1996

Environmental ethics made explicit through situated narrative: implications for agriculture and environmental education

Danielle Marie Wirth
Iowa State University

Follow this and additional works at: https://lib.dr.iastate.edu/rtd

Part of the Agricultural Education Commons, Ecology and Evolutionary Biology Commons, Environmental Sciences Commons, and the Social and Cultural Anthropology Commons

Recommended Citation
Wirth, Danielle Marie, "Environmental ethics made explicit through situated narrative: implications for agriculture and environmental education " (1996). Retrospective Theses and Dissertations. 11346.
https://lib.dr.iastate.edu/rtd/11346

This Dissertation is brought to you for free and open access by the Iowa State University Capstones, Theses and Dissertations at Iowa State University Digital Repository. It has been accepted for inclusion in Retrospective Theses and Dissertations by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.
INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6” x 9” black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

UMI
A Bell & Howell Information Company
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
313/761-4700  800/521-0600
Environmental ethics made explicit through situated narrative: Implications for agriculture and environmental education

by

Danielle Marie Wirth

A dissertation submitted to the graduate faculty in partial fulfillment of the requirements for the degree of DOCTOR OF PHILOSOPHY

Department: Agricultural Education and Studies
Major: Agricultural Education
Major Professors: Julia Gamon and Betty Wells

Iowa State University
Ames, Iowa
1996

Copyright © Danielle Marie Wirth, 1996. All rights reserved.
This is to certify that the Doctoral dissertation of

Danielle Marie Wirth

has met the dissertation requirements of Iowa State University

Signature was redacted for privacy.

Co-Major Professor

Signature was redacted for privacy.

Co-Major Professor

Signature was redacted for privacy.

For the Major Department

Signature was redacted for privacy.

For the Graduate College
# TABLE OF CONTENTS

## ABSTRACT

<table>
<thead>
<tr>
<th>CHAPTER 1. INTRODUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Impact of Human Culture</td>
</tr>
<tr>
<td>The Function of Situated Oral Traditions in Society</td>
</tr>
<tr>
<td>Environmental Ethics</td>
</tr>
<tr>
<td>Need for the Study</td>
</tr>
<tr>
<td>Purpose</td>
</tr>
<tr>
<td>Objectives</td>
</tr>
<tr>
<td>Implications and Educational Significance</td>
</tr>
<tr>
<td>Limitations of the Study</td>
</tr>
<tr>
<td>Definitions</td>
</tr>
</tbody>
</table>

## CHAPTER 2. LITERATURE REVIEW - NARRATIVE

<table>
<thead>
<tr>
<th>Introduction</th>
<th>19</th>
</tr>
</thead>
<tbody>
<tr>
<td>The History of Narrative Creation</td>
<td>21</td>
</tr>
<tr>
<td>Mythic Systems and Theology</td>
<td>21</td>
</tr>
<tr>
<td>Archaeological Records and Theology</td>
<td>22</td>
</tr>
<tr>
<td>Implications Regarding Modern Agriculture</td>
<td>25</td>
</tr>
<tr>
<td>Functions of Stories Within Cultural Contexts</td>
<td>26</td>
</tr>
<tr>
<td>Essential Elements in the Creation of Narratives</td>
<td>33</td>
</tr>
<tr>
<td>Meaning in Stories</td>
<td>37</td>
</tr>
<tr>
<td>The Story Pathway</td>
<td>40</td>
</tr>
<tr>
<td>The Value and Validity of Personal Narrative</td>
<td>41</td>
</tr>
<tr>
<td>The Psychology and Physiology of Stories</td>
<td>41</td>
</tr>
<tr>
<td>Synthesis</td>
<td>43</td>
</tr>
</tbody>
</table>
This dissertation is about the meaning, relevancy, and effectiveness of situated narrative in contemporary Western culture, and particularly about how this mode of message transmission might expand environmentally sustainable behaviors.

In-depth interviews with environmental educators and storytellers yielded descriptions of what constitutes ethical behavior and guidelines for how to conduct effective storytelling.

Bioregionalism, deep ecology, and ecological feminism were studied to learn salient points and normative behaviors associated with each perspective. Similarities and differences among the three philosophical traditions were explained. Classic and contemporary narratives that promote one or more of these ethics were identified in the literature review.

This study explains why stories are an effective way to transmit technical and cultural information, techniques storytellers employ to engage their audience, how mainstream educators can adapt techniques perfected by storytellers, and why humans seem to be predisposed to learning in this manner.

Implications for learners are drawn. Conclusions are reached and recommendation made for including this educational mode within the curricula of institutions offering agriculture, agricultural education, agricultural science, environmental studies, environmental science, forestry, and natural resources management courses.
CHAPTER 1
INTRODUCTION

Environmental Impact of Human Culture

Human agricultural and industrial processes affect the biosphere in ways not fully known. Agriculture educators are challenged to understand the impact of agriculture on the global environment and to mediate this knowledge within the communities where they practice their craft. Some teaching styles may be more effective than others in changing local agriculture from a system that damages the Earth to one that mimics natural processes and exercises sustainable practices (Jackson, 1985, 1994; Soule & Piper, 1992).

Agricultural systems will be called upon to feed an estimated 12 billion people just a few decades into the next century (Nebel & Wright, 1993). This mission must proceed while maintaining biological diversity, avoiding soil erosion, increasing soil generation through sustainable agriculture techniques, and keeping the food supply safe for consumers. This will require skillful retooling of the philosophy behind educational systems that prepare individuals for agriculture and extension education (Berry, 1977; Orr, 1994).

Human population reflects what biologists call a "J" shaped growth curve; that is, exponential growth (Miller, 1994). Human population reached its first one billion in the 1830s. The second billion was reached 100 years later in the 1930s. By the 1990s, the population climbed to 5.7 billion and is predicted to reach 8 billion by the early 21st century.
Population is the driving force behind other environmental issues such as deforestation, soil erosion, loss of biological diversity, global warming, and stratospheric ozone depletion. Abundant information illustrates the damaging effect that human culture has had on the biological life processes of the planet. Humans as a species have even altered the chemical composition of the planet's atmosphere.

Carbon dioxide in the Earth's atmosphere has risen from 315 parts per million in 1957 to 355 parts per million by the 1990s (Revkin, 1992). Because carbon dioxide is used by plants to carry out photosynthesis, some predict that increased levels of this gas will improve agriculture. Others expect that additional carbon dioxide in the atmosphere will cause the average temperature to rise. This will act as a catalyst for other global responses such as: rapid sea-level rise as ice caps melt; shifting rainfall patterns with some areas becoming wetter and some drier; the release of additional greenhouse gases currently sequestered by frozen tundra soil; and a probable increase in the intensity of storms and cyclones (Meadows, Meadows, & Randers, 1992). Possible manifestations include massive flooding along coasts, increased desertification, less cropland to feed the increasing human population, and localized droughts causing suspension of hygienic practices in developing countries where 80% of sickness and disease originates from contaminated water (Brown, 1987; Nebel & Wright, 1993). There is a direct relationship between increased levels of carbon dioxide in the atmosphere and burning fossil fuels for energy production and burning rain forests to clear land for cattle pastures (Revkin, 1992). Warming winter temperatures in agricultural lands of the United States...
could shift the survival band of crop pests north, decreasing crop production (McKibben, 1989).

Given the known impact of human activities upon the efficient and healthy functioning of planetary natural systems, intervention in the daily conduct of human business is prudent and necessary at this time.

This research will explore alternative systems of knowledge as possible interventions. These alternatives may assist citizens to internalize critical environmental information in a way that stimulates sustainable behavior.

The Function of Situated Oral Traditions in Society

Stories can be used as an educational tool in inform, inspire, and motivate changes in behavior. Situated contextual narrative, that is, stories distinctly tied to place, offers an opportunity to engage the metaphoric human mind in a manner that seems to encourage the whole person to better understand and develop sensitivity to the genius of place (Sheridan, 1995).

In May of 1994, experts in ecology, economics, botany, zoology, and the social sciences met at the Chicago Field Museum to present ideas, scenarios, and potential solutions for the dilemma facing humankind and nonhuman nature. Conferees who are engaged in scientific research about world biomes advocated a review of philosophy and environmental ethics to reevaluate humankind's relationship with the natural world. To close the conference, Sir Geoffrey Mays of Oxford University told a story that brought conferees to a metaphorical plain of rich description of human
activity in a delicate natural area. The story, Old Blue, focuses on clear-cutting forest land and the near extinction of an avian species. The choice by a world-renowned scientist of a situated contextual narrative to illustrate a situation and advocate action suggests that the scientific community is acknowledging that there are other ways of knowing and that now is the time to include other ways of knowing and getting at the truth.

Terry Tempest Williams (1991) and Barry Lopez (1989) are keen observers of natural history in their landscapes of residence. They both speak of validity. This validity is born of observations of natural cycles and cannot be refuted, ignored, or disparaged. It is validity grounded in measurable events such as spring migrations of waterfowl, chemical composition of rock strata in the high desert, and the width and depth of wolverine tracks in fresh Arctic snow. These events carry validity because it is not possible to argue with their physical evidence. Williams and Lopez use their observations to teach others about landscape. Their observations are carried to learners through narratives.

Joseph Campbell (1959), discussing the function of primitive mythologies, suggested that early oral traditions served not so much to impart knowledge about the way the universe works, but more to socialize the individual to community beliefs and behaviors (Basso, 1984; Johnstone, 1990; Stahl, 1989). The stories taught proper relationships between community members and their physical and cosmological world. For example, a popular character in some Native American myths is Old Man Coyote, also known as the Trickster (Strauss, 1984, 1991). The Trickster is both the brave warrior and the arrogant pest, possessing contradictory abilities that allow him to accomplish great feats of strength and cunning, and also
to play the fool. He is simultaneously the best and worst representative of what the human psyche can achieve. Coyote's appearance in these myths reminds people of their capacity for greatness and also warns against vanity. Coyote travels to familiar locations in the West and Southwest. His aim is not to accumulate land and property, but rather to entertain and instruct about landscape, relationships, personal behavior, and the importance of other creatures in the "Circle of Life" (Wirth, 1992).

Despite the popularity of Campbell's (1959) collections of ancient and contemporary stories, his nearly exclusive use of masculinist myths is problematic. The stories touted as universal records of the human quest for understanding of self in relationship to the world are largely images of a journey fraught with violent acts, villains, beings from the animal kingdom, female monsters such as the Medusa or beguiling sexual sirens, intent on leading a young hero to his undoing. These "universal tales" appear to celebrate conquest, aggression, and reaping bounty from subjugated people and lands. They justify behavior that today damages and marginalizes natural areas and people. The hero character in Campbell's collections has a decidedly sinister nature when contrasted with the foolish coyote man. The hero in Campbell's collection is a representative of an inherited Western philosophical tradition; coyote is a more holistic, biocentric character (Holmes, 1995).

Harvard theologian Elizabeth Dodson Gray (1992a) expresses a similar concern as she deconstructs latent themes in Grimm's fairy tales, mythopoetic literature of the current men's movement, and the Disney cartoon version of the classic, *Beauty and the Beast*. Gray examines some of the veiled content of fairy tales. The beast is delivered from enchantment
by the "good woman" who earlier in the tale saves her father through personal sacrifice. A social construction of reality that Gray (1982) calls "Adam's world" operates in Western mythology and theology. Gray concludes that reality is a social construction and that this assumed-to-be accurate social construction comes through the eyes, ears, minds, hearts, and perceptions of men. Further, one of the social constructions, "patriarchy," is the enchantment under which the beast has fallen. Society, according to Gray, needs to escape from this conceptual trap. She recommends that men develop a narrative tradition in which they undertake healing the damage done by patriarchal systems as sacred work. Women engaged in naming the sacred is also important work (Estes, 1992; Gray, 1992b).

Ranking diversity is a cornerstone of dominator cultures (Slater, 1991). Theorists like Gray (1982) and Spretnak (1991) argue that this ranking is one of the justifications for the development and maintenance of a scientific/technocratic/militaristic culture. Karen J. Warren (1987) describes ranking as placing more value on some elements in a schema and less on other elements. Ranking diversity justifies the domination of many elements by those who do the ranking and valuing. Western culture is further supported and enhanced by its ability to extract and exploit natural resources at extravagant levels allowing some within the culture to mass wealth and power (Merchant, 1980). The battle metaphors common in advertisements for agricultural inputs like herbicides and insecticides further reinforce the world view of a culture currently engaged in unsustainable agriculture (Holmes, 1995). By marginalizing diversity and viewing living nature as exploitable by those with privilege and power, the erosion of the natural environment is inevitable (Gray, 1992b; Merchant,

Many indigenous cultures tend to center their ethical systems within narrative traditions that encourage empathy with the natural world. Confidence in the local environment to provide wealth by meeting basic needs and providing narrative material produces a vibrant culture (Mills, 1993; Norberg-Hodge, 1991). John Elder and Hertha D. Wong (1994) contrast literary styles of English and American essayists and the collective group experience of story tellers within indigenous communities. They conclude that, worldwide, stories of place have been powerful motivators in terms of maintaining respectful relationships with local ecosystems. They further argue that due to the current environmental crisis, exploration of narrative traditions from all corners of the globe is a logical response and part of the multi-dimensional solution to environmental decline.

Joseph Sheridan (1995), in exploring indigenous storytelling, concludes that careful attention to the landscape promotes telling the "right" stories which ultimately lead people into more respectful relationships with the land. For example, the Dene, before being overtaken by Western cultural imperialism, engaged in traditions of communal living within the physical limits of their bioregion. Oral traditions of the Dene, who live on the northern finger of the Great Slave Lake, Northwest Territories of Canada, flourished until the introduction of television. Storytelling was a time for community, of sharing between grandparents and grandchildren. Children were transported through story to new experiences and perceptions that challenged mainstream paradigms. Gerry Mander (1991) posits that grandparent/grandchild interaction maintained Indian culture.
His analysis suggests that characters of the stories are important because they teach about relationships and maintain behavior systems. They are less important as threads to conscious reality. Elderly storytellers, according to informant Barbara Smith, are able to project the stories through their bodies as well as through words (Mander, 1991). Stories are important for the experience they create.

Barry Lopez (1990) offers modern myth making in a story about two young people who leave their homes and families to undertake a journey of experience and understanding. In Crow and Weasel the travelers bring little with them except a desire to see what lies beyond their visible universe. They travel through unknown lands, meet new people, and give away some of their personal belongings. They share their food and in turn are offered food by others. They learn from an elder that stories are ways people care for each other and that there are times when a person needs a story more than food. Their journey of peaceful travels, meetings, and revelations becomes the "stuff" of future stories for their people (Lopez, 1990). Their initial travels seem prompted by wonderment, rather than the bloodlust, revenge, mercantilism, or adventure that motivates characters in Western stories. To the modern reader, the images in the book are those of familiar North American animals. This is not unlike the "peopling" of stories in ancient fables with animals, or using animal totems, as seen in Tlingit art from the northwest coast of North America.

The traditional stories, myths, and histories of indigenous people worldwide seem designed to maintain connection with nonhuman nature (Gunn-Allen, 1991; LaChapelle, 1984).
A felt sense of connection with natural processes and nonhuman nature is purveyed by Byrd Baylor (1986) in *I'm in Charge of Celebrations*. Baylor creates celebrations for significant emotional events experienced outdoors. Listeners follow Baylor on a path through the year with special days marked by celebrations. The encounter of human and coyote is honored with special food left on a trail for the canine. This statement is what ethicists term reciprocity, a willingness to give back and acknowledge interdependencies between humans and the natural world (Warren, 1988).

Human propensity to acknowledge, connect with, and perhaps invoke animal spirits has been part of human culture for a long time (Campbell, 1983). The current focus of some philosophical traditions to extend moral consideration to other species is actually a recapitulation of older notions. From earliest origin myths (Elder & Wong, 1994) to modern narratives filled with animal characters from human imagination (LeGuin, 1987), these entities from the natural world have been persistent characters in a great deal of storytelling.

**Environmental Ethics**

The nonlinear thinking evident in non-European based cultures may provide an alternative measuring system superior to rational Western notions which locate worth almost exclusively in the domain of economics. The rational Western mind reduces the study of nature to its elemental parts, thus missing the holistic interpretation necessary for an ecological understanding and ecological world view necessary to integrate humans into the landscape (Wirth, 1992, 1994b). Ritual, and the subsequent story making and telling inherent in the maintenance of rituals in primitive societies,
functioned to make explicit the connections to nonhuman nature (LaChapelle, 1991). Native people of Vancouver Island have a rich oral tradition. Strands of narrative woven through the stories told for generations suggest alternative considerations of value in relating to one's home range and understanding place through nonrational processes (Cameron, 1981). The Gabra, nomadic herders of East Africa, have a rich oral history handed down by seers, which helps them predict with relative accuracy rainfall potential in parts of their ancestral lands (Mayberry-Lewis, 1992). The narrative includes information regarding location and quality of grasses during drought conditions by which these indigenous herders successfully managed their pastures prior to international development. Today, restoration ecologists and natural resource managers are reexamining short-term, intensive grazing as a tool for increasing productivity of grazing land while reducing erosion and increasing biological diversity (Savory, 1988).

Environmental ethics presents a language of relationships concerning duties, rights, and responsibilities among humans and toward the nonhuman, natural, world. Joseph Des Jardins (1993) believes environmental ethics provide a systematic account of the moral relations between human beings and the natural world. Karen J. Warren (1987), viewing environmental ethics through an ecofeminist lens, suggests that the language has more to do with care, concern, reciprocity, and responsibilities than with rights and justice. Further, Warren sees a connection between the domination of women and the domination of nonhuman nature. She understands and explains that these connections are symbolic, epistemological, historical, and linguistic. Modern agriculture, when scrutinized through an ethical lens,
becomes yet another tool in the domination of the Earth, rather than a portal through which humans can form partnerships with the cultivated Earth.

