -- or, at least, we have yet to find a way to make it matter."¹⁶

If the scientific substance of news articles didn't arouse public opinion, what did? Allan Mazur and Jinling Lee identify "the amount of coverage rather than its substantive content, as the primary driver of audience negativism." They write, "There is by now considerable documentation that public opposition to controversial technologies, and public concern about environmental hazards, rise and fall with the volume of reporting, even in instances like fluoridation where the tone of coverage is generally positive."¹⁷

That argument, however, doesn't explain why certain issues get more coverage than others. As anyone familiar with a newsroom knows, part of the reason has to do with outside events and part with the interests of editors ("when my editor gets a cold he thinks there's an epidemic"). But the largest part has to do with the reporters. Particularly with specialized subjects, such as science, technology, and the environment, reporters usually decide if an issue is worth covering. The quality of their decisions depends on their own knowledge and ability, which can run the whole range from A+ to F. Even the better reporters are not experts, of course, but they must be knowledgeable enough to weigh the importance of an issue if they are to produce well-researched stories which accurately portray, among other things, that science is a process rather than a product.

The increased environmental coverage in the 60s brought more scientists out of their labs and into the public sphere. Their motives were as high and low as any other profession's. While some may have been motivated by their desire for increased research funding, others emerged, despite their queasiness about journalists "misquoting" them, in order to inform the public.

In the late 1960s, the respected International Council of Scientific Unions named a special committee to address problems such as global environmental monitoring, the toxicology of ecosystems, and the methods of assessing environmental impacts.¹⁸ A few years later, the 1972 Stockholm Conference on the Human Environment gathered together scientists and policymakers from around the world to discuss mutual concerns.

The major U.S. policy response to the discovery of environmental problems came from the Congress. By the mid-1960s, laws such as the Clean Air Act and Water Quality Act had been passed, followed in the late 60s and 70s by a series of laws that laid the legal

groundwork for the nation's environmental policy. The laws included the National Environmental Policy Act, Occupational Safety and Health Act, Federal Water Pollution Control Act, the Endangered Species Act, the Clean Water Act and the Resource Conservation and Recovery Act. The federal Environmental Protection Agency was created. A similar spate of legislation was passed on the state and local level.

At this stage, most laws dealt with visible pollution -- dirty air and dirty water. Members of the public didn't need to know chemistry or biology to see that their favorite fishing streams had turned brown and scenic views were hidden behind layers of smog. They wanted action which promised to address the problems, and they got it. The public's attention was high, as Anthony Down's noted in a stimulating 1972 article, where he presented the notion of an "issue-attention cycle," defined as "how long public opinion is likely to remain sufficiently focused upon any given issue to generate enough political pressure to cause effective change."¹⁹

Silent Spring also triggered a period filled with debates which begin anew each time an apparent new environmental hazard is discovered. "Once the alarm has been sounded, a new phase inevitably begins, which I think of as the 'lost in the swamps' or backlash phase," Dianne Dumanoski, an environmental reporter for the *Boston Globe*, said in a speech at the October 1993 national meeting of the Society of Environmental Journalists. "This phase is marked by confusion, contradictory scientific data, and campaigns mounted by threatened business interests which emphasize the high costs of taking action and the scientific uncertainty."²⁰

Debates over complex environmental issues partly reflect the way science operates. When scientific research discovers a potential problem, responsible scientists couch their findings in "possibles" or "probables" and other qualifiers. Then scientists continue their search for more data to better understand the phenomenon, whether it is acid rain, or global warming, or dioxin.

In the meantime, however, the public and policymakers want definitive answers, "so science gives an educated guess as to whether saccharin is carcinogenic, or dioxin is deadly poisonous, or the climate is warming," notes Daniel E. Koshland, Jr., editor of *Science* magazine. As more research is completed and additional data gathered, hypotheses are proven or disproved, and conclusions are refined. Then the first estimate is revised, "bewildering the public and making it distrustful of science."²¹

For the lay public, one problem is that the news media do a poor job of explaining the scientific process. Journalists, even those who specialize in

science and environmental writing, have a difficult time getting the seemingly vague language of science past their editors. Editors don't want to know that researchers believe there is a high probability that the planet is warming, they want stories with definitive answers. Is global warming happening or isn't it?

"We often don't do a good job of reporting on the science of complicated issues, and we generally do a lousy job of helping our audience understand uncertainty, which is the central dilemma faced in making environmental policy," according to Dumanoski.²²

The inherent uncertainty of science also can be manipulated by vested interests, such as corporations reluctant to admit to problems that could negatively affect their profits or activists who exaggerate the dangers and risks in the pursuit of their own agendas.