Need for the Study

Although we have enough information to prove that human beings are liquidating the planet, an effective model of how this information ought to be applied is lacking (Wirth, 1993, 1994a, 1995a). This research will explore alternative systems of knowledge that might encourage dialogue that is more planet-centered in outlook and practice. Many cultures pass on ethical behaviors through oral traditions. Whether or not stories have a life of their own is arguable. The vehicle that transports the stories to people is the storyteller through his or her performance (Stahl, 1989). For that reason, it is critical to this research that storytellers authenticate which nuances, skills, and behaviors bring life to their art. By exploring existing and emerging stories, myths, and legends, commonalities among these narratives will be identified that may evoke behaviors to encourage sustainability of natural systems.

Purpose

The broad purpose of this study is to explore situated contextual narrative from the standpoint of those who deliver performance and narrative to formal and nonformal audiences. The particular purpose is to learn to what extent narrative is constructed, adapted, delivered, and evaluated by professional storytellers and to record their specific viewpoints of the efficacy of this format as an educational tool.
Objectives

The specific objectives of the study are:

1. To discover which behaviors indicate that a person is acting in an ethical manner towards the natural environment

2. To analyze stories for content that may prove applicable in teaching environmental ethics such as bioregionalism, deep ecology, and ecological feminism

3. To analyze the delivery styles of four storytellers for similarities which make them effective presenters, and to determine the differences that add focus and uniqueness to their presentations.

Implications and Educational Significance

If stories are an effective means to educate citizens regarding sustainable behaviors towards the natural world, then, given the weight of current scientific data, there has never been a more urgent time to learn which stories are most potent for changing behaviors. Identifying the narrative techniques employed most often by successful storytellers when using "teaching stories" can help educators increase their skills (Caduto & Bruchac, 1994a, 1994b).

Underlying this study is a concern with the impact of narrative on the relationship between people's behavior towards the Earth and on nonhuman nature. How can the collective wisdom of the emerging philosophical traditions in environmental ethics such as bioregionalism, deep ecology, and ecological feminism be made more accessible to
environmental educators and practicing storytellers who may want to infuse environmental ethics into their presentations?

Limitations of the Study

The study was exploratory, an initial bridge between ethical epistemologies within environmental ethics and narrative genre.

There were inherent as well as unintended limitations in the study due to the choice of research methodology. One limitation concerns the scope of generalizability. The study of situated contextual narrative through the eyes of four diverse storytellers does not constitute the full range of oral traditions in the world. Nor did the researcher focus on other emerging environmental ethics in addition to bioregionalism, deep ecology, and ecological feminism.

Declining levels of biological diversity, increasing levels of toxic chemicals in the environment, and loss of natural areas are among the motivating forces leading educators to examine environmental issues with their students. Narrative of place prompted by stories rising from the local landscape may be helpful in not only teaching students information about their local bioregion, but may also stimulate a deep level of caring in those students as well. Since deterioration of the natural and built environment continues and increases, intervention through education may be an important step to changing the outcome for the future.

Definitions

Anecdote - A short narrative of an amusing, interesting, or biographical nature.
Biological diversity - The variety of different species (species diversity); the genetic variability among individuals with a single species (genetic diversity), and the variety of ecosystems represented around the biosphere (ecological diversity).

Biome - Terrestrial; regions inhabited by certain types of life, especially plant life. Examples can include certain types of forests, grasslands, and deserts (Nebel & Wright, 1993).

Bioregionalism - One of the emerging minority traditions within Western philosophy which insists that local landscapes be taken seriously in determining human behaviors. Another claim is that local landscapes are best managed by those who are native to place, arguing that these individuals are most knowledgeable about local ecology. Indigenous plants and animals are viewed as community members, not commodities. Bioregionalists believe that they have a right to maintain their own well being, meeting their needs from the local bioregion, but do not have the right to damage or impair the long-term health of local ecosystems. To do so would be an act of greed.

Biotic shift - Visible change in plant and animal communities as movement occurs from one geographical location to another.

Deep ecology - One of the emerging minority traditions within Western philosophy which argues that humans are part of the natural world and have no more or no less value than other species. Other goals of deep ecologists include: simplify lifestyles, expand consciousness and concern to include all species, and restore large areas of wilderness so that other life forms may again flourish.
Deforestation - Removal of trees from a forested area without replanting any or an adequate number of replacement trees (Nebel & Wright, 1993).

Desertification - Conversion of semi-arid to arid, formerly productive land to land that is unproductive. Causes may include overgrazing, deforestation, soil erosion, prolonged drought, and climate change (Nebel & Wright, 1993).

Ecological feminism - One of the emerging minority traditions within Western philosophy which claims that there are connections between the domination of the Earth and the domination of women. These connections are historical, linguistic, epistemological, and economic (Warren, 1987). Ecological feminism is the confluence of the concern for women and the natural world (Gray, 1992a).

Ecologist - One who studies the interrelationships and interdependencies of living organisms with one another and with their nonliving environment (Nebel & Wright, 1993).

Ecology - Study of the interrelationships and interdependencies of living organisms with one another and with their nonliving environment of matter and energy; the study of the structure and function of nature.

Environmental ethics - A systematic and comprehensive account regarding the relationship between humans and the natural world.

Exemplum - A narrative having as its main purpose a moralistic lesson.

Folk group - A set of characteristics shared among individuals. These characteristics can include gender, ethnicity, age, class, occupation, religion, family heritage, place of origin, and local environment. Folk
groups are important in communication between people because the closer the match in folk group(s) the more likely people are to understand the full range of meanings bound up in the communication.

**Global warming theory** - A theory based on data indicating that the global mean temperature is increasing with time; the driving force of cultural global warming is combustion of fossil fuels and release of global warming gases like methane and carbon dioxide.

**Hypertechnology** - The overabundance, proliferation, and abuse of modernity in both a mechanical and cultural sense. An overdependence, addiction, and unreasonable reliance upon highly technical and complicated technologies and bureaucracies to address and solve problems.

**Memorate** - A recounting of an event that takes on supernatural or spiritual aspects due to the interpretation accorded to the story by the teller, listener, or both.

**Monologic story form** - Developed in cultural regions where it is considered impolite to interrupt a storyteller or speaker even for reasons of gaining clarity or to disagree with an inaccuracy in the narrative. The narrator in these instances is required to provide more information to the audience, and by deduction, has more control of the message than in stories that are constructed by the audience and storyteller together.

**Normative ethics** - The level in formal ethics at which judgments are made. This is the world of the "oughts" and "shoulds." Ethical evaluations are offered and advice is suggested. It is prescriptive rather than descriptive; things as they should be rather than how they are.
**Personal narrative** - A commonplace event that becomes a story because of the perception of the storyteller and her or his ability to see beyond the event and apply meanings that most often would be overlooked.

**Phenomenology research** - Research involved with interpreting the meanings inside of a person's head. Understanding why behaviors happen and what the behaviors mean are goals of phenomenological research and it studies the dynamics of behavior from an insider's perspective.

**Pragmatics** - A branch of semiotic that deals with the relation between signs or linguistic expressions and their uses (Johnstone, 1990).

**Prior text** - Content information about specific cultural contexts, meaning of words, and literary and historical allusions that people bring with them to storytelling situations as listeners (Johnstone, 1990).

**Purposive sampling methods** - Acknowledging that there is variety among informants and in seeking a broad range of perspectives, the researcher deliberately chooses informants who present a variety of perspectives, opinions, and experiences (Yin, 1984).

**Relict prairie** - A parcel of original grassland which has remained unchanged by plowing or other disturbance.

**Semiotics** - A general philosophical theory of signs and symbols that deals especially with their function in both artificially constructed and natural language and comprises syntactics, semantics, and pragmatics (Johnstone, 1990).

**Situated contextual narrative** - Stories; more specifically, stories centered within identifiable geographical space.

**Situated oral traditions** - Situated contextual narratives (stories) that are passed from generation to generation.
Stratospheric ozone - Layer of gaseous ozone in the stratosphere or second layer of atmosphere above the earth, that protects all life on Earth by filtering out harmful ultraviolet radiation from the sun (Nebel & Wright, 1993).

Triangulation - A combination of sources of data or methods in one research study.

Watershed - An area that provides runoff to a main stream or river and its tributaries. A watershed is also able to sustain the flow of a stream corridor during drought conditions.

Witzi - A humorous story about a person or event. The narrative may or may not have a moral purpose motivating the telling. The primary purpose of the "witz" is entertainment.
CHAPTER 2
LITERATURE REVIEW—NARRATIVE

Introduction

This chapter examines the history of storytelling. It addresses literary and archaeological evidence, and theological interpretations of prominent myths. It outlines essential components of narrative, including selection, learning, performing, and reviewing the performance. Modern agriculture has its genesis and justification within early mythic systems and theology. This theme will be explored in this chapter.

Most communication between humans is about meaning; this is the central pivot of this chapter. The researcher will explain how language and interpretations merge to create contextualized meaning between speaker and listener based upon negotiated agreement.

Personal narrative—the stories people tell about their everyday lives—is addressed because it plays an important role in teaching and influences the psychological domain. The researcher will explore some of those connections.

Dr. Eugene Hargrove (personal communication, April 12, 1993), editor of the Journal of Environmental Ethics, suggests that interventions early in childhood may be the most effective way to redirect the present system driving the way in which Western culture "values" the Earth. He indicates that connections between teaching environmental ethics through storytelling have not yet been made, but that it is a timely topic for research. Hargrove suggests that another way to bring about change is to instill in
the very young this "other way of knowing," another way of valuing the Earth.

Former World Bank economist Herman Daly (1994) recommends counting the depletion of natural capital as a cost of doing business. Listing damage or depletion of natural resources and reduced air and water quality as a cost to commerce is a practice unfamiliar or unacceptable to most economists. Calculating the cost to the environment caused by modern society is essential, Daly argues, if society is to develop sustainable systems of science, agriculture, industry, and resource management.

Paul Hawken (1993) encourages big business to include depletion of natural resources as costs of conducting commerce. Hawken believes that there are ways in which technologies might be retooled to be more earth-friendly. His business principles are outlined in *The Ecology of Commerce: A Declaration of Sustainability*, a recent work that describes some of the new businesses that take ecology seriously. He also proposes steps to take should the educational enlightenment of corporate executives fail, including considerable monetary fines leveled at executives personally and mandatory incarceration for environmental damage.

An example of how narrative is entering policy decisions is provided by Emery Roe (1994) who believes that taking narrative seriously will lead to a more effective analysis of critical policy in public and private sectors alike. Roe suggests that making meaning explicit to those involved in decision making and those touched by decisions will lead to equitable resolution of sensitive issues. For example, Roe posits that the analysis of narrative is an effective way to treat complex policies. In areas impeded by controversy and disagreement over facts and values, it appears
that utilizing an analysis of the stories people tell leads to a more universal understanding of underlying meaning. Roe speculates that application of narrative analysis to scientific controversies such as global warming would lead to action by key players.

The History of Narrative Creation

People have been telling stories since before recorded history. Earliest recorded stories manifest as pictorial art. Cave paintings in Lascaux, France, depict scenes of running bison (Campbell, 1983, 1988). Some interpretations suggest that primitive hunting mythologies are played out in this ancient art. Contemporary interpretations of cave paintings reinforce Ransome's position that one of the earliest reasons for telling stories was to boast (Ransome, 1909). In addition to bison and other large ungulates, there are also sheaves of grain which Gimbutas (1989) and others interpret to mean that the ancient artist was invoking the spirits of food items important to their people. Regardless of modern interpretations, art on rock walls and in caves tells a story in pictures. The conjecture is personal, a matter of interpretation by the viewer.

Mythic Systems and Theology

Narrative evolved, according to Ransome (1909), to accommodate boasting of the hero’s exploits and for exigency, that is, the value of stories as warnings. Storytellers were keepers of tradition, sages, entertainers, and by extrapolation, educators. Early stories created “man” to be larger than life, a shining example of what was possible, but not likely, for a common person to attain. Early Greek and Roman tales of goddesses, gods, and mortals who received favors from these deities were
popular themes of earlier stories, such as those told by Hesiod in 700 B.C. (Bolen, 1984). The goddesses and gods shared many of the emotional traits of humans—they plotted, stole, nurtured, protected, and took vengeance upon each other and humans who fell into their web of association.

The mythologies presupposed an unchallenged patriarchal structure (Bolen, 1984; Stone, 1976). The assumption: males ruled heaven and earth and, by extension, women, children, animals, plants, and the rest of creation. This presupposed superiority is being challenged by writers, philosophers, and theologians who contend that this "logic of domination" (Warren, 1988) has been destructive to Earth's natural systems, the human community, and, in particular, to women. The role of certain theologies reinforcing this world view is made explicit by Rosemary Radford Ruether (1992) as she challenges theological texts that she believes are more prescriptive than descriptive, that is, prescribing life as the ruling men wanted it to be rather than life as it actually was.

Archaeological Records and Theology

In challenging the assumption of male deities, art historian Merlin Stone (1976) traces through art and archaeology a trail that leads past the Greek and Roman myths to an earlier period where the central deity appears to be feminine. Artifacts and painted images dating to Paleolithic times depict female preeminence. Stone (1976) posits how a male-centered culture and theology developed and what today's world would look like if it had not:

What else might we expect in a society that for centuries has taught young children, both female and male, that a MALE deity created the universe and all that is in it, produced MAN in his own divine image—and then, as an afterthought, created woman, to obediently help man
in his endeavors? The image of Eve, created for her husband from her husband, the woman who was supposed to have brought about the downfall of humankind, has in many ways become the image of all women. How did this idea ever come into being? (p. 11)

Stone’s claims of earlier cultures in which the female was preeminent or equal with male icons of power are further supported by the work of anthropologist Marija Gimbutas. Gimbutas (1989) found artifacts carved in the form of human females while excavating ruins on the island of Crete and sites in Turkey. Artifacts of various shapes and sizes, some ornately decorated, some representing hybridization with animals as in the bird woman sculptures, were located in different areas throughout the dwellings. These seemingly intentional placements of statuary caused Gimbutas to interpret that "goddess statues" were placed in different locations depending upon which aspect of the goddess the residents honored (Eisler, 1987; Gimbutas, 1989).

Harvard University theologian Elizabeth Dodson Gray (1982) does not agree with Stone regarding older cultures in which females were preeminent and deities female. Gray finds no substantial evidence to suggest that worldwide conceptual frameworks were anything but male. She challenges the notion of a central male deity nonetheless by arguing that just because it has always been told as so, does not mean there are not compelling reasons to change present behaviors and ideas.

Men have named and defined reality from their point of view, their standing point in the experience of life. The biblical account of Adam "naming" the world and everything in it (Genesis 2:19-20a) is a mythological account of a profoundly important truth in the sociology of our contemporary knowledge. (Gray, 1982, p. 48)

Gray (1982) indicates further that the biblical translation has set in motion a system of hierarchy and domination that has harmed planetary
ecosystems. She argues for an act of reconceptualization that is life-centered and healing.

One way to go about reconceptualizing is to look behind the major trends contributing to the global predicament, identify the human behavior patterns that got us into this mess, and then examine, if we can, the dominant beliefs, ideas, and assumptions that influenced the behavior that brought us to where we are today. (p. 14)

Gray holds six major assumptions as predominantly responsible for earth-damaging economies and behaviors and the continued presumption of only one legitimate world view. The six assumptions that Gray and others challenge are:

1. The major mission of humanity on Earth is to conquer nature.

2. The best if not the only road to social progress lies in continuous expansion of the gross output of material goods and services on a national and global basis.

3. Sooner or later science will provide solutions for social problems.

4. Accumulating knowledge from application of the scientific method and the rule of reason will abolish emotion and superstition from the political process.

5. Because of male superiority, societies are naturally organized along patriarchal lines.

6. The main business in international relations is the manipulation of military power in support of inherently conflicting national interests, especially those of the "great powers." (p. 14)

Gray (1982), Stone (1976), and Warren (1987) explain how the creation of these androcentric stories favored the creators of these mythic systems. Those controlling the storyline direct the culture. The inherited traditions from Western philosophy promoted by the early Greek philosophers, and later by Judeo-Christian theologians, together created a world view that supported domination of land and household property, including women and children. The scientific revolution of the 16th century
further justified the domination of nature by the power elite. Carolyn Merchant (1980) describes the language used by Francis Bacon to extol the virtues of technical, rational science and the benefits of exploiting nature:

The new man of science must not think that the "inquisition of nature is in any part interdicted or forbidden." Nature must be "bound into service and made a slave, put in constraint and molded by the mechanical arts." The "searchers and spies of nature" are to discover her "plots and secrets." (p. 169)

**Implications Regarding Modern Agriculture**

Modern agriculture relies on hypertechnology and is vested in technologically oriented control of food production systems (Doyle, 1985). Interventions may be justified to protect both human and nonhuman nature. Whether the interventions are political, epistemological, cosmological, or educational is of less concern than that they materialize. The weight of the data from soil erosion equations to loss of biological diversity provides reason to shift current agricultural methodologies from depleting to sustaining practices (Brough & Durning, 1991; Brown, 1987, 1994; Salwasser, MacCleery, & Snellgrove, 1993; Soule & Piper, 1992).

William Catton, Jr. (1982) describes how technology has changed the face of the Earth in dramatic and unsustainable ways:

From the time when the evolutionary breakthrough by nature brought forth the human way of evolving, the carrying capacity of man's habitat has never been fixed. Ever since man became human by making himself dependent on tool use, his dependence has consisted increasingly of the fact that he occupied niches made possible by his tools--niches that were previously nonexistent. In broadest terms, then, the function of technology has been to enlarge the human carrying capacity of any habitat. From dugout canoe to jet clipper, and from digging stick to giant power shovel, technology has enabled human beings to go places they could not otherwise reach and to use substances they could not otherwise have exploited. Without
technology to make them usable, many substances in man's environment would not have become "resources." (Catton, 1982, p. 151)

Aldo Leopold (1949) took a similar view of technology in A Sand County Almanac. Although he waxes more poetically than Catton when describing the conditions and circumstances, his cautions are similar and unmistakable.

There are [people] charged with the duty of examining the construction of the plants, animals and soils which are the instruments of the great orchestra. These [people] are called professors. Each selects one instrument and spends their life taking it apart and describing its strings and sounding boards. This process of dismemberment is called research. The place for dismemberment is called a university. . . . A professor may pluck the strings of [their] own instrument but never that of another, and if [they] listen for music, must never admit it to [their] fellows or to [their] students. . . . Professors serve science and science serves progress. It serves progress so well that many of the more intricate instruments are stepped upon and broken in the rush to spread progress to backward lands. (p. 153)

Functions of Stories Within Cultural Contexts

Stories have essential functions within a culture. They can entertain and educate about everyday life ways (Bruchac, 1995; Ransome, 1909; Strauss, 1989). William Bascom (1965) argues that one of the functions of folklore is the deliberate manipulation of reality to convince the listener to appreciate a cultural truth represented by the story. The non-verbalized, tacit knowledge is what ultimately comprises an individual's world view (Stahl, 1989). A world view is a set of beliefs, attitudes, and assumptions that shape and reflect one's world and one's place in that world (Warren, 1988). Accepting the stories of one's culture is to subscribe to a certain pattern of behavior represented in those narratives.

The Western world view is not the only tradition that has brought forth creative mythologies and stories. Many indigenous cultures contain
oral traditions, cosmologies, and stories that affirm life, nurture diversity, and identify elements within the natural history sphere of the bioregion (Connolly, 1985; Willett, 1993). Folktales and stories can provide a researcher vital understanding regarding the social realities of a given culture (Stahl, 1989). The storyteller, as everyone else, is socially constructed.

The similarity between folk groups shared by teller and listener elicits the understanding of the story. Cultural experiences shared between teller and listener are complex and "to a high degree responsible for the magic sense of intimacy that accompanies the most effective exchanges of personal narrative" (Stahl, 1989, p. 35). Between the listener and narrator exists an agreement to create a sense of intimacy they both can enjoy.

Ransome (1909) distinguishes between "silk" and "homespun" stories. Silken stories are for the nation, a collective view shared with the world. Homespun stories arise from the oral traditions and are closer to daily reality and human nature. Both can be inspirational and uplifting. Ransome (1909), writing about the history of storytelling, believes that stories are mediators between classical culture and common people. If so, stories provide access to other worlds and ways of knowing and perhaps empower those who encounter them.

Contemporary people continue to produce and tell "modern myths" that may be prescriptive in their storyline; that is, they offer a vision of future possibilities (Simos, 1993; Wells, 1993; Wirth, 1994b; Wood, 1992).
Perpetuating and creating reality

Stories not only mirror reality; they also create and perpetuate it (Johnstone, 1990). Narratives transmit culture as they outline normative behaviors.

Bioregions are sources of situated contextual narratives. Johnstone (1990) believes that "a person is at home in a place when that place evokes stories." Narratives then, can structure a sense of self and the interaction of self with others. The sense of place and community is rooted in narratives. Sometimes the regional images evoked are so powerful that a story belongs less to an individual storyteller and more to a place (Andruss, Plant, Plant, & Wright, 1990; Johnstone, 1990).

Transmitting practical and cultural knowledge

Stories transmit cultural knowledge about appropriate social roles and relations. Addicks (1989) suggests that stories are how the lore of humanity has been and is passed from generation to generation. Native North American stories often use animals to illustrate behaviors that the listener can identify as foolish, brave, boastful, or generous. The lesson is about human behavior, but the listeners are not threatened by feeling that they are being singled out for reprehensible behaviors. They can, in a comfortable way, identify with behaviors in the story and begin to change their own behavior (Strauss, 1989).

Stories often convey factual information. Why the Possum's Tail is Bare and Other Native North American Stories provides natural history details about indigenous wildlife and lessons of proper behavior. The teller is responsible for factual information in a story. But, if facts are
socially constructed, then the validity of facts is dependent upon the context of the situation.

A trap can develop when an ordinary event is misinterpreted. Environmental educator Randy Baker (1989) relates with humor how "myths" and "legends" developed that snakes chase people with a fervor that frightens humans to the core. Some people "truthfully" claim they were pursued by a persistent snake. The "chased" person often omits the context. What actually happens is that the person is afield during the spring breeding season. Some non-venomous colubrid reptiles, like Blue Racers and Coachwhips, are notoriously nearsighted and also extremely amorous during the spring. Any ambient movement in the snake's limited visual world is likely to provoke a quick foray by the reptile as it determines if the movement comes from a member of the opposite sex, same species.

Just as stories can create myth and contextual reality, they can correct misinformation. Baker (1989) uses factual stories to cure false myths and misconceptions. Additional snake tales find their way into contemporary stories as environmental educator Doug Elliott (1992) muses about a local resident who kept rattlesnakes in his kitchen and basement when it became cold outdoors. Elliott related that the man was not expressing cosmological or evangelical zeal in assuming the snakes would do him no harm. The keeper of snakes was simply comfortable with their presence, trusting that they had no reason to bite him. Elliott admits that prior to the encounter in the kitchen, his understanding of snakes was grounded in natural history literature and anecdotes shared by colleagues. Now, when Elliott teaches others about snakes, in addition to science-based
information, he will share the lived experience which might cause program participants to reformulate their attitudes about rattlesnakes.

In some conservative Midwestern communities, writes Johnstone (1990), the monologic or one-sided quality of stories puts far more responsibility upon the storyteller than the usual give-and-take interactions between teller and audiences in other regions. This monologic story developed in the Midwest because part of the culture requires listeners to politely wait for the speaker to finish before they add anything to the interaction or ask questions. To interrupt a speaker in small conservative communities is considered impolite, and the person interrupting the speaker would be considered rude. So, if the audience gives little or nothing, then the teller must give a lot. Extrathematic detail is employed by the storyteller to draw the audience into the story, making meaning explicit and evoking solid agreement with the storyteller.

Evoking memory

Places can trigger memories of events. For example, in the cultural context of the Western Apache, place names remind people of stories. Metaphorically, the place name functions as an "arrow" that "shoots" into the person. The lesson carried by the evoked story "stalks" the person from then on, reminding them how an Apache is expected to behave and consequences of ignoring the lesson (Basso, 1988).

Explaining social status and gender roles

Stories explain social status and storytellers can manipulate social relationships by employing words. In the Midwest community members commonly share helpful advice without directly criticizing an action of their
neighbor. It is unlikely that a person would be told directly how to accomplish a task; rather, the helpful hint will come couched in rhetoric.

Stories also construct and maintain gender roles. From Joseph Campbell's exploration of world myths to Barbara Johnstone's collection of narratives from Midwestern towns, almost universal patterns in narratives appear. Stahl (1989) explains the differences between stories constructed by women and stories constructed by men. Women generally tell stories about other women, about men, and about skills of men. They name characters and describe interactions. Men's stories rarely include women or their skills. Men's stories tend to be peopled with silent characters, often nameless. Women's stories tend to be about interaction between people. Men's stories tend to be about skills, deeds, and problem solving. Men succeed in a story usually because of skill and will. Women succeed in stories because of luck or an external force, not from their innate skill. Women give more detail about people, while men provide more detail about objects and events.

Making sense of everyday reality through literary transformation

Storytelling is a process whereby lived experiences come to have meaning. Stories help people make sense of everyday reality (Wirth, 1995b). Much of human communication, therefore, is storytelling.

Ordinary, mundane events can be worthy of transformation into personal narrative. Two American writers widely acclaimed for their ability to transform daily events into the category of memorates are Rachel Carson and Aldo Leopold. Memorates are stories that take on supernatural qualities. Carson's (1956) descriptions of rambles along the Atlantic coast provoke profound interpretations about human perceptions of the natural world and ways in which connections can be established and maintained:
I sincerely believe that for the child, and for the parent seeking to
guide him, it is not half so important to know as to feel. If facts
are the seeds that later produce knowledge and wisdom, then the
emotions and the impressions of the senses are the fertile soil in
which the seeds must grow. The years of early childhood are the time
to prepare the soil. Once the emotions have been aroused—a sense of
the beautiful, the excitement of the new and the unknown, a feeling
of sympathy, pity, admiration, or love—then we wish for knowledge
about the object of our emotional response. Once found, it has
lasting meaning. It is more important to pave the way for the child
to want to know than to put him on a diet of facts he is not ready to
assimilate. (p. 45)

Leopold, in recounting experiences in the severely damaged "Sand
Counties" of Wisconsin after the farm crisis of the 1930s, admonishes the
"literate" to come to grips with what is empirically evident, arguing for a
change in perception:

The net result is that we have more education but less soil, fewer
healthy woods, and as many floods as in 1937. . . . No important
change in ethics was ever accomplished without an internal change in
our intellectual emphases, loyalties, affections, and convictions.
The proof that conservation has not yet touched these foundations of
conduct lies in the fact that philosophy and religion have not yet
heard of it. In our attempt to make conservation easy, we have made
it trivial. (1949, p. 210)

In "Smokey Gold," an essay in A Sand County Almanac, Leopold
describes the colors of common tamarack trees and transforms these common
deciduous gymnosperms into ethereal entities. The story is accessible to
Leopold's readers, including the consumptive adherents who pursue the
roughed grouse, a challenging quarry for fall hunters. That Leopold, an
avid upland bird hunter, is able to give pause in his ardent pursuit is a
tribute to story crafting as well as to his ability to perceive beyond the
surface.

The tamaracks grow not only in the swamp, but at the foot of the
bordering upland, where springs break forth. Each spring has become
choked with moes, which forms a boggy terrace. I call these terraces
the hanging gardens, for out of their sodden muck the fringed
gentians have lifted blue jewels. Such an October gentian, dusted
with tamarack gold, is worth a full stop and a long look even when the dog signals grouse ahead. (1949, pp. 56-57)

Finally, personal narratives can become memorates. Consider how observing the green fire in the eyes of a dying wolf go out transformed Leopold from the myopic, single species game manager to one of America's most revered environmental ethicists.

In those days we had never heard of passing up a chance to kill a wolf... we reached the old wolf in time to watch a fierce green fire dying in her eyes. I realized then and have known ever since, that there was something new to me in those eyes—something known only to her and to the mountain. I was young then, and full of trigger-itch; I thought that because fewer wolves meant more deer, that no wolves would mean hunters' paradise. But after seeing the green fire die, I sensed that neither the wolf nor the mountain agreed with such a view. (Leopold, 1949, p. 130)

Essential Elements in the Creation of Narratives

Selecting the narrative

First and foremost, an educator should consider stories they like (Schimmel, 1991). A half-hearted commitment to narrative will lead to a less than convincing rendering. Mentor Addicks (1989), an environmental educator, selects only stories that move him emotionally. He reminds other educators that human beings not only observe, but also experience, life. In this regard, stories convey information through the emotions (Baker, 1989). Storytellers choose certain stories because of the effect that the story has upon the listeners. Some storytellers intend to lead the audience beyond the mere explanation of things into the realm of mystery (Addicks, 1989).

The plot should be fairly simple. Rich descriptions are helpful in placing the story in the mind of the listener, but the plot should not be
confusing. The language and the mood set are more important than the actual plot. To engage the listener, the story should get into the action quickly. The ending should be obvious.

The storyteller is free to choose what to tell, what to highlight, what to emphasize. American culture, according to Stahl (1989, p. 24), is "a value system increasingly constructed piecemeal . . . rather than being adapted intact from a single authorizing source." As authorizing sources, churches or rigid centralized governments have lost influence as society has developed along more secular lines and incorporated acknowledgment of cultural diversity into mainstream thought. For this reason, searching for and finding stories and myths in America that have universal meaning and power to enable and encourage certain behaviors may be difficult.

Storytellers may choose among several kinds of stories as follows:

1. A thematic story employing the anecdote
2. A personal narrative telling of an ordinary event that can provide a lesson about life
3. Witz: a flash of humor, possibly spiced with helpful lessons
4. Exemplum: a moralistic tale about proper behavior or right relationship with a fellow human or a member of the greater biocentric community
5. Memorate: the recounting of an event which takes on elements of the supernatural and spiritual domain

Old Man Coyote stories, common among Native North American storytellers, provide an example of the Witz in which humor is used to teach (Strauss, 1984). Biblical parables furnish instances of the effective use of Exemplums (McIntosh, McLeod, & Herney, 1994). Memorates, taking the
form of legends and belief tales, are found in creation myths in cultures worldwide (Davidson & McLaughlin, 1994).

Learning the story

Maintaining sequential order is essential for an oral narrative. Unlike a motion picture with flashbacks providing visual as well as auditory markers, a story relies on the power of the mind to create and hold the image for the hearer of the story. If sequences are not maintained, the mind may become lost on one of many pathways (Addicks, 1989; Yemoto & Morton, 1981).

Storytellers utilize several techniques for "mapping it out" (Schimmel, 1991). Many storytellers start with determining which words are important to the telling of the story, move to visualizing the story as the plot evolves from beginning to end, and then focus on the actions that occur throughout the story as high points to remember.

The importance of memorizing the scenario word-for-word varies by culture. In the Inuit tradition it is considered a breach in ethics if the teller does not render the tale verbatim, recreating in detail each part as it has been told since the beginning in time of the telling of that story. In traditional Zuni storytelling, the narrator is expected to "embroider on the basic plot" (Schimmel, 1991). Some educators advise against memorization (Addicks, 1989), believing that if the story is divided into scenes visualized by the storyteller as they place themselves into the story, the story will "tell itself."
Telling the story

While becoming acquainted with the nuances of the particular story, storytellers often toy with it, determining where gestures enhance the telling. They analyze the contents for scary or humorous sections and piece facial gestures, hand movements, and body language with a particular segment of the narrative (Addicks, 1989; Regnier, Gross, & Zimmerman, 1992; Yemoto & Morton, 1981).

Transitions can be marked with pauses or with an affirmation selected by teller and listeners at the beginning of the telling. The telling of a story, then, is an act of co-creation between the teller and the audience. The spoken or written text is only a partial explanation of the experience.

If written words carry a book and visuals float a motion picture, the voice of the narrator is the vehicle for the story. Feelings, intrigue, sadness, humor, and a full range of emotions can be conveyed by voice. Loudness and softness can be woven by the narrator as scenes change to elicit levels of secrecy and suspense. Often, the skill of the storyteller will permit changing voices to refer to the character currently speaking. Part of the story resides in the aesthetic transaction (Stahl, 1989).

Yemoto and Morton (1981) and Mike Caduto and Joseph Bruchac (1994a) encourage storytellers to exercise their voices to gain the full range of the impressive effects and recommend humming exercises to increase one's ability to "physically pull your voice from deep within."

People in the same folk group may tell stories in different ways. Personal style is important; good storytellers develop their own sense of style and delivery (Addicks, 1989; Johnstone, 1990).
Evaluating and closing

Many storytellers are anxious to draw feedback from their audiences. Some simply ask, "What do you think?" Others ask specific questions related to the narrative, especially if they had a teaching intent (Caduto & Bruchac, 1994b). Some educators do not recommend pointing out the moral or summarizing the story (Addicks, 1989; Strauss, 1989, 1991). Consider an example in which the point of the story was conflict resolution. If the listener is psychically unable to deal with that lesson, external moralizing will not help. The beauty of storytelling, according to Susan Strauss (personal communication, August 24, 1995), is that teaching can be accomplished "without the smell of moralizing or becoming blatantly didactic." At the very least, spending time with an audience at the conclusion of the narrative indicates to the audience that the storyteller is interested in them. This in turn builds empathy and trust between the storyteller and listeners, resembles the negotiated interaction Stahl (1989) describes in her discussions regarding folkloristics.

Meaning in Stories

Sandra Dolby Stahl (1989) believes that stories "live on" in the voice of the narrator. She uses the word "magic" to describe the incorporation of self into a narrative. The purposes of creating and maintaining the personal narrative form include entertainment value, ability to move people, the permanent impression formed upon the human psyches, its ability to excite intellectually and perhaps motivate to action, and finally, ability to teach (Baker, 1989).

The study of narrative within the discipline of folkloristics is important because stories provide a way of better understanding intricate
relationships than is obtained by limited observation of a particular group. Deconstructing the text of narratives requires acknowledging that what is happening as the story flows between teller and audience is transformative (Stahl, 1989). The meaning of the story is a complex recapitulation of real or imagined experiences of the listener, the cultural context, and the sensibilities that the storyteller brings to the situation. To Stahl the story happens in the intangible mind of the listener. The mind "hears" the story, bringing with it all the intricacies that exist in one conscious human being. Stories are situated in a context involving particular speakers and hearers with specific rhetorical tasks (Johnstone, 1990). What the story sounds like depends upon complex and multifaceted factors: who is telling the story, who is hearing the story, and the purpose of the story.

Simple stories can move us greatly. Consider the parable of the Prodigal Son, the biblical story of the child who leaves home against his father's will, but later returns and is forgiven. Or, consider the child questioning why an elderly person walks along the beach throwing stranded starfish back into the ocean when, "It doesn't really matter, there are so many of them." The child is told, "It matters to this one." The complexities of the conscious and subconscious mind are very difficult to analyze and understand with certainty (Bolen, 1984; Estes, 1993). Meaning is a function of the mind of the hearer/reader.

Interpretation of stories by critics centers around the meaning articulated by the listeners (Dundee, 1966). The interpretive emphasis is a function of the people experiencing the story. The author or teller is dependent upon the prior knowledge and experiences of the listeners as the
main mediating agent for how the listeners will respond to the meaning. Dundee (1966) suggests that field workers collecting stories should attempt to elicit responses from the listeners. This is a premier consideration since, as mentioned earlier, the story "happens" in the mind of the listener and it is in the mind where the allusions meaningful to the individual and community can be found (Stahl, 1989). Relying upon outside observers to attach meaning may lead to ambiguity if they are not familiar with the literary allusions specific to the local area.