An illustration of corporate reaction is the ozone depletion debate which began in the early 1970s. The DuPont Company, the largest maker of chlorofluorocarbons (CFCs), and other companies responded to scientific reports about the deleterious effects of CFCs by stressing the uncertainty of CFC theories.

Environmental groups such as the Natural Resources Defense Council argued against the industry. The initial focus of discussion was on aerosol sprays, which began to be the subject of news stories in the mid-70s and, due to significant public concern, were banned in 1977.²³ But CFCs could still be produced for "essential" uses such as for refrigerators and auto air conditioners.

While CFCs were projected to damage the ozone layer over a long period of time, the scientific community was itself surprised when a "hole" in the ozone layer was discovered over Antarctica in 1985. This finding generated rather swift international action, resulting two years later in the Montreal Protocol. The United States and 23 other countries agreed to phase out ozone-depleting chemicals, the first goal to be a 50 percent emissions reduction by 1999.

Similarly, putative environmentalists don't always play the science straight. Take the controversy over the electromagnetic fields (EMF) generated by high-current power lines. Since the first journal article about the "possible" harmful EMF effects was published in 1979, hundreds of articles and many books have been written on the subject. A 1992 article in *Science* estimated that public anxiety costs society more than \$1 billion a year due to decreased real estate values near power lines, efforts to reduce EMF exposure, and moratoria on transmission stations. It also generates a lot of scientific research funds.

Yet, to date there is no significant scientific evidence for the claim that electromagnetic fields cause biological harm, according to a November 1994 *Atlantic* article by Gary Taubes, who provides an

overview of the issue.²⁴

Much of the EMF ruckus has been created by journalist Paul Brodeur, writing in the *New Yorker* and books. Even scientists concerned about the possibility of EMF harm, such as Nancy Wertheimer, who wrote the 1979 study that ignited the controversy, question Brodeur's approach. "Brodeur served an important function of journalists," Taubes quotes Wertheimer as saying. "He got people excited. It's not a scientific approach, because he left out most of the negative evidence."

It also is not good journalism. But it riles the public, serves to churn out EMF research dollars, and helps sell magazines and newspapers. Battered by contradictory or specious information, it is no wonder the public is "bewildered."

The public, as in the case of concern about visible pollution, does not need to possess scientific expertise in order to evaluate arguments over environmental issues. But people must have some basic understanding and the ability to at least think critically about the sources of information.

In most controversies about environmental science, since "neither journalists nor their audience possess scientific and technical competence, the criteria used to evaluate the validity of competing claims are mostly nontechnical," writes Hans Peter Peters. "Laypersons, for example, use their social competence to build expectations on likely biases of the involved social actors and their factual claims."

Peters continues, "While an expert would probably ask about the number of animals involved in an animal experiment regarding the toxic effects of a chemical, the statistical significance of the results and -- probably -- the scientific reputation of the experimenter, laypersons may be most interested in who paid for the study and who profits from the results. It is the question of credibility which comes into play here..."²⁵

If people are to determine who is credible, or has "standing," to speak with knowledge and authority on a particular scientific subject, they must have some idea of the expertise involved. An astronomer is different from an astrologer. A biologist whose research is funded by the National Science Foundation and other agencies is different from one beholden to a specific corporation.

An insidious attack on science has been introduced into the environmental debate by partisans seeking to totally politicize it by undermining its value. "All science is political science," Ron Arnold, a founder of the anti-environmental Wise Use movement, told a University of Colorado audience in spring 1993.

Such hyperbole, taking off from the truth that politics inhabits science just as it permeates public life, aims at eliminating the public's responsibility for under-

standing science or the competing claims about it. If science is just politics by another name, why bother trying to understand it or trying to identify independent authorities who do?

If science is effectively excised from the environmental debate, the public can, without any qualms of conscience, simply believe those whose politics are most appealing. In some cases those people will be playing on the public's fears, biases, and short-term interests.

The first public policy measures to preserve the environment -- the federal laws of the 1960s and 70s -- were a relatively cheap fix as far as the public was concerned. After all, they were federal programs and the incredible budget deficits introduced by the Reagan Administration were not yet in sight.

But the 1990s are a post-war era. The United States, despite its leaders' declarations of "victory," emerged much healthier from the Cold War, but not unscathed. The workforce is undergoing tremendous strain and economic insecurity as the reality of the new information-based economy takes hold. Here, too, environmental goals are conflicting with economic interests. The so-called "jobs versus owls" debate in the Northwest was an early example of the conflict.