Meaning is also context dependent (Levinson, 1983). When focusing on a specific situation one must consider what the world is like and what the intentions of the speaker are at the time of the interaction. Linguistic context includes what both speaker and hearer do (Schiffrin, 1987). By extension, sharing the same social contexts makes it easier for teller and hearer to reach agreement on interpreted meanings within stories. "Prior text" refers to items familiar to both speaker and audience, permitting the story to move on in a manner understood by both parties (Becker, 1984). There are, in other words, unconscious rules by which people cooperate in conversation to assure that meaning is transmitted (Tannen, 1984).

A model explaining how tellers encode language and hearers decode language into images is not sufficient to explain how interpretive interaction works. The efficacy of storytelling is best understood as an interactional process. Johnstone (1990) argues that:

Meaning is never determinate. It is always personal, emergent in the interactions among particular people in particular situations. . . . Meaning is always meaning by someone and meaning to someone; stories don't mean things, but people, who tell and listen to stories do. (p. 63)
Personal narratives are emic in scope which means that they represent a view that the people hold of themselves, rather than a view imposed upon them by an outside scholar (Ben-Amos, 1976). As such, they tend to be ethically superior and hence more significant to the listeners than world views imposed by outsiders (Willett, 1993).

The point of the story can sometimes be different than the recognized plot (Estes, 1993; Stahl, 1989). For example, a story within a story is how Estes (1993) describes the complicated unfolding of some tales that at first may seem to be about two objects given as gifts, one lover to the other, but the underlying meanings are really about love, sacrifice, and the value of feelings rather than physical objects.

Storytellers admit to "making the story better" to serve the anticipated needs of the audience or to promote the chosen lesson more clearly (Stahl, 1989). The manipulation of plot and message is not necessarily inimical; rather, it serves both teller and listener since the story then becomes a vehicle for expressing values (Firth, 1953). The hidden agenda in stories is the teaching of cultural values.

The Story Pathway

Experience provides the raw material for stories. From everyday occurrences, the composition of a tale grows. If the occurrence is significant to the person experiencing it, then it becomes an event. The description of the event is the story. A linear flow chart developed by Sandra Stahl (1989) reflects the generative movement of a story from the raw material of the experience to the finished art work.

Experience --> Event --> Story
The Value and Validity of Personal Narrative

Personal narratives take various forms. The spectrum includes intimate family histories that are widely shared (Stahl, 1989); anecdotes involving a small group of friends (Johnstone, 1990); team members or business associates; humorously rendered accounts of everyday events; and glimpses into a life-changing event used as an allegory in the future (DeLeuw, 1995). Some personal narratives do not extend much beyond the life of the narrator (Stahl, 1989). Others are incorporated into the national folkway traditions and become part of the way that a culture resonates with its collective identity, such as the stories of Laura Ingalls Wilder (1932, 1935).

The Psychology and Physiology of Stories

From earliest times stories have possessed the power to move people. Social psychologists have recognized this and explored the reasons. People are willing to suspend logic, reality, and accuracy in order to interact with the storyteller. The human emotional response involves two factors. First, when "true emotions" are involved there is a change in the physiological state from nonarousal to arousal (Schacter, 1964). Second, and equally important, the new state of arousal must be interpreted by the listeners in emotional terms. The power of a performance fosters altered physiological states (Caduto & Bruchac, 1994a; Stahl, 1989). The performers and audiences interpret physiological effects as emotional events.

When the teller and listener are engaged in the act of storytelling, physiological changes occur in both the teller and listener (Schacter, 1964). The act of speaking causes the blood pressure of the storyteller to
rise. This stimulates the storyteller and may be sensed as a pleasurable experience (Lynch, 1985). For the audience, the act of listening has as powerful an effect in the opposite direction. Listening lowers the blood pressure. This sense of relaxation is often interpreted as a pleasurable sensation by listeners. Synthesizing elements of both Schacter and Lynch, Stahl (1989) concludes that the power of performance becomes an intimate emotional exchange between the teller and the audience. The perception is one of intimacy and pleasure.

People can claim authority from stories they tell when the story holds a communal truth. In the summer of 1993, the Midwest experienced a flood of almost biblical proportions. Stories appeared in legion. Many were dramatic renderings of behaviors brought on by "the flood." Employing animate predicates to define certain events seats them more deeply into the collective memory of people who experienced the event. A term such as "the Flood of '93" evokes powerful images for those who experienced this event. The event becomes an entity in and of itself.

Historical reality is socially constructed through language. Stories mirror and create social power and authority (Gray, 1990, 1992b, 1994; LeGuin, 1981). George L. Dillon (1981) states that people remember things that are presented to them in narrative form better than things which are not. Truth established in narrative has a stronger cognitive effect than the truth established through rationality (Bruner, 1986).

Narrative plays a crucial role in the cognitive development of children (Halliday, 1976). Kieran Egan (1986) argues that mainstream education has nearly abandoned narrative in favor of the logico-mathematical form of education when children possess enormous capacity for
both. The well-ordered world of education leaves little room for the emotional nature of children (or adults). Yet stories in childhood set up the understanding of binary conflict, that is, the opposition of good and bad, bravery and cowardice, truth and deceit, that provides the foundation for children's future problem-solving skills (Egan, 1986).

We make sense of the world and experience "affectively" no less than "cognitively." Indeed, the separation of the two is a product of the same research programs. Do we make sense of a story affectively or cognitively? Well, of course both work together. We are not divided into two distinct parts. As we hear melody and harmony as one—though we can separate them in analysis—so we make sense of the world and experience in a unitary way—regardless of what distinctions we might make for research purposes. (p. 29)

The setting is an important component in storytelling. The listener/reader is transported to another world; the storyteller is responsible to make clear what that world is like. Details in the right proportion give substance to the ideas in stories (Bauman, 1986; Regnier et al., 1992). By providing enough background detail, the storyteller responds to the cognitive need of the listeners to place themselves in the story (Chafe, 1980). Detail helps the listener to be present for and in the story. Detail creates what Chafe calls the "poetic involvement," forcing listeners to use their imaginations. The audience members actively participate in the drama unlike "couch potatoes," the impassive, nonresponsive viewers of today's television viewing, much disparaged by media critic Gerry Mander (1991).

Synthesis

This chapter has made explicit the connections between world views, which locate value only in economics, and how deterioration of nature rises from such value systems. Narrative traditions evolved to boast, teach
practical and cultural knowledge, and to promote specific cultural values. Archaeological, theological, and literary records indicate that Western cultures evolved from androcentric traditions. This perspective damaged the Earth and people who did not possess privilege and power. Modern agriculture is based upon the system of domination inherited from Western world views. As such, its very nature promotes unsustainable practices and dispossesses local human and nonhuman inhabitants.

Stories within the appropriate cultural context transmit practical and cultural knowledge, evoke memory, and explain social status of individuals. Stories help people make sense of everyday reality and are the basic way in which people communicate meaning to one another.

Educators can exploit the effectiveness of storytelling by learning how to select narratives, learning the stories they choose to tell, and telling them in compelling ways. Understanding the power of a person’s folk group to encode meaning in stories helps educators to select and evaluate narratives as teaching tools.

Research shows that people are psychologically and physiologically compelled to respond to information presented in narrative form. This can be both advantageous and detrimental to educators since people absorb correct and inaccurate information in stories.
Environmental ethics, emerging minority traditions within the broader category of Western philosophy, deviate from traditional philosophy by going beyond theorizing to practice. The arguments and claims of adherents are based in measurable behaviors rising from fundamentally different world views and ways of knowing. These philosophies have an organic, tangible component, a praxis. Despite differences, the environmental ethics discussed in this chapter—bioregionalism, deep ecology and ecofeminism—share some common ground, appearing to follow more closely certain features of Native American cultural traditions and Eastern philosophical traditions such as Taoism and Buddhism. Andruss et al. (1990), Devall and Sessions (1985), Eisler (1987), LaChapelle (1984), Sale (1991), and Simos (1987) identify characteristics within minority traditions and contrast them with elements in the dominant culture. These contrasts are summarized in Table 1. Note that the analysis of these philosophical traditions includes observable behaviors as well as ideologies (Devall & Sessions, 1985; Eisler, 1987).
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Western Traditions</th>
<th>Emerging Minority Traditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>Centralized authority</td>
<td>Decentralized: non-hierarchical and consensus decision-making</td>
</tr>
<tr>
<td>Levels of Responsibility</td>
<td>Bureaucratic</td>
<td>Community-based</td>
</tr>
<tr>
<td>Personal Motivation</td>
<td>Rugged individualism</td>
<td>Self-responsibility</td>
</tr>
<tr>
<td>Philosophy of Leadership</td>
<td>Leadership through imposition of will</td>
<td>Leadership by modeling positive examples</td>
</tr>
<tr>
<td>Drives to Excellence</td>
<td>Competition</td>
<td>Cooperation and interdependence</td>
</tr>
<tr>
<td>Consumers' Orientation</td>
<td>Consumerist, throw-away, wasteful behaviors</td>
<td>Voluntary simplicity, frugality, repair, and recycling behaviors</td>
</tr>
<tr>
<td>Authorizing Texts</td>
<td>Secular authority</td>
<td>Magico-religious traditions</td>
</tr>
<tr>
<td>Spiritual Traditions</td>
<td>Churches monopolize religious rituals.</td>
<td>Rituals are community-based and accessible to all citizens without mentorship of religious hierarchy</td>
</tr>
<tr>
<td></td>
<td>People require a go-between to encounter the &quot;sacred.&quot;</td>
<td></td>
</tr>
<tr>
<td>Task Orientation</td>
<td>&quot;Only one way up the mountain&quot; attitude</td>
<td>Many paths lead to the summit; a diversity of viewpoints are tolerated</td>
</tr>
<tr>
<td>View of Nature</td>
<td>Nature as inanimate &quot;data&quot; and consumable natural resources</td>
<td>Nature as animate and &quot;alive&quot;</td>
</tr>
</tbody>
</table>
Three Environmental Ethics Rooted in Praxis
Rather Than Theory

Bioregionalism

"Don't move!" characterizes one of the primary beliefs of adherents to bioregional ethics (Snyder, 1990). Living in place, open to the pleasures of life as manifest within a particular locale, are shared convictions of individuals involved in bioregional praxis. When necessities are fulfilled without compromising the long-term health of a region by the act of habitation, sustainable economies emerge. Bonds are created between local people, and local plants and animals are viewed as neighbors within the bioregional community. Bioregionalists acknowledge bonds with seasons, weather, and the hydrologic cycle of a locale (Berg & Dasman, 1990). Decentralized, non-hierarchical, government is preferred to remote centralized authority. Communities, integrated into local ecosystems, form sustainable partnerships with the land, rather than mining planetary resources. Stephanie Mills (1993, 1995) urges a rigorous study of natural history and biology to prepare for rehabilitation of the land. Consensus decision making is important to the identity of the local community because it acknowledges multiple perspectives and assures that each perspective has a voice in the conclusion (Simos, 1987). In addition, bioregionalists believe that communities function most justly when fewer than 500 people are involved in the process of day-to-day living, decision-making, and community-building (Sale, 1991).

Bioregionalists agree that intricate knowledge of one's home range is essential to bioregional praxis. Most bioregional philosophers also agree that bioregionalism is a slippery concept. A bioregion can be defined by
climate, vegetation, altitude, cultural nuances, weather patterns, biotic shifts, and/or the watershed of a primary river and its tributaries. Much of the current literature tends to rely on watershed boundaries to delineate the area. For the novice educator or those unfamiliar with environmental ethics, watershed is the easiest way to conceptualize a bioregion.

Behaviors that celebrate a bioregional attitude include producing and eating local foods and generally rejecting those which must be transported long distances. Intense familiarity with local weather including dates of first frost, approximate first measurable snowfall, length of growing season, frost depth in winter, seasonal high and low temperatures, and the onset of spring rains indicate focus on one's home range. Bioregional lifestyles include: knowledge of local plants and animals; use of decentralized energy sources such as small scale hydropower, biomass conversion, wind and solar; management of the watershed such that one activity does not harm activities elsewhere; and finally, a vibrant local culture with entertainment being "home grown" rather than imported (Wirth, 1995a).

Living with regional consciousness does not necessarily imply isolationism. Many bioregional visionaries and participants meet to share information. There are, as Kirkpatrick Sale (1991) contends, no barriers to knowledge. These intense, organic, sensual, and intellectual bonds to the local community generate local stories. Bioregional stories, as a genre, go beyond the noticeable dualisms, binary conflicts, resolutions, and transformation that characterize many narratives from cultures around the
world. The story content in bioregional narratives is engaging, celebratory, connected to physical place, and life-affirming.

Jim Cheney (1989) argues that narrative is informed by the geography in which it resides. Place is the contextualizing agent where "ethical deliberations take place." In that regard, a bioregional narrative of place is one of the most powerful ways in which people define themselves. Cheney contends that home place fills basic needs of self understanding and expression.

Mythic images evolving in a specific place over time, according to Cheney, are instructive by nature. They contain one's moral space. Narratives born within landscapes do not deny place; rather, they help humans work in partnership with nature. Cheney regards some of the Christian narratives, formed in desert conditions, as examples of stories that denied nature, highlighting the cultural geography at the expense of the physical geography. The value dualism of culture over nature found a willing audience within the biblical communities.

Narrative born from landscape provides authenticity for both speaker and listener. This privileged discourse, according to Cheney, gives the speaker authority to describe real life events occurring in genuine landscape. Narrative grounded in landscape is difficult for postmodern theorists to dismiss with the contention that it is impossible to determine "how things really are." Bioregional narratives confirm that it is indeed possible to corroborate "how things really are." Barn owls really do hiss when agitated, coyotes leave footprints in the desert, and trees can be identified by their bark.
Narratives promoting bioregionalism

I'm in Charge of Celebrations is a Byrd Baylor classic. Baylor, intimately acquainted with the subtle nuances of her desert home, keeps track of the routine occurrences surrounding her. Dust devils and rainbows are not uncommon events in areas of open sky. Baylor (1986) brings her keen perceptions to the experience and creates a story.

Celebrations on this calendar do not occur for the same reasons they do within Western culture. The dominant culture seems caught up in portraying its history as punctuated with battles, recovering from battles, or getting ready for battles. The celebratory events for Baylor include dust devils, chance meetings with a coyote, clouds, falling stars, and that special day in winter when one can feel the back of winter break as the first tentative blossom appears. These accessible events form the deeply rooted "knowing" of one embedded in her landscape.

Rain Rain Rivers situates humans within the built environment, while acknowledging that the built environment is part of a greater watershed upon which human culture rests. Author Uri Shulevitz (1969) begins with the sound of rain on a roof, takes listeners through town then out to the countryside where rills, creeks, rivers, and eventually the oceans swell with the event of a heavy rain. Seascapes and mountains are described. The story ends within a human environment made special with the rainfall. Children are dancing in a puddle on a city sidewalk as new plants begin to grow. The two primary features in this story, human culture and nature, are presented not as antagonistic but rather as parts of an integrated whole.

River by Judith Heide Gilliland (1993), distinctly defines a bioregion by invoking the principle of watersheds. The riparian system is
on a grand scale; its name, the Amazon. Beginning high in the Andes, "a
cold trickle no wider than a baby's foot," the river grows and becomes
"fast, rough, and loud." The story carries us through exotic forests of
strange and beautiful flora and fauna and where huge white herons nesting
in the tall trees look like white flowers unfolding when they take flight.

The story is linear and sequential. We begin in the Andes mountains
of Peru and travel thousands of miles through sluggish backwaters, over
treacherous, noisy rapids that explode into waterfalls surrounded by
rainbows before we, and the river, are poured into the Atlantic Ocean to
the east. There is no conquest. There is no marveling at the economic
resources that could be pressed into service for humankind. There is simply
an eloquent description of a fantastic watershed inhabited by people and
animals who appear to know how to live in balance.

The message is gently subtle. Enjoy the landscape. It has variety,
depth and excitement. It has many faces. The adventure comes in learning
all the faces.

*Walk When the Moon is Full* by Frances Hammerstrom (1975) describes
familiar landscapes that take on mysterious and alluring characteristics
during the full moon. A cornerstone of bioregional sensibility is
reinforced when one knows home during more than the usual diurnal times
that humans normally inhabit. Familiarity with one's neighbors includes the
nocturnal creatures as well. When the night shift punches in after dark it
is possible to observe a different faunal kingdom in the dark. Quiet deer,
blinking opossums, dancing woodcock, hissing barn owls, noisy frogs,
beautiful moths, twinkling fireflies, fast weasels, singing foxes, and
sleeping flowers surprise a mother and her two children as they take their monthly walk during the full moon.

At first, the children are reluctant to leave the lighted security of their home to follow Mom into the forest. As the months progress, however, the children initiate the night prowls and become more acclimatized to their home range. The adult reader is at once aware that Fran, the mother, is a bioregional citizen. She has grown up observing her home place and knows what her children will discover as they journey into the dark. She leaves the discovery to them, answering questions as they arise, or simply pointing or suggesting that they "look" at a creature or event she knew would be waiting.

This is a true story. Several habitats and bioregions are described. The skilled naturalist will be pleased with the natural history detailed in Hamerstrom's story. Children find the book a fascinating adventure in a landscape that, due to its unfamiliarity in their limited experience, seems exotic and exciting. The author relates in the epilogue that the adventures prompted her children to do the same with their own children. Readers have adopted the habit of "moon walking."

This book is a classic story. There are no villains, no evil-doers, or obstacles that must be overcome except personal apprehension of darkness. An element of fear titillates just enough to be enjoyable. The experience can take on aspects of a Memorate, that is, a story that projects aspects of the magical, especially if one were to hear the call of a free-roaming wolf pack, or the scream of a juvenile Great-Horned owl.
Deep ecology

The term "deep ecology" was first coined by Norwegian philosopher Arne Naess as a means of portraying and critiquing the dichotomy created by the opposing world views of biocentrism and anthrocentrism (Devall & Sessions, 1985). Deep ecologists hold that all creatures and ecosystems have intrinsic worth regardless of the utilitarian values placed upon an object or creature by human-centered systems of measuring worth (Wirth, 1995a). An anthrocentric world view assumes that humans are the centerpiece of creation and that planetary resources are destined to serve humans regardless of the cost to natural systems. Conversely, a biocentric world view believes that humans are just one of the many life forms inhabiting planet Earth (Poisson & Poisson, 1994; Wirth, 1995a).

Maintenance of vast wilderness areas or restoration of formerly pristine areas is of primary concern to those sharing a deep ecology perspective (Nash, 1967). Maintaining, restoring, and increasing species diversity is also a prime issue for many deep ecologists. Some claim that the perception of boundaries between humans and the environment indicates that most humans fall short of a deep ecology consciousness (Fox, 1991). Perceptions that create these boundaries are theoretical constructions and not based within organic, biological reality. It is presumed that once humankind becomes aware of its embeddedness within natural ecosystems, alternative behaviors will manifest. Bill Devall and George Sessions (1985, p.70) reveal eight basic principles of deep ecology. They include:

1. The well-being and flourishing of human and nonhuman life on Earth has value. These values are independent of the usefulness of the nonhuman world for human purposes.

2. Diversity of life forms is valuable.
3. Humans have no right to reduce this richness and diversity except to satisfy vital needs.

4. A decrease in human population will help all life flourish.

5. Human excesses interfere with the nonhuman world and should cease.

6. Basic economic policies must change.

7. The ideological change is mainly that of appreciating life quality (dwelling in situations of inherent value) rather than adhering to an increasingly higher standard of living. There will be a profound awareness of the difference between big and great.

8. Those who subscribe to the foregoing points have an obligation directly or indirectly to try to implement the necessary changes. (Devall & Sessions, 1985, p. 7)

Delores LaChapelle (1984) argues that formation of deep relationships with the land tends to maintain the ecological integrity of that land. She claims that part of that relationship resides in the nonrational human psyche. Ritual, according to LaChapelle, is essential for ensuring that the human community remains grounded in the natural world. Examining other cultures, LaChapelle notes that there are records of human habitation spanning centuries. In the United States, she speculates, the conquering Euro-Americans have not had the time to develop long-term relationships with "place." LaChapelle, a self-defined deep ecologist, appears to embrace tenets of bioregionalism as well. If rituals are emerging as a response to living in a certain place, and these rituals help bond humans to place, then deep ecologists and bioregionalists may find areas of agreement. Ritual is motivated and expressed through art, dance, games, and myth (LaChapelle, 1984).
Narratives promoting deep ecology

Landscape and Narrative, an essay from the collection Crossing Open Ground by Barry Lopez (1989), examines animal behavior from the reference point of individuals who accord intent and volition to elements within their landscape. Tales of a wolverine, one of the Arctic's most secretive and powerful predators, is grist for stories that take on qualities of memorates. Individuals telling and hearing the stories accept wolverine behavior as natural and are content to let the behavior go unexplained. Deep ecological consciousness extends the sphere of moral considerability to other elements of the landscape.

Lopez tells a story about a native hunter chasing a wolverine across the tundra, first recognizing the wolverine as a dark dot on the horizon. The hunter draws closer, but the wolverine, now running, is always just cresting the next rise. A series of hills are traversed. Finally, the hunter crests a hill only to see the wolverine running towards him. The wolverine launches over the engine cowl, clears the windshield, and hits the driver full in the chest, knocking him off the snow machine. The hunter sprawls in the snow as the snowmobile rolls over. The wolverine ambles off the hunter's torso, leaving him unscathed. Biologists are unable to explain this behavior. What follows is more interesting; the wolverine turns and glares at the hunter, and then walks away. The hunter reaches for his rifle and then checks himself. He does not shoot. Those listening to the story do not question why a shot is not fired.

Lopez does not imply that the hunter is in shock and rendered unable to move. Was this an act of a wolverine counting coup? Lopez does not tell. Lopez does not speculate. What seems clear is the acknowledgment that
wolverine and human inhabit the same landscape and both are accorded respect.

Crow and Weasel by Barry Lopez (1990) is written in "myth time." At first blush, the story seems to follow the superficial native cliche popular in the last part of the 20th century. The tale departs from this genre as the main characters begin a journey. The quest is for inner knowledge and opportunity to see and embrace new lands and people. The characters cultivate an eye for appreciating and celebrating differences rather than viewing landscape as territory to be invaded. The goal of the adventure is to come "home" with broader knowledge so that one can continue to live in place, but in a better, more integrated fashion. Lopez skillfully weaves an adventure that is warm, humorous, tense, and compassionate. His characters, Crow and Weasel, mature not in physicality, but in what they are able to accept with their intellects and compassion, one of the best undertakings of remything. The importance of story is central to the primary message in Lopez's work. When old Badger is sharing food and stories with the two young people, she asks them to remember only one thing:

The stories people tell have a way of taking care of them. If stories come to you, care for them. And learn to give them away where they are needed. Sometimes a person needs a story more than food to stay alive. That is why we put these stories in each other's memory. This is how people care for themselves. One day you will be good storytellers. Never forget these obligations. (Lopez, 1990, p. 48)

Skinny Legs and All is a contemporary tale by Tom Robbins (1990) that contributes to the thesis that Clarissa Pinkola Estes (1992) purveys in Women Who Run With Wolves. There are stories within stories and people can distill what they need from certain stories.
Robbins plays several counter melodies simultaneously. The surface narrative involves a journey through an unconventional life by heroine Ellen Cherry. The narrator’s voice, present in most scenes, contributes to the interpretation of the plot. As the saga evolves, there are cosmic points that Robbins seems very anxious to convey, and he uses the story as the vehicle.

Mysteries are revealed throughout the book, and a deep ecological consciousness emerges as the second voice of the story. When the message is not clear from the actions of human and inanimate object characters, Robbins fills in the details.

A longing for the Divine is intrinsic in Homo Sapiens. (For all we know, it is innate in squirrels, dandelions and diamond rings, as well.) We approach the Divine by enlarging our souls and lighting up our brains. To expedite those two things may be the mission of our existence.

Well and good. But such activity runs counter to the aspirations of commerce and politics. Politics is the science of domination, and persons in the process of enlargement and illumination are notoriously difficult to control. Therefore, to protect its vested interests, politics usurped religion a very long time ago. (Robbins, 1990, p. 189)

The story effectively sets out widely held deep ecological tenets. An expanded consciousness which accords respect to members of ecosystems while rejecting the notion that ecosystem members are "resources" for the exclusive use of humans are strands used by Robbins in this story. What separates Robbins’ story from typical deep ecological consciousness is that he employs farce and crass humor to tell the story. Much of the writing by those advocating deep ecology praxis is very serious, academic, and humorless. Robbins is irreverent, most unusual for stories that advocate a higher plain of consciousness and court the nobler sensibilities. Robbins
is somewhat inclined to play the role of the Sacred Clown or Coyote Trickster to tell the story.

The Girl Who Married Rattlesnake is a Pomo story from the collection edited by Richard Erdoes and Alfonso Ortiz (1984). A woman chooses to marry a rattlesnake and four sons are produced. People from the woman's former village sometimes passed by the location where her rattlesnake children were playing. The young snakes were likely to coil and strike at the human beings, but their mother warns, "No, you should not bite your relatives." This is a fundamentally important statement since the family is extended to include more than Homo sapiens. Erdoes and Ortiz devote a whole chapter to the concept of sentience as something that crosses the lines between species.

The chapter heading, "Two Legs, Four Legs and No Legs: Stories of Animals and Other People," includes animals as members of a total community. Despite the use of animals for meat, clothing, and shelter, many native cultures accord animals respect on the basis of their habitation within the ecological community. These myths honor one of the tenets of deep ecology, that is, that humans have no right to reduce the diversity of life except to satisfy basic needs. The other entities in the bioregion have personhood, according to many native cultures (Savageau, 1992).

Undressing the Bear, by naturalist Terry Tempest Williams (1994), is flavored with deep ecological and ecofeminist ethics. In certain deep ecological states of consciousness, the individual is encouraged to allow the personal self to merge with the wider sphere of the natural world. Williams' description of desert landscapes suggests that she is conscious of a transcendent state in which she becomes that which she beholds.
That night, a lunar rainbow arched over Dark Canyon like a pathway of souls. I had heard the Navajos speak of them for years, never knowing if such magic could exist. It was a sweep of stardust within pastel bands of light—pink, lavender, yellow, and blue.

In these moments, I felt innocent and wild, privy to secrets and gifts exchanged only in nature. I was the tree, split open by change. I was the flood, bursting through grief. I was the rainbow at night, dancing in darkness. Hands on the earth, I closed my eyes and remembered where the source of my power lies. My connection to the natural world is my connection to self—erotic, mysterious and whole. (Williams, 1994, p. 56)

Narrator and landscape merge as human consciousness opens to allow the possibility. As in deep ecology, the separate self gives way to the self within the wilderness.

This story and others are collected in the hardbound edition, An Unspoken Hunger (Williams, 1994). There are inherent perils within the desert where life is lived on the edge with little tolerance for mistakes or carelessness. Williams' details concede the hardships without begrudging. The landscape is teacher, provider, and friend.

Ecological feminism

French writer and activist Francoise d'Eaubonne (1980) first used this term in 1974 to symbolize the centrality of women's role in bringing about an ecological revolution that would ensure the survival of the planet. To some, ecological feminism is the logical confluence of two strands of concern. Of equal importance are concerns for the Earth and concerns for women (Gray, 1990). Philosopher Karen J. Warren describes important connections between domination of the Earth and the domination of women (Warren, 1987). Both are treated in ambivalent ways by oppressive systems and the connections are linguistic, epistemological, historical, and philosophical. According to Warren, cultures that tend to denigrate
women tend to denigrate the Earth. Unlike many deep ecologists, ecofeminists take seriously the work of environmental justice and gender equity as part of the means to achieve a sustainable future. Ecofeminists generally claim that the predominant oppressive model is patriarchal, and until sexism is eliminated environmental restoration is not possible (Warren, 1990).

Theorists and practitioners of ecofeminism agree that there is a spectrum of beliefs that can be identified as ecofeminist. Yet, despite their differences, ecofeminists are unwilling to allow "outsiders" to drive wedges between individuals and their various views (King, 1992). The ecofeminist quilt has room for diversity (Warren, 1988). For example, Elizabeth Dodson Gray (1994) comes to ecological feminism from a Christian tradition. Gray seeks to reconcile deep spiritual beliefs that celebrate creation in ways that are not hierarchical.

Margot Adler (1979), National Public Radio’s New York Bureau chief, approaches ecofeminism from neo-pagan traditions that utilize earth-centered rituals and myths that acknowledge interdependence of life within ecosystems as the basis of interactions with the world. Metaphors and implied metaphors are important to neo-pagans. When neo-pagans refer to the Earth as "Mother" they imply metaphor. Adherents understand that the metaphor means source of sustenance and an entity that must be respected and maintained. Most neo-pagans are fully appreciative of biological parenthood and the physiology of the birth process. This grounding in scientific reality does not, however, dilute their delight in the use of metaphorical language and images. The metaphor acts as a means of shifting consciousness to better attune people to the energies of the Universe.
Charlene Spretnak approaches ecofeminism from the perspective of Green Politics (Spretnak, 1986), Buddhism (Spretnak, 1991), and a feminist theory based upon the sacredness of women's bodies (Spretnak, 1993). In Green Politics, one's philosophical underpinnings become the basis for political action and decision-making in the organic and the political world. The platform of Green Politics (Spretnak, 1986) addresses issues of environmental justice, toxic pollution, nuclear proliferation, and pay equity. Unbroken awareness as practiced in Buddhism frees the mind from judgmental states and opens capacities for pure compassion, love, and joy (Spretnak, 1991). Tenets of Buddhism provide the moral ground from which some ecofeminists relate to the natural world. Relationships based upon pure compassion and love do not harm the other party or parties in the relationship. Conversely, Christianity tends to base political and economic currency on the defilement of and repugnance towards female bodies (Condren, 1989; Spretnak, 1993). According sacredness to the female body is a powerful antidote to patriarchy.

One of the most deeply challenging dimensions of feminism is the development of a spiritual orientation that rejects the patriarchal nightmare and embraces both the Earthbody and the personal body as divine creativity in the cosmos. . . . Patriarchal culture teaches men to perceive an opposition between self and other and then neutralize the other as being the same or complementary. . . . In the United States, the experiential flowering of radical women's body-oriented spirituality from the mid-seventies on, . . . arrived at many of the same post-patriarchal conceptualizations of the female body--and embraced them as vital elements of a "new" religion and culture to be lived daily.

The contemporary practice of Goddess spirituality includes creative participation in myth, symbol and ritual. Because this spiritual orientation particularly honors the elemental power of the female and its embeddedness in nature, it was perceived as regressive, embarrassing or even horrifying to liberal and material/socialist feminists, who apparently accepted the patriarchal dualisms of nature-versus-culture and had internalized the patriarchal rationalization that the reason women had traditionally been blocked
from participation in culture was their bodily "plight" of being mired in the reproductive processes of nature. (Spretnak, 1993, p. 272)

Ecofeminist praxis finds a home in urban settings as individuals or women's collectives gather to plant, tend, and harvest gardens within the decadent backdrop of America's largest cities (Johnson, 1993). By reconnecting with the land, mostly buried in concrete, steel, and buildings, urban women are making spaces in their lives to grow food for themselves, their children, and whole communities. These efforts are generally not government sponsored and arise as much from emotional desire as physical need for more variety in food. As work continues to improve damaged soil, individuals feel renewed from restoring the land.

The soil in our garden is thin as water and dangerous. ... We battle aluminum, lead and cadmium to grow vegetables. Over the past three years we have gardened in my backyard, we have added soil amendments provided free by Forest Hills Cemetery and the Metropolitan Police Mounted Patrol. ... From these practices we have reduced the lead pollution in my backyard from dangerously high to safely low.

Is there a moon for remembering? Perhaps the Worm Moon in March, the one where you speak hopefully to the dirt in your backyard, can serve that purpose. Just as it is important for the soil to remember its fruitfulness, it is important for us to remember that cities are full of people who want to cooperate with the rhythms of nature, who find community in growing and sharing food, and who quietly struggle to repay the Earth for benefits we may have unwittingly and violently wrested from her. (Johnson, 1993, p. 255)

Narratives promoting ecological feminism

A White Heron by Sarah Orne Jewett (1886) is a tale from the last century when gender roles were clearly defined and patriarchal values went unchallenged. However, within this short story one finds a rejection of the domination of nature by humans, a rejection of patriarchy in a choice to
protect a creature of the forest, and a strong protest of violence done to
nature in the name of science.

Jewett introduces Sylvia, a child who goes to live with her
grandmother in the New England wilds because her destitute family is unable
to feed her. "Sylvy" soon becomes familiar with the trees of the forest and
the wildlings who live there. Birds often feed from her hand and she learns
and remembers where birds and animals live.

Grandmother and child are visited by a handsome, wealthy, naturalist
offering to pay for lodging. The child experiences the awakenings of a
young woman's heart and soon overcomes her shyness to guide the young man.

In her solitary travels, Sylvy has observed the beautiful white heron
traveling across the marsh area, but she doesn't know where it nests. The
young man by now has revealed that part of his work is making zoological
collections. He is willing to pay handsomely for the information that will
allow him to collect the white bird. For that information, Sylvy climbs to
the top of the tallest tree in the forest, a huge pine. She is scratched
and bruised as her bare feet carry her to the top before dawn. At dawn, she
sees the heron leave its nest. The information will give the young man,
whom she adores, the quest of his heart. It will make Sylvy and her
grandmother rich. The ethical dilemma is clear. To tell or not to tell. She
returns to the little cottage. Grandmother and the young man await her
news.

But Sylvia does not speak after all, though the old grandmother
fretfully rebukes her, and the young man's kind appealing eyes are
looking straight in her own. He can make them rich with money; he has
promised it, and they are poor now. He is so well worth making happy,
and he waits to hear the story only she can tell.

No, she must keep silence! What is it that suddenly forbids her and
makes her dumb? . . . when the great world for the first time puts
out a hand to her, must she thrust it aside for a bird's sake? The
murmur of the pine's green branches is in her ears, she remembers how
the white heron came flying through the golden air and how they
watched the sea and the morning together, and Sylvia cannot speak;
she cannot tell the heron's secret and give away its life.

Many a night Sylvia heard the echo of his whistle haunting the
pasture. . . . She forgot even her sorrow at the sharp report of his
gun and the piteous sight of thrushes and sparrows dropping silent to
the ground, their songs hushed and their pretty feathers stained and
wet with blood. (Jewett, 1886, pp. 170-171)

A critique of scientific inquiry is included within this story. Does
the love of the young man for his work preclude compassion for the living
animals he studies? This is part of an ecofeminist critique of "rational"
science. The scientific collecting behavior of 19th century naturalists and
nobility was common and widely accepted (Hargrove, 1979, 1989). For a woman
of that era to recognize and publicize an ethical breach is unusual.
Jewett's ability to articulate this position in narrative is one reason why
she was such a popular writer and remains so today.