The Republican majority in the 104th Congress swept into office in January 1995 with an agenda which emphasizes economics under rubrics such as "property rights" and "regulatory reform." Much of the proposed legislation, some of which is supported by many Democrats, will, if put into effect, dramatically alter the nation's environmental policies. By wide margins the House and Senate almost immediately passed "unfunded mandates" bills making it harder for Congress to approve regulations without also providing cities and states the money to implement them.

Another proposal would subject new and old government regulations dealing with the environment, health, or public safety to cost-benefit analysis and risk assessment. Proponents say this will roll back regulations that are unnecessarily costly. Opponents disagree.

"What this does is undermine every single environmental and public health standard in the country," says Carol Browner, head of the Environmental Protection Agency.²⁶

How does the public figure into this?

The House Republicans, with their Contract for America, argue that the public has given them a mandate for such change. Yet, that same public has in recent years continued to express strong support for the environment in poll after poll. For example, a 1992 Gallup poll reported that 59 percent of Americans said they would choose "protecting the environment over

economic growth."²⁷

The compromises and tradeoffs implied by "sustainable development" mean that people will have to make choices, such as not popping into their cars to do each little errand around town. Before altering their behavior, however, people will have to be convinced that their sacrifices really will make a difference and are being equitably shared by other members of the community.

"Few people are willing to sacrifice for a clean environment," noted Melvyn C. Branch, University of Colorado professor of mechanical engineering and member of the Colorado Air Quality Commission for 15 years. He said that Los Angeles and Denver epitomize the problem. In Denver, which is not in compliance with the federal Clean Air Act, 70 percent of the carbon monoxide results from auto emissions. Yet, even though people's awareness of the problem has grown in recent years, their behavior has not changed.²⁸

Knowledge may not be sufficient to alter behavior, but it is necessary. And worries over public knowledge have been expressed by many, including F. Sherwood Rowland, an atmospheric chemist and former chair of the American Association for the Advancement of Science. In a speech at that organization's 1993 annual meeting Rowland said that he has "great concern over the role of science in a democracy in which the general population has not enough understanding of science itself, does not entirely trust 'science experts' and does not want to; and is left with no way to distinguish between the competing claims of apparent experts on both sides of any question."²⁹

It should come as no surprise that self-styled experts such as Rush Limbaugh can blithely declare the concept that chlorofluorocarbons (CFCs) deplete the stratospheric ozone layer to be "balderdash" and "poppycock." He simply ignores the conclusive scientific evidence that CFCs do cause ozone depletion.³⁰ His fans, including members of the 1995 freshman class of Congressional Republicans who invited him to address them shortly after their arrival in Washington, either don't know or don't care about his distortions.

Conclusion

Ideas such as sustainable development, as benign as they may sound, carry the potential for disruption, even revolutionary change, in the status quo. If the Earth is to be sustained in the long-term, altered behavior by individuals, corporations, organizations, and nations will be required. Given the magnitude of the threats to the planet's environment, new and better policies are needed.

Many of the laws instituted, with public support, to

protect the environment need fixing. The Superfund Law is a conspicuous example. But fixing environmental regulations is far different from abolishing them. Public policy, like science, is a process. It should change, informed by experience and new knowledge. And in a democracy, those changes must be backed by an informed public.

The problems are more obvious than the solutions. The challenge for all who believe in both democracy and the value of a thoughtful public as being crucial for a sustainable environment is to insure that the public not be a "phantom." This demands a concerted, communal approach including, most importantly, better K-12 education.

All who share the conviction that caring, long-term, reflective thinking about environmental issues is necessary can contribute to its realization. Scientists can emerge more frequently from their labs and engage in public debate. Executives in the media and other corporations can think beyond their companies' quarterly earnings. Journalists can become more knowledgeable in order to write informed articles about the environment, a tough beat involving science, politics, technology, economics, and culture. In fact, working journalists themselves regularly express their desire to become more educated about environmental issues.³¹

Educators have much to contribute, and several institutions have programs aimed at science and environmental reporting. The University of Colorado's Center for Environmental Journalism, established three years ago, is trying to do its part. The Center's programs include student education, professional development, and outreach -- with the main focus on helping both journalists and future journalists enhance their knowledge and expertise. The goal is to enrich the public's understanding of environmental issues by elevating the quality of media coverage.