Mary Shelly's Frankenstein provides, in story form, a harsh critique
of the meat-centered diet of England in the 19th century. Environmental
ethicist Carol J. Adams guides readers through the meanings behind the
monster's rejection of animal flesh as food and preference for nuts and
berries instead. Few people today realize the implicit prescriptions of
this classic tale (Adams, 1990, 1991). Mary Shelly and her husband Percy
were active in the antivivisection/vegetarian movement. Some strands of
ethical behavior towards nonhuman nature contend that people have a
responsibility towards animals, part of which restrains them from using
animals as food (Regan, 1983). There are ancient folktales that prescribe
certain behaviors regarding the rejection of specific animal foods. For
example, an African folktale that persists today suggests that eating a
certain turtle is taboo (Parrinder, 1967). It is unclear whether the taboo exists for conservation of the species, or because turtle meat may be toxic to humans. Shelly, however, is clear according to Carol J. Adams. Eating animal flesh is a violation of an ethical code of conduct. The rejection of meat is undertaken for ethical, rather than health reasons.

Some ecofeminists see the domination of men over women as similar to the domination of men over animals. When women are battered and raped, they describe themselves and each other with terms such as "raw meat" or "dead meat" (Adams, 1990, 1991). Ecofeminists draw connections between meat-centered diets and the abuse of women, believing that they arise from the same set of assumptions. The belief is that the totality of nature—plants, animals, and women—was designed by a male creator, for disposal by men.

Contemporary culture views the Frankenstein tale as an interesting horror story. Shelly had another intent, as Carol J. Adams (1990) explains, in part to ridicule consumption of animal flesh. As such, Shelly has provided a classic story that will endure and, with reinterpretation by ethicists such as Adams, may contribute to the reduction or elimination of animals in the human diet.

Refuge, by Terry Tempest Williams (1991), Naturalist-in-Residence at the Utah Museum of Natural History in Salt Lake City, is a story of land, life, love, action, and renewal. The title is metaphor for physical place, mind space and soul retreat. Intense descriptions of the Great Salt Lake ecosystem, searing heat of salt flats, and wing beats of Great Blue Herons are palpable. Information about the avian life, personal tragedy,
transcendence, and the expanse of the desert where life is always on the edge, form the outlines of *Refuge*.

Williams examines her relationship with home range. She anticipates and "feels" the presence of its inhabitants before they appear. She is fully comfortable in this wilderness of soul and place, not by overcoming the physical dimensions through separation and technology, but by embracing the heat, salt, snakes, and aridity. Williams' compassion for fellow creatures unfolds in her honoring the life of a deceased swan. Williams' awareness of the natural history and scientific information about waterfowl does not limit her to a cold and "rational" response to a swan's death during a storm.

I knelt beside the bird . . . and began smoothing feathers. . . . The small dark eyes had sunk behind the yellow lores. It was a whistling swan. I looked for two black stones, found them and placed them over the eyes like coins. . . . Using my own saliva, as my mother and grandmother had done to wash my face, I washed the swan's black bill and feet until they shone like patent leather.

What I remember most, is lying next to its body and imagining the great white bird in flight. I imagined the great heart that propelled the bird forward, day after day, . . . imagined the deep breaths taken as it lifted from the arctic tundra, the camaraderie within the flock. I imagined the stars seen and recognized on clear autumn nights as they navigated south. Imagined their silhouettes passing in front of the full face of the harvest moon. And I imagined the shimmering Great Salt Lake calling the swans down like a mother, the suddenness of the storm, the anguish of its separation. . . . And I tried to listen to the stillness of its body. (Williams, 1991, pp. 121-122)

Reverence and respect for landscape and its inhabitants overflow from this narrative. Williams is not the desert, but she is at home there. She is aware of the difference between herself and the desert, but acknowledges connections with her home throughout the story.

Williams' mother and grandmother are afflicted with cancer. *Refuge* also considers "rogue technology," suspect in bringing cancers to the
Tempest/Williams family. Describing a childhood dream to her father, Williams discovers that the bright flash she recalls as dreamscape was actually the Plumbbob bomb test that she, her pregnant mother, and her father observed while traveling across the Utah desert. Fourteen years from that time, her mother is diagnosed with breast cancer, and other women in her family are also affected.

The story concludes with a salute to the "Clan of the One-breasted Women," as Williams calls her extended family members. She describes intricate pastels of the desert while she and nine other women steal into a nuclear test site to protest what she has determined to be toxic technology. Williams is cuffed and frisked. The arresting officer finds Williams' pen and field journal. "And what are . . . these?" Williams declares, "These . . . are my weapons."

Many strands of ecofeminist consciousness are woven together in this offering from Terry Tempest Williams: familiarity with landscape, appreciation and compassion for wildlife and fellow humans, spirituality, and finally praxis as Williams is arrested at the test site. Protesting actions of the federal government is the strongest ecofeminist-like statement of her entire story.

The women couldn't bear it any longer. They were mothers. They had suffered labor pains but always under the promise of birth. The red hot pains beneath the desert promised death only, as each bomb became a stillborn. A contract had been made and broken between human beings and the land. A new contract was being drawn by the women, who understood the fate of the Earth as their own.

Under the cover of darkness, ten women slipped under a barbed-wire fence and entered the contaminated country. They were trespassing. (Williams, 1991, p. 288)

The story ends with the handcuffed blindfolded women being booked under the unrelenting desert sun. They are driven across the desert in what
Williams claims was a "cruel joke to leave us stranded in the desert with no way to get home." What the authorities failed to understand, according to Williams, is that she and her companions were home. They were all "strong, soul-centered women who recognized the sweet smell of sage as fuel for spirit."

The People Who Hugged the Trees, adapted by Deborah Lee Rose (1990), retells the story of the Chipko movement in India. Chipko, translated, means "to hug." Ecofeminists tend to use this tale as the flagship of their praxis/philosophy. Historically, the Chipko movement was first encountered several hundred years ago in India (Shiva, 1989). Villagers threw themselves between the axes wielded by government foresters and the trees that provided many valuable items. It is one of the first times in history, according to Vandana Shiva (1989), that the connection was made between overall environmental quality and forest ecosystems. In Rose's interpretation, the villagers make a strong case for preserving the forest because it provides food, protects them from harsh desert winds, and provides water.

Historically, the lives of several hundred villagers were lost, as Rose acknowledges, but her story is framed by a more positive transaction. The local warrior prince, incensed with the betrayal of his authority and the condemned forest still standing, rides out to extinguish the village. En route, the warrior is overtaken by a dust storm in the desert and realizes the value of the entire forest. The forest is declared a treasure and is preserved. The tale concludes with heroine, Amitra, the first to wrap her arms around the tree, sitting in a forest now as an old woman. She still thanks her beloved trees for their beauty and protection. The theme
of reciprocity within ecofeminist philosophy is maintained in this story. From the beginning, the tree is acknowledged as a provider and protector. A young Amitra promises to protect the trees if they are ever in danger.

The Way to Start a Day encourages listeners to expand consciousness and moral consideration by acknowledging all their relations. Byrd Baylor (1977) considers cultures from around the world, contemporary and ancient, which manifest connections with the natural world by acts of reciprocity. They sing, chant, drum and dance for the sun as it rises and express gratitude for the gifts of the sun.

Some places, feathers and good thoughts. Other places fire. But everywhere they knew to give something... Some people still know. ... They know exactly how to start a day. Their blessings float over cornfields in Pueblo, New Mexico, and you hear their songs in villages in Africa, and they salute the sunrise ceremonially in the high cold mountains of Peru. (Baylor, 1977, pp. 17-20)

Gifts, items of reciprocity and ceremonies are not ranked. Acts of thanksgiving, joy celebrating interconnection, and interdependence which the gifts symbolize are important. The affluence of the people involved is not the measure of wealth or worth. Karen J. Warren (1988) indicates that one of the hallmarks of oppressive systems like patriarchy is ranking diversity. Baylor has constructed a narrative in which ranking is absent. All forms of gifting and celebration have worth.

Synthesis

This chapter describes thoughts and behaviors associated with the three environmental ethics of bioregionalism, deep ecology, and ecological feminism. In providing a view of what these ethics "look like" and what the "oughts" and "shoulds" can include, narrative selection was accomplished
through literature review to match appropriate stories with behaviors associated with each philosophy.

Characteristics of minority traditions were identified with elements in the dominant culture by Andrucci et al. (1990), Devall and Sessions (1985), Eisler (1987), LaChapelle (1984), Sale (1991), and Simos (1987). These contrasts were summarized in Table 1. The analysis, comparison, and contrast of these philosophical traditions includes observable behaviors as well as ideologies (Devall & Sessions, 1985; Eisler, 1987). These comparisons and contrasts are presented in Table 2.

All three traditions agree that the Earth is threatened by changes that are anthropogenic. Strategies for mitigation vary with bioregionalism appearing to be the most centrist and practical philosophy since it begins with watersheds, a physical location that most people are able to conceptualize.

Bioregionalism and deep ecology are biocentric in outlook, while ecological feminism more clearly distinguishes humans from nature. Separate identity from nature does not suggest ecofeminists are antagonistic towards nature. Rather, ecofeminists believe that humans have duties and responsibilities towards nature.

The local landscape is central to bioregional consciousness. Deep ecologists also focus on local ecosystems but are concerned about maintaining and restoring ecosystems in other areas too. Ecofeminists do not opt for local protection as opposed to global restoration. Rather, local communities and global projects are equally compelling and worthy of action.
<table>
<thead>
<tr>
<th>Environmental ethic</th>
<th>World view</th>
<th>Regional focus</th>
<th>Political Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioregionalism</td>
<td>Biocentric; Humans are community members along with, for example, coastal redwood trees, banana slugs, pine martin, cormorants, and kelp.</td>
<td>Local; loosely based on watersheds, biotic shift, landforms, elevation, cultural nuances.</td>
<td>Decentralized authority.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Can include one or more of the above.</td>
<td>Locally initiated consensus decision making.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Life is maintained on the notion of living off the abundance.</td>
<td>Social equity is the norm--small groups preferred to large.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Defense of local ecosystems is an act of citizenship.</td>
</tr>
<tr>
<td>Ecofeminism</td>
<td>Qualified humanistic/biocentrism Humans are different than nature, but humans have empathy, sympathy, respect for duties duties and responsibilities towards nature.</td>
<td>Broadly focused consciousness can encompass the global matrix or an urban neighborhood.</td>
<td>Seek political parity for women and recognition of women, children, and nature as active subjects of patriarchy.</td>
</tr>
<tr>
<td>Major claims</td>
<td>Economic model</td>
<td>Impact on agriculture, agriculture education, land stewardship</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>----------------</td>
<td>-------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Local ecosystems are best managed by local inhabitants.</td>
<td>Benefit local inhabitants and not damage local or other environs.</td>
<td>Eat locally produced plants and animals.</td>
<td></td>
</tr>
<tr>
<td>Truth lies in the biology and geology of the watershed.</td>
<td>Trade of surplus is possible but not at the expense of local cultural or ecological communities.</td>
<td>Reject food items transported long distances with non-renewable energy.</td>
<td></td>
</tr>
<tr>
<td>Human culture exists within the context of local natural environments.</td>
<td>Economies of scale; human economic activities must change to &quot;fit&quot; the natural world.</td>
<td>Rely on information gained through the senses to make &quot;sense&quot; of local environment.</td>
<td></td>
</tr>
<tr>
<td>Sexism is part of the compression pattern of a dominator culture that damages nature and women.</td>
<td>A harmonious blend of appropriate science, sustainable technologies, and development with indigenous knowledge will produce economies that are sustainable.</td>
<td>Equitable access to decision-making structures. Education and economic resources will foster human/nature partnerships less disruptive to local ecosystems.</td>
<td></td>
</tr>
<tr>
<td>Patriarchy ought to be eliminated and replaced with a system that is based on partnership.</td>
<td></td>
<td>Agriculture and forestry practices must fall under this purview.</td>
<td></td>
</tr>
<tr>
<td>Dualistic thinking has added to oppression of women and nature.</td>
<td></td>
<td>Many ecofeminists argue for eating lower on the food chain, viewing the Western meat-centered diet as a form of species oppression.</td>
<td></td>
</tr>
<tr>
<td>Environmental ethic</td>
<td>World view</td>
<td>Regional focus</td>
<td>Political Activities</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------</td>
<td>----------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Deep ecology</td>
<td>Biocentric; humans are part of nature.</td>
<td>Focus on big wilderness. If none exist locally, restore to presettlement vegetation conditions.</td>
<td>Anarchist. Defense of local and other ecosystems is an act of citizenship. Actions can range from nonviolent civil disobedience to sinking whaling ships illegally &quot;taking&quot; marine mammals.</td>
</tr>
<tr>
<td>Major claims</td>
<td>Economic model</td>
<td>Impact on agriculture, agriculture education, land stewardship</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Human impact on nature must be measurably reduced so both can survive.</td>
<td>Dramatic scale back of industrialized civilization.</td>
<td>Restoration of pre-settlement vegetation will likely reduce agricultural lands. The restoration process implies a reduction of human population.</td>
<td></td>
</tr>
<tr>
<td>Nature knows best.</td>
<td>Consider the costs to natural capital when calculating the cost of goods.</td>
<td>A reduction in human population will improve conditions for humans, wildlife, and ecosystems.</td>
<td></td>
</tr>
<tr>
<td>There is no free lunch. There is always an environmental impact associated with human activity. Major anthropogenic alterations to ecosystems are likely to be debilitating to the natural world.</td>
<td>Barter preferred to accumulation of money gained through rampant exploitation of ecosystems and wildlife.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Gender equity, environmental racism, and economic imperialism are of less concern to deep ecologists than to ecological feminists. Lack of apparent action in these areas provokes critique of deep ecology by other philosophical traditions, especially ecofeminism.

Consensus decision making is honored and supported in all three traditions. However, deep ecological consciousness can tend towards anarchy. Both bioregionalism and deep ecology can promote extra-legal activities to assure protection of local biomes. Ecological feminists tend to seek political solutions to both local and global challenges.

For bioregionalism and deep ecology, validity lies in the physical reality of place. Truth is located in the home range. Organic nature is difficult to challenge and it is believed that those living within the local landscapes are best suited to care for and manage that area. Ecofeminists assert that sexism is one of the most fundamental oppressing agents on the planet and solutions to other problems are not possible until sexism is eliminated. Therefore, the primary task for many ecofeminists is to eliminate sexism (Warren, 1987).

All three ethics concur that the present economic valuation system is inadequate to protect and manage natural systems. Further, current economic systems tend to place most of the resources at the disposal of the few humans who have power and privilege while marginalizing other humans. The three environmental ethics examined tend to locate value in nature outside the domain of economics, believing that part of the worth of natural systems lies in diversity, not extractable resources. All argue for the intrinsic worth of natural ecosystems.
In terms of agriculture, agriculture education, and land stewardship, all three ethics advocate departure from the current agribusiness/technocratic system based upon control at the expense of partnership with the land. Movement away from unsustainable practices towards restorative technologies inherent in organic agriculture, alternative agriculture, ecoforestry, and integrated pest management will require more, not less, knowledge and information (Orr, 1994). There will be less room for blanket solutions typical of conventional farming, and more opportunity to examine individual microclimates with an eye for developing finely tooled prescriptions that will maintain biological integrity while producing optimum yields (Noss & Cooperrider, 1994). In that regard, if post-secondary institutions choose to support the new paradigm, there will be many opportunities for these institutions to prosper in the 21st century. On the other hand, should land grant institutions cling to outmoded ideals and unsustainable practices, they will likely be displaced by, for example, community colleges offering short courses in organic agriculture and adult education seminars on diverse topics important to the sustainable agriculturist (Orr, 1994; Soule & Piper, 1992).

Bioregionalists are especially concerned with obtaining food from local watersheds. It is likely that local rural communities will see a revitalization as more food is grown locally for people in surrounding urban centers. There will be more opportunities for farmer/urban-dweller partnerships, where local growers are supported by a community of urban people who rely upon them for safe, wholesome food. P. Neenan (personal communication, February 21, 1996) of the Iowa Department of Agriculture and Land Stewardship states that in the last 10 years, food cooperatives have
grown at a rate of almost 50% each year. At least 30% of the food supplied by these cooperatives is certified organic. In Iowa, land designated for organic production has nearly tripled in the last 5 years. Organic agriculture appears to be one of the fastest growing segments of the food industry. However, research dollars designated for these projects are significantly less when compared to conventional agriculture research (Orr, 1994).

Deep ecology advocates returning to original climax vegetation. The restoration of these areas concedes a reduction in human population. As the transition proceeds there will be less land designated for agriculture. This does not necessarily portend the end of agriculture. Maintaining the function and structures of local plant communities will still permit harvesting of perennial crops such as fruits, nuts, berries, fibers, and fuel. Bioregionalists also support this idea especially in terms of harvesting local products. Ecofeminists, at least in theory, support the concept, but are less clear on what projects might look like in wilderness areas. Their focus tends to be on local urban communities including greenways and gardens. The three ethics should not be viewed as acting at cross purposes with each other. Rather, they support one another in terms of caring for a local landscape by site specific prescriptions which will integrate human activity into a healthy ecosystem.

Bioregionalists and deep ecologists do not object to consumption of animal flesh. Specifically, animals produced in the local watershed can be used as food provided they are harvested humanely. Some ecofeminists view consumption of animals as unethical, believing that animals and women are objectified by patriarchy and suffer abuse and torture as a result of being
viewed as objects not beings. All three ethics consider factory farming with its pollution and disruption of rural communities as unethical and protest the growing activities within their local areas with legal mitigation as well as civil disobedience.
CHAPTER 4

METHODS AND PROCEDURES

Background

This qualitative study will explore a variety of phenomena related to situated contextual narratives. The researcher will describe three types of environmental ethics, identify certain stories that might teach relationships with the nonhuman world, and clarify skills storytellers employ to create the aura of the story.

Methodology for data collection included: in-depth interviews, field notes, audio recordings, and in some cases, video recording performances. Respondents were chosen through purposive sampling methods to assure depth and detail.

Before conducting the interviews, all respondents were contacted and provided a detailed account of the objectives of the study. Without exception, the respondents enthusiastically shared their insights and eagerly answered the questions asked.

A literature review was conducted prior to and concurrent with the interviews. Data were analyzed by seeking patterns of responses between informants.

In this qualitative research study focused on situated contextual narrative, it seems appropriate that the investigator make explicit her own values, background, and interests in this subject. This she will do in her own voice.
Prior to and concurrent with the study, I practiced environmental education in a variety of settings throughout the continental United States. I have experiences in formal and nonformal education in classrooms and, in the field, teaching preschool-aged children through post-secondary students. I have been and remain involved in natural resource management/restoration ecology projects as both a professional and volunteer. My significant experiences include prairie restoration, wildlife surveys, flood management, environmental activism, a three-and-one-half year study on plant growth regulators, ecological forestry, water quality management, and wildlife habitat restoration.

Throughout my experiences as a practitioner, educator, and science-based researcher, I have remained skeptical about the ability of science to provide multiple, technology-based solutions for problems that in large part are cultural and philosophical. As an advocate for the seemingly silent Earth, and for young people who will inherit the multi-dimensional challenges bequeathed by the dominant culture, I recognize that hypertechnology and modern agriculture are part of the driving forces behind the unlimited growth paradigm that is currently controlling and damaging natural and built environments within Iowa and throughout the world. Agriculture is "part of the problem" of the substantial human impact on the Earth.

Maintaining my direction of questioning largely unquestioned assumptions, I chose this study to highlight areas of environmental concern and to seek cultural redress for impending crisis through cultural means, rather than relying solely on modern technology (Bowers, 1993; Orr, 1994). If the pen is more powerful than the sword, then it seems possible to
change human behavior without violence. Oral traditions offer reasonable promise as educational alternatives that will promote cultural shifts towards more sustainable agricultural, economic, and social practices.

Thus, a combination of life experiences—personal, professional, academic and cultural—have fomented the direction of this research. In particular, I have become convinced (Wirth, 1992, 1993, 1994a) that science, lacking grounding in environmental ethics, is fundamentally flawed. These flaws are manifested in mainstream educational systems at all levels, especially the post-secondary level where agriculture, forestry, and natural resource management styles inflict biological as well as cultural damage.

These reasons stimulated my enthusiasm for researching narrative as an alternative pathway to the cognitive domain. My intuition that appropriate situated, contextual, narrative can be applied as a partial solution to environmental damage and cultural alienation led me to formulate the objectives and methods used in this study.

**Methods**

Information specific to the first research objective, about environmentally ethical behaviors identified by environmental educators, was provided through in-depth interviews with environmental educators, literature review in the field of environmental education, and participation in local and regional conferences where environmental ethics was identified on the presentation abstract.

The second research objective regarding story content applicable in teaching environmental ethics such as bioregionalism, deep ecology, and ecological feminism was addressed through literature review in the fields
of philosophy, education, and literature. Clarification of the effectiveness of narrative in educational settings led to a review of literature about physiology, brain function, and memory.

The methodology for gaining information related to the third research objective concerning the delivery styles of four storytellers was accomplished through in-depth interviews guided by purposive sampling methodology and extensive literature review of narrative. Purposive sampling techniques provided a range of respondents, both storytellers and environmental educators.

Naturalistic research is grounded in philosophy and sociology (Berger & Luckman, 1967; Shutz, 1967). As such, naturalistic research, also called qualitative research, seeks different kinds of answers. The answers reside in the "why" of things, rather than on "how much," or "how big."

Understanding the meaning of things and events, how behaviors happen, why behaviors happen, and what the behaviors mean are tasks of naturalistic research (Hultgren, 1993; Yin, 1984). This method of inquiry relies upon in-depth interviewing, "thick description" of circumstances and events occurring within different contexts, and participant observation. Less reliance is placed on statistical analysis. Taylor and Bogdan (1984) describe qualitative research in its broadest sense as, research that produces descriptive data: people's own written or spoken words and observable behaviors. Allowing a hypothesis to emerge from ongoing research, collecting patterns in data, are hallmarks of naturalistic inquiry. Philosophers such as Karen J. Warren claim that what people say and do is a product of how they define their world (Warren, 1988). In that regard, cognizance of world views is an important aspect of this research.
The field research used in-depth interviews. Taylor and Bogdan (1984) describe this technique:

In stark contrast to structured interviewing qualitative interviewing is flexible and dynamic. Qualitative interviewing has been referred to as nondirective, unstructured, nonstandardized and open-ended interviewing. In-depth qualitative interviewing means repeated face-to-face encounters between the researcher and informants, directed toward understanding informants' perspectives on their lives, experiences or situations as expressed in their own words. . . . The interview is modeled after a conversation between equals, rather than a formal question-and-answer exchange. (Taylor & Bogdan, 1984, p. 77)

I used techniques described by Valerie R. Yow (1994) to perfect my skills as an effective interviewer. My awareness of the effect that an interviewer has upon a respondent caused me to be cautious concerning how the information was affecting me personally. Susan Fowler acknowledged my success when she remarked that she really wanted to know what I thought and felt about the issues I raised, as she really had no idea of my personal thoughts about the issues she discussed.

I relied on the observation of the storyteller to gain impressions of the behaviors and attitudes of audiences at storytelling events. Storytellers, by nature of their ability to place themselves in imaginative situations, are keen observers of their surroundings. For this reason, and for reasons of convenience, I chose to interview the storytellers rather than observe the process of storytelling. Storytellers make reliable witnesses of events occurring around them. Such detailed observations of local events make raw material for future narrative.

Interviews were audio-recorded to capture the storytellers' own words. Field notes identified when respondents were emphatic with gestures or voice and when they made statements that were similar to statements made by other storytellers. Field notes served to acknowledge ideas previously
garnered through inductive logic or to draw my attention to themes that I was analyzing or synthesizing as the storyteller spoke. I transcribed rather than paraphrased interviews, because the storyteller's careful selection and deliberate crafting of phrases provides the richest most detailed account. This is the major source for my confidence in the validity of material presented. I did not transcend the empirical world in collecting these data; I remained embedded in the events I was recording.

Population and Sample

The storyteller interviews were diverse in content yet an environmental theme allowed comparisons to be made. The sample population included professional storytellers who combined a variety of techniques, props, linguistic styles, and histrionics to deliver their narratives. The number and description of respondents who participated in the study are summarized in Table 3. Additional information about respondents is located in Appendix A as Summary Data on Respondents.

This field of informants was obtained through purposive sampling. Respondents were selected on the basis of professional credentials, experiences and familiarity with environmental ethics, environmental science, and environmental education. The respondents chosen do not hold exclusive membership in only one group. For example, one is included as an environmental educator, a Leopold scholar, and is also a professional naturalist who uses storytelling techniques in her teaching.

Protection of Rights of Human Subjects

The research was completely safe and harmless to all participants. Before asking respondents to participate, the researcher explained in a
Table 3. Number and Description of Respondents

<table>
<thead>
<tr>
<th>Description of Respondents</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Professional Storytellers</strong></td>
<td></td>
</tr>
<tr>
<td>Ethnic Native North American using traditional Native North American stories</td>
<td>1</td>
</tr>
<tr>
<td>Euro-American storyteller using personal narrative to provide meaning and interpretation of events</td>
<td>1</td>
</tr>
<tr>
<td>Non-Native storyteller using traditional Native North American stories</td>
<td>1</td>
</tr>
<tr>
<td>Euro-American storyteller using bioregional narrative and European cosmologies to interpret events</td>
<td>1</td>
</tr>
<tr>
<td><strong>Professional Environmental Educators</strong></td>
<td></td>
</tr>
<tr>
<td>High school science teacher</td>
<td>1</td>
</tr>
<tr>
<td>State-level program coordinator</td>
<td>1</td>
</tr>
<tr>
<td>Educator for a private utility company</td>
<td>1</td>
</tr>
<tr>
<td>County Conservation Board naturalist/educator</td>
<td>1</td>
</tr>
<tr>
<td>Post-secondary curriculum instructor</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Interviews</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

letter the purpose and scope of the investigation (Appendix B). This letter and draft interview questions were provided to Iowa State University’s Human Subjects in Research Committee.

**Instruments**

The primary instrument employed in this research was a set of open-ended questions (Appendix C) posed to the four storytellers and five environmental educators. Face-to-face interactions and listening to the
informants' own voices yielded rich detail. Interviews were conducted from October 1994 through September 1995. All conversations with storytellers were tape recorded. Information from environmental educators was recorded as field notes and was not tape recorded.

Contiguous with storyteller interviews, I discussed educational implications of narrative with environmental educators. They identified essential environmentally ethical behaviors and a listing of values and traits that they believe lead people to form connections with the natural world.

In addition to these standard questions, I asked additional questions to probe for more detail about a response, or to clarify areas that had several potential interpretations. The transcription identifies exactly which additional probing questions were posed and the responses received.

Procedures

I conducted a literature review prior to and concurrent with the four storyteller interviews that took place between October 1994 and September 1995. After I interviewed the environmental educators and storytellers, I looked for and found patterns in responses. By piecing responses together, I produced a holistic interpretation of the use of stories to promote environmentally ethical behaviors.

Data Analysis

This involved:

1. analysis of responses to interview questions provided by the storytellers and the environmental educators

2. listing patterns in responses between storytellers and environmental educators noting similarities and differences
3. breaking down the transcription of data into smaller units (unitizing), sorting them, and then constructing an interpretation about situated contextual narrative within educational and environmentally sensitive frameworks.

4. drawing conclusions on the role of situated contextual narrative as an educational tool to promote the practice of environmentally ethical behavior.

**Validity and Reliability of the Study**

Qualitative researchers rely upon several techniques to ensure that their data are credible and trustworthy. These techniques include member checks, debriefing, negotiation of access to informants, prolonged engagement, and persistent observation (Taylor & Bogdan, 1984). The field component of this research approximated these requirements as summarized below:

1. A detailed field journal was maintained during the project. The stages included: early literature review, field work, and researcher’s perceptions of meaning as interpreted from post-interview notes. Questions and progress were discussed with the investigator’s co-major professors, other faculty advisers, and with scholars in the field of philosophy and environmental education.

2. Multiple sources of data and perspectives were recorded for the research questions. I listened to respondents, tape recorded their responses and observed their movements as they related stories and situations. In some cases, I scrutinized video tapes to view the storytellers while they were performing before groups.

3. I negotiated access through phone calls and correspondence with respondents to schedule face-to-face interviews. Contact with professional colleagues regarding the accessibility of informants proved valuable in
that the environmental education community is a web of informal relationships. There was serendipitous interaction with informants at professional conferences and workshops.

4. I accomplished member check by asking respondents to review transcriptions and paraphrased meanings that I constructed post-interview. All of the environmental educators responded in writing, returning the original transcriptions with editing, deletions and additional information to clarify their story. The storytellers responded in various ways. One responded by phone, indicating that she was fully satisfied with the transcription and derived meaning of our interview. Two responded in writing with brief comments and approval. A fourth returned the entire transcription with extensive notes for clarity, grammatical revisions, and additional insights not included in the original interview. By contacting each informant, I have provided interpretive validity; that is, the informants have verified that the meanings of their opinions and philosophies were accurately represented in the transcriptions and my subsequent interpretation (Campbell, 1994).

5. I conducted debriefing through follow-up phone conversations, correspondence and submissions of typed transcripts to the informants to be sure their intended meaning was clearly represented in the study.

Overall, I remain confident that the procedures adopted for this study are appropriate for the research objectives and have produced a meaningful account of the importance of narrative as an educational tool for the fields of environmental ethics, agricultural and environmental education. External validity is provided by social psychological research that reports that narrative forms are pathways to the cognitive domain.
(Basso, 1988; Bruner, 1986; Halliday, 1976). As such, storytelling is an effective educational tool that crosses many disciplines.
CHAPTER 5
REPORT OF FINDINGS OF THE STUDY

The primary focus of the research was determining the utility of stories in promoting environmental ethics and assessing the efficacy of storytelling as a teaching methodology. To that end, I reviewed the responses of storytellers and provided an analysis of the power of stories to affect a person's world view. I also described the characteristics identified by environmental educators as indicative of environmentally ethical behaviors they believe necessary to promote sustainable interactions between students and the natural world.

The Storytellers

Joseph Bruchac and Susan Strauss use ancient and some contemporary native North American narrative as vehicles for teaching. Susan Fowler employs personal narrative to educate listeners about landscapes, reciprocity, relationships, and the joy of celebrating one's life in an earth-sensitive manner. Selena Fox uses traditional and some contemporary Euro-American stories grounded in paganism and animism to encourage students to forge connections with the Earth and to participate in activities which could be considered similar to mainstream restoration ecology.

The search for narratives that describe or model environmental ethics spans generations. Many tales, legends, myths, and stories were encountered, and Chapter 3 includes narratives that embody a particular environmental ethic. As indicated in the first chapter, modern society is
in a state of flux. That some of the best narrative and literature promoting environmentally ethical behavior is being created today is encouraging since the contemporary context may be more meaningful to modern citizens than older stories. The wisdom of the ages may be inadequate to address present day problems and promote positive changes in cultural systems.

Joseph Bruchac

Joseph Bruchac was the first storyteller interviewed for this research. As such, his wisdom and experience informed and subsequently helped shape the questions put to other storytellers.

Regaining elements of lost value systems is an area of agreement between Joseph Bruchac and philosopher Eugene Hargrove (1979). Bruchac discussed the mechanism within many native communities whereby wealth is redistributed within the community so that physical property does not accumulate. The nature of property accumulation in contemporary Western culture has encouraged and justified a value system which is based on economics, not ethics. Because of his native heritage and familiarity with oral tradition, Bruchac encourages educators to take heart. Change, in his judgment, will not occur quickly but is a process which spans generations. The intergenerational communication, according to Bruchac, has helped some indigenous communities retain their identity despite interaction with the dominant culture.

Stories can educate a wide range of people. Unfortunately, Bruchac believes that there are currently too many "wrong stories" being told which continue to move society in an unsustainable direction. He champions native stories because they make listeners aware of human fallibility. Because of
this intrinsic fallibility, humans should proceed on the basis of laws other than those that are human-designed. The natural world provides a set of laws which are immutable.

That's what's so great about ecology and the current environmental movement. It can provide a basis for survivability of our species along with the other species around us. If we don't live by those basic laws of ecology, the consequences are evident.

Bruchac believes that patriarchal rule, rule based on logic, is not rule based upon reality because it is the logic of wealth and accumulation. This form of logic is not based upon principles of ecology. Rather, it is built upon principles of domination and control. As an antidote, Caduto and Bruchac mix philosophy and storytelling in their books Keepers of Life (1994a) and Keepers of the Night (1994b). These volumes, popular in mainstream educational institutions, are effective educational tools because they tie storytelling directly into science. Caduto and co-author Bruchac rely on story material that has firm basis in fact. They believe that even the most outrageous stories have some basis in fact. A lesson about why the skunk's head is flat stems from an observable natural phenomenon and provides lessons that are applicable to every day life and also may contain abstract meanings that are made deeper and clearer if embodied in the story. "So a story is never . . . just a story," claims Bruchac.

When Joseph Bruchac "needs" a story for a radio interview or a storytelling event, he does not engage in a logical review and selection process; rather, he trusts that the right story will come to him. After living with stories for more than 30 years, he is not even surprised when a different story manifests rather than the intended story.
He describes the act of giving himself up to the story. By relinquishing any idea of control, he says that the story comes easily. He believes that relinquishing control is often the most difficult obstacle for educators to overcome, saying that it is hard to freefall. "You have to trust that when you move forward and take a step . . . the Earth will catch you!" He encourages new storytellers to take that first step. His grounding in native philosophies, he believes, allows him the freedom to recognize that "further on down the road, hey!, we're all going to die. It's all happened before and it will happen again. The processes of life and death are things in which we can find comfort." He contrasts this view of reality with the Western paradigm of an unwillingness to acknowledge death and dying. Joseph concludes that it is really amusing to consider the strange practices undertaken to "preserve" the human body after death. He derided the chemicals introduced prior to funerals, suggesting that if the toxic materials were left out of the body, then it would at least be useful for something after death. In reviewing current popular story images of the dominant culture, Bruchac sees what he calls, "death, death, death, violence, violence, violence . . . and to no good end." The Dance of Death motif in newspapers and television occurs for its own sake, not for any lessons that can be learned. He believes that the incredible infatuation with death and violence is a biological misdirection since its portrayal lacks the balance of life and rebirth found in native and traditional stories. Joseph admits that many native stories are violent and very gory, but there is always balance of life and birth.

Bruchac believes that humans are biologically predisposed to learn through stories. He claims that before humans had language, they
communicated with each other through body language. In times past, people told stories with their bodies. They communicated physically, according to tribal elders. Bruchac and others have spent a great deal of time working to have storytelling incorporated into the national curriculum and are enthusiastic about a significant number of books just on the verge of publication that deal with storytelling in the classroom. He fully supports the idea of using storytelling as a primary mode of education rather than just a momentary diversion from other classroom activities.

One of the reasons that Bruchac believes stories are so effective is that they are entertaining as well as educational. He contrasts European culture, which he takes to be generally abusive, masculinist, and control oriented, with native cultures which tend to be woman-oriented, non-abusive, non-judgmental using the narrative mode as a way to communicate experience and a way to educate.

I believe that because we are human, we are prone to misdirection. That institutionalization is destructive to people and to the PLANET. One of the best ways out of this is through storytelling. Tell stories so that people will absorb them. They will go home and live with them and perhaps begin to change their behavior. That's how stories work on people.

During a story performance, Bruchac relates that he often sees people begin to "open up." People who are characteristically very closed, begin to change their physical stature to a more open posture. In discussing his observations with participants post performance, his observations are verified by the audience members. They relate that they "felt" themselves changing.