Notes

1. Adriel Bettelheim, "Babbitt: Protect Key Work," *Denver Post*, Feb. 7, 1995.
2. William Celis, "Many Americans Flunk Pop Science Quiz," *New York Times*, April 21, 1994.
3. For 1991 poll: The Gallup Poll News Service, Nov. 28, 1991. For the 1993 poll: Prof. Stewart Hoover, U. of Colorado, School of Journalism and Mass Communication.
4. David Gonzalez, "Religions Putting Faith in Environmentalism," *New York Times*, Nov. 6, 1994.
5. Patricia M. King, Karen Strohm Kitchener, *Developing Reflective Judgment: Understanding and Promoting Intellectual Growth and Critical Thinking in Adolescents and Adults*, Jossey-Bass, San

Francisco, 1994.

6. Ibid, p. xvi.

7. Ibid, p. 73.

8. Ibid, p. 53.

9. Dick Thompson, "Congressional Chain-Saw Massacre," *Time*, Feb. 27, 1995, p. 60.

10. Donald Worster, *Nature's Economy: The Roots of Ecology*, Sierra Club Books, San Francisco, 1977, p. 335.

11. *The Public and Its Problems*, p. 127. Quoted in Brett Gary, "Modernity's Challenge to Democracy: The Lippmann-Dewey Debate," in *Cultural Transmissions and Receptions*, VU University Press, Amsterdam 1993, p. 41.

12. For a discussion, see Jay Rosen, "Phantom public haunts nuclear age," *Bulletin of the Atomic Scientists*, June 1989, p. 16. Gary, *ibid*.

13. Gilbert F. White, "Reflections on Changing Perceptions of the Earth," in *Annual Review Energy Environment*, 1994, Vol. 19, pp. 1-13.

14. Rachel Carson, *Silent Spring*, Houghton Mifflin Co., Boston, 1962, 368 pp.

15. This agenda-setting function of the media has been the subject of considerable analysis. See: Allan Mazur and Jinling Lee, "Sounding the Global Alarm: Environmental Issues in the US National News," *Social Studies of Science*, SAGE, London, Vol. 23 (1993), pp. 681-720. Maxwell McCombs, Jr. and David Shaw, "The Agenda-setting Function of the Mass Media," *Public Opinion Quarterly*, Vol. 36 (1972), pp. 176-87.

16. Peter Sandman, "Mass Media and Environmental Risk: Seven Principles," *Risk*, Vol. 5, No. 3, 1994.

17. Mazur and Lee, *op. cit.*, p. 683.

18. White, *op. cit.*, p. 6.

19. Anthony Downs, "Up and down with ecology -- the 'issue-attention cycle,'" *The Public Interest*, Vol. 28, 1972, pp. 38-50.

20. Dumanoski's speech is excerpted in "Mudslinging on the Earth-beat," *Amicus Journal*, Winter 1994, Vol. 15, No. 4, pp. 40-1.

21. Daniel E. Koshland, Jr., "Science and Society," *Science*, Vol. 260, April 9, 1993, p. 143.

22. Dumanoski, *op. cit.*

23. Mazur and Lee, *op. cit.*, discuss the ozone depletion debate in some detail.

24. Gary Taubes, "Fields of Fear," *The Atlantic Monthly*, Nov. 1994.

25. Hans Peter Peters, "Media as Channel and Arena," *Risk*, Vol. 5, No. 3, 1994, p. 245.

26. "Backed by Business, Republicans Take Steps to Overhaul Environmental Regulations," *New York Times*, Feb. 2, 1995.

27. William Allen, "Poll Shows High Level of Concern," *St. Louis Post Dispatch*, Feb. 21, 1994.

28. Melvyn Branch, talk at U. of Colorado Center for Environment Journalism briefing in Boulder, Colo., Feb. 28, 1994.

29. F. Sherwood Rowland, "President's Lecture: The Need for Scientific Communication with the Public," *Science*, Vol. 260, June 11, 1993, pp. 1571-76.

30. Gary Taubes, "The Ozone Backlash," *Science*, Vol. 260, June 11, 1993, p. 1580.

31. Tony Case, "Journalists and Scientific Literacy," *Editor & Publisher*, Dec. 19, 1992.

Acknowledgments

This paper has benefited from the comments of Prof. Michael Tracey, director of the University of Colorado's Center for Mass Media Research and chair of the Center for Environmental Journalism's faculty advisory committee, and Denny Wilkins, University of Colorado Ph.D. candidate and committee member.