Regarding goals that might be set by a storyteller in selecting a story, Joseph Bruchac was clear in his assessment that he does not generally have any goal in mind. He just has the story itself.
The story may come to a certain point because it has a goal it wants to set for itself. I give myself over to the story. When I am doing a good job of storytelling, I’m not thinking of how this story is going to affect someone. The story may have chosen itself for that very purpose, in fact, maybe the story was needed by the group or an individual.

Joseph Bruchac is always working on a number of projects. His most recent takes readers to a time period about 8 to 10 thousand years ago among the Abanaki people. He is frequently complimented that the story is a wonderful allegory about modern life. Bruchac counters that this was really not his intention, suggesting that a storyteller doesn’t necessarily have to tell stories about the present day to be effective.

Susan Fowler

Before beginning a story performance or signing experience, Susan Fowler tries to get a sense of the collective group’s attitude or feeling. She describes a palpable experience when one scans the group trying to determine their needs. This movement into the intuitive domain is natural and nonchalant. Her responses are similar to those of Fox and Strauss.

Although I did not directly inquire about the setting, Fowler mentioned it near the onset of our interview. Setting is part of the storytelling experience about which she is conscious from the standpoint of accommodating her audience. Whether the event occurs indoors or outdoors has an impact on the experience. Fowler’s preference is to be part of the group, not separated from her audience by stage, platform, or podium. She is sensitive to needs which might arise during the story, such as the need to get up and dance or to have enough room to experiment with the sign language that she will teach people.
Fowler believes that storytelling is a combination of sharing what she brings to the situation and what the group brings. She comes prepared, but not rigid. She often asks herself about the needs of the group and her own needs before beginning the presentation.

Quoting her colleague and friend Susan Gilcrist, Fowler stated that a story just jumps out and lives with you, which is sometimes a reliable basis for selecting that particular tale. "The teller must feel at one with the story," claims Fowler, if it is to be true to heart. Susan Fowler believes that stories put themselves together and have their own lives. That focuses her concentration prior to beginning the story so that her "heart is as open as possible so the story can emerge."

Without exception, all the storytellers described the selection process as though the stories themselves have volition and personhood that causes them to act as conscious agents in the act of storytelling. Each teller related this to me without direct query, perhaps indicating the importance of the point.

Stories most often chosen by Fowler focus on personal growth and life experiences, and lie outside the domain of economics. Fowler considers beauty, harmony, and humor when searching for new material. Above all, she must have a heartfelt connection with the story. Although Fowler does not avoid stories that have conflict and pain, the story must resolve itself in beauty and growth.

Staring into a mirror is a technique used by Susan Fowler when she is learning a new story. She believes that staring into another set of eyes is good practice for retaining focus during the event. According to Fowler, there is power in people's gaze, and a storyteller receives energy from eye
contact with the audience. Friends and colleagues provide helpful critiques for new material. Fowler uses the image of a rainbow to describe what she believes is her ultimate function as storyteller. She acts as a prism, so that people can use their own light to see the rainbow.

Simplicity is the key to good storytelling. If the storyteller is able to help people put something of their own lives into stories, if the stories are relevant to people's lives, then Fowler considers the experience to be successful. "Plant seeds of joy," says Fowler, even if people are in the bottomless pit of the story. "Life has balance. Walk through the darkness to the joy."

Fowler expressed disappointment in not being able to spend time with groups at the conclusion of stories. Most of her work occurs with schools where a strict time schedule prevents teller/audience interaction because of a need to maintain the structure of the school day. Susan relies on feedback from teachers to be assured that the group's needs were met. She receives many letters from children, perhaps the best validation of whether the story had impact. Feedback is appreciated by Fowler as it helps her modify her narratives.

Repetitive sound in Susan's stories arises in terms of chants and singing. She incorporates both vocalizations during her programs. She believes that the repetition helps the audience relax into the story, giving them something they can count on in the future. Teaching some simple sign language and then repeating those segments throughout the story allows people to put their whole bodies into motion and express something very soulful from inside themselves. In that regard, according to Susan, stories
create experiences. The experiences create common ground between teller, audience and individual participants.

When questioned about mystery as an essential element in good storytelling, Fowler preferred to view mystery as the little bit that we don't know. To that end, she uses shadow to create mystery. The lights of the theater are brought down. The audience rests in the shadow. "The shadow is its own entity," she claims. Susan will often project a dream-catcher image onto a screen or wall and stand so that her shadow is in the middle of the dream-catcher. She then asks if there is anyone in their life who has been a dream-catcher for them, or whether or not they have acted as a dream-catcher for others. She explained to me that dream catchers are circular shaped weavings reputed to be first used by the Cherokee. The function of these charms or talismans was to "catch" bad, scary, or harmful dreams and let only good or helpful ones through.

Since the focus of much of my professional career has been on land stewardship and the interface of natural systems and human culture, I asked Susan if she believed that places have stories. She seemed delighted with the question and immediately pondered it as though the question had resonance, but was one she hadn't considered yet. Susan was enthusiastic in her affirmative response, but confided that she was just beginning to understand the concept herself and seemed eager to delve more deeply into the idea before responding. Susan relates that places speak to her on several levels. This was her total response.

Fowler has experienced, but doesn't use thick description, that is, words that so acutely detail specific scenes that a clear image is painted by the teller for the listeners. She believes that it is an artform.
In memorizing stories, Susan Fowler believes that it is necessary to write down the story in outline form. Writing down the story, Fowler believes, helps the storytellers sequentialize and internalize the story. Props are visual memory stimulants for Fowler and visually pleasing to the audience. In addition to focusing the attention of the audience, props help the narrator remember parts of the story.

When asked if humans are "hot-wired" to learn through stories, Fowler's "Yes" was emphatic. She also answered with a story, an experience of an extended teacher's workshop and an evening gathering centered around a campfire. The hour was 3 a.m. Susan related that a teacher remarked that in our genes are "the flames of 1,000 campfires." In recalling that experience, Susan felt moved to ponder whether or not there are the traces of 1,000 stories in our ear molecules. She mused about groups of humans gathered around campfires in past times, working on projects, preparing food, weaving, making baskets, forming pottery. She told me how Ojibwa Indians used birch bark to form the watertight skins of canoes and how birch bark became vessels for maple syrup. Susan uses metaphor in her teaching/storytelling. "On the one hand," she says, "we have science . . . the domain of rational, ordered information." This she says while lifting her left hand, fingers spread apart, into the air. "On the other hand . . . we have liberal arts!" Now Fowler raises her right hand into the air, fingers wiggling and moving towards her left hand. "And when the two hands come together, THAT'S HARMONY!" It is the domain of science to deal with information. It is Susan's strongest contention that the information can be shared in a beautiful way.
Stories that Susan shares are a direct outcome of her perception that the human element is part of the environmental problem, but also most certainly "part of the solution." She looks towards the landscape to see if it will share its own story, believing that there are stories in sidewalks, farms, trees and tall grass prairies. Further, the message in a human-centered landscape may be different from the message carried in more rugged, open landscapes. Stories about landscapes connect people to the natural world, believes Fowler. Through stories about the land, Susan was able to see that science had a heart and soul. According to Fowler, biology provides wonderful support for storytelling. "It may come down to how we can best teach discernment. It is necessary to create empathy. I do this by sharing information in stories with students. I reach for the truthfulness found in the landscape."

The effectiveness of stories has to do with the way people are able to place themselves in the story and to "go home" to the story at a later time if they need to. The fact that stories reflect emotional aspects also makes them compelling. The simple act of sharing makes stories a powerful experience for people.

What people seem to like about stories is that they can provide role models. People can also see themselves as a child or look for guidance about how to behave in relationships. Stories also tell about behaviors in relationship to land. "Stories remind us, they tickle us. Stories make us fall in love with things and they help us experience love. Stories are also shared with us by very loving people in our lives."

Susan's favorite stories involve revelation and personal growth. The stories give people room to cry, but also give hope.
Fowler's final comments focused on songs. During the interview, Susan occasionally would "sing" a response, rather than merely speak it. In that regard, her final affirmation describes the gift that she is best able to give: "Songs are stories from the heart. People we meet along the way give us strength to grow into our lives."

Selena Fox

Selena Fox believes that it is important to involve participants in dialogue before beginning the formal program. These activities engage the intellect and the imagination. An example Fox provided was that of participatory imagination exercises. Fox begins a linear progression by asking participants to tune into the local environment, progressing to others who are gathered at the outdoor program site, followed by a focus on the region, the nation, the planet, and finally seeing themselves as part of the greater universe.

Both spontaneous and pre-planned stories seem to find a storyteller, agrees Fox, and stories can trigger other stories. The theme requested by an audience also helps determine story selection. She gave an example of a botanical program called "Green Spirit Gathering" intended to help the audience learn how to recognize, cultivate, harvest, prepare, store, and use herbs. Bound up with the important botanical, scientific, and medicinal information are strands of history, spirituality, mythology, and literature. Fox believes that the plant taxonomy exercise, especially in the field, is sustained by the stories about the plants that she tells as the group moves from place to place throughout the nature reserve.

In selecting stories, Fox depends upon extensive research in botany and literature. She also considers what would appeal to the group and also
assure that they will internalize the information. Personal anecdotes, anecdotes shared by others, legends passed down through time, audio cassettes, dreams, television movies, and popular literature are all source material for storytelling.

Fox's training as a psycho-therapist gives her access to information not ordinarily considered by many contemporary storytellers. The impact of storytelling on long-term memory, Fox believes, is one of the most powerful aspects of that craft to "stick with" people. So when questioned about how educators can best learn a story, Selena Fox comments that it is important to "make the story your own." Steps that allow the educator to do this include telling the story to one's self. Writing down the story and picturing the story in one's mind are also helpful. Imagination exercises help the storyteller sequence the story. Seeing the story unfold without words tends to place the story in long-term memory. After participating in these activities, Fox encourages educators to transcribe the story in their own words. Next, "give voice to the story" by speaking into a tape recorder. Telling the story in front of a mirror is recommended before practicing on friends, neighborhood children, or even a pet. In most cases, Fox recommends that the story be practiced in low-impact situations before the story is ever performed in public.

Understanding the conflict many educators feel regarding adopting storytelling as a teaching methodology, Selena encourages them to incorporate their "artist side" and not ponder the dualism of whether they are "artist" or "scientist." It is acceptable and effective to be both. Communicating with the emotional element of "self" may be the greatest barrier for educators to overcome.
Taking public speaking courses and psychology courses that help one to understand body language are other strategies recommended by Selena Fox. However, educators must develop their own style or to "do" storytelling in a way that is comfortable for them. In other words, what educators do should fit their personality, their own way of speaking, and their own way of processing information. If educators are still uncomfortable with diving into story mode fully, Fox recommends enriching natural speech patterns with active metaphor.

In most cases, Fox spends time with program participants after the storytelling session has ended. She prefers interaction at both beginning and end so she can set the stage and then assist participants to process the experience. As mentioned earlier, stories generate other stories that people want to share. For example, Fox may ask: "What do you remember from the stories?" "Reflect on the story. Is there a part of the story that relates to your life?" "Is there something that you identify with in the story?" "What part of the story touches you the most?" "Has the story triggered memories for you?" Questions and interactions such as these, Fox believes, help people to integrate the story into their own lives. She often uses small group discussion to stimulate people to share their story experiences in a "safe" situation.

Tonal quality, rhythm, and pitch are all important qualities for carrying the story. A story has its own rhythm. When something reoccurs, says Fox, it helps a person resonate with the whole story. Fox believes that storytelling is a kind of music, and for that reason, a storyteller should pay close attention to the modulation of their voice. The most effective storytellers, according to Fox, have a musical, rhythmic quality
to their storytelling voices. Further, this quality seems to engage the intuitive part of the mind. Modern audio-visual equipment such as slide projectors, videos, and sound recordings is not shunned by Fox. Rather, she thinks it can enhance a good story and encourages educators to use technology if it will help tell a story. For example, Fox attended an evening interpretive program at one of the National Park Service's National Seashores. The skillful blend of storm video, the sound and fury of thunder, and the first person account by the park ranger of trying to rescue stranded campers from an approaching hurricane, made for a riveting narrative. Fox encourages natural history educators to use modern tools if the story would benefit from their incorporation.

According to Selena Fox, stories do create experiences. She added that the motivational component in storytelling is often overlooked by contemporary educators. Describing her own life situation, Fox related that, for her, lessons were illustrated powerfully through myths. She heard the story, identified with the characters in the myth and thus the story became part of her experience. The lesson sunk in. Fox was engaged. She lived it. She experienced it.

Selena Fox comments that people often share flashes of insight that they experience during storytelling. On deeper levels, stories can be transformative. Selena spontaneously mentioned that dreams are also experiences. The "daily residue dreams" help people process accumulated bits of information from the day. This seems to be a way to bring closure to certain activities. Fox states that, when dreams or stories effect changes on deeper levels, personal growth and positive changes in the natural environment are possibilities.
In my work I endeavor to create experiences for people through stories which allow people to access things they know on a deep level. Enhancing their awareness of inner processes helps them become consciously aware of how they "do life."

Fox does not believe that mystery is an essential element of a story. Rather, she would view the experience as the joy of discovery, not knowing what's around the next bend. Nor is conflict necessary for a good story. The guided imagery that Fox conducts leaves people free to create their own stories. Under these circumstances, a person's own inner mythology becomes visible. Their personal "take" on the dream experience adds to a wide range of reactions as the process unfolds. Familiarizing people with their psychic interiors often increases their rapport with the natural world.

Places have stories: geologic, scientific, cultural, and natural history stories. According to Selena Fox, a place is something that exists through time and part of that existence involves stories. Her storytelling about the nature sanctuary that she directs involves how she first encountered the land in a dream. She goes on to describe her on-going relationship with the sanctuary through her relationships with the local fauna, relict prairies and ancient rock art. She believes, for example, that the relict prairies are fantastic teaching tools about biological diversity and about the use of a fire regime by past cultures to maintain the prairie matrix. Therefore, educators must learn what's currently happening on a site used for teaching, to become acquainted with local geology, presettlement vegetation patterns, and legends of past cultures in order to tell the whole story of a place.

When asked about the use of thick description in storytelling, Fox mentioned that in some imaginary journeys she provides very detailed descriptions to set the framework that, in turn, let the journey happen.
Two story types are most often employed by Fox. The first are myths. Place descriptors help these stories come alive. The second genre are imaginary exercises. These narratives start with some detail but are left deliberately vague so that the participants can create their own details.

Memorizing stories, to Fox, is similar to improvised jazz. When asked for further explanation, Fox suggested that jazz musicians know the basic rules and have an auditory memory of basic patterns. Once basic patterns are memorized, the musician is free to deviate and add additional notes. Fox encourages educators to learn the basic patterns and then add their own details within the basic framework of the story. Educators can do stories like jazz musicians if they are experienced. She cautions those who are new to the format of storytelling to rely on established patterns of study such as writing it down, visualizing the scene transitions, and practicing first in low-impact situations.

Whether people are hot-wired to receive information through stories is a matter of context, according to Fox, and depends upon the individual person. Fox was willing to commit that all people have the capacity to learn through narrative, but some have a greater capacity than others. Socializing conditions and early learning patterns may cause some people to be more inclined towards learning through stories than through other teaching styles.

In the 21st century, technology is part of our culture. Information is communicated through technology. Fox believes that the timeless nature of stories can be seen in elements that carryover into modern times. She believes that video games are forms of interactive storytelling, and she was unwilling to reject out-of-hand some modern technologies that some
environmental educators may be ready to dismiss. For example, computer simulation of biological processes tells a story based on relative data about ecosystems. Individual students can even manipulate biological components in an ecosystem through computer modeling and observe the changes in the ecosystem based upon their input. The computer "tells" a story based on a student's data.

Everyone has his or her own established modes of absorbing information, according to Fox. If emphasis is placed on cognitive learning and a person is likely to excel through didactic exchange of information, then she or he will be most comfortable learning in that mode.

"The stories I tell are done with the conscious intention of helping people expand their conscious perception and understanding of themselves and of the environment around them." For Selena Fox, then, stories are a very important part of the work directed towards improving people's behavior towards the Earth.

Stories are effective, says Selena, because they are ways of getting information in where it can linger. "Stories take information and have a way of creating experiential ways of knowing." Songs, movies, and television are considered by Fox to be active modes of storytelling too. According to Fox, narrative stimulates a part of consciousness that may not be brought to the forefront simply by stating a series of facts. Further, stories have an interactive component even if no verbal interchange has occurred. Listeners are involved with the information in a very "present" way. Emotions get activated. This, says Fox, is different than just conveying facts that hang on the cognitive frame where emotions may not become involved. Emphasis on intellectual analysis tends to exclude
emotions. With a story, emotional components tend to get a person more involved. The involvement creates what Fox calls a "memory trace." Thus, stories are capable of triggering emotional states. According to Fox, an emotional event has the effect of placing the story in active recall within the domain of memory. "Besides, stories are FUN!" says Fox. People having fun, getting scared a little, being swept away by a flood of emotions—all produce a reaction. These reactions are more easily recalled.

Fox believes that people enjoy these emotional reactions. They enjoy being transported through space and time. People enjoy learning about contemporary cultures other than their own, and they enjoy learning about past cultures without having to physically go to a geographical location. For adventuresome people, Fox believes that their desire for adventure can be fulfilled through stories. Fox mentions that another reason people enjoy the storytelling experience is that it provides them with a sense of group identity. They simply enjoy being part of a wider community. The group setting provides cohesiveness and a sense of belonging.

Myths and personal anecdotes are among Selena Fox's favorite stories to tell. Fox concluded that she would like more consideration paid to intuitive education.

My great hope for stories is that they will become much more important in the next century in terms of understanding life strictly in terms of rational, intellectual ways. These synchronic, serendipitous events will, I hope, become more valued, understood and appreciated. They have, after all, been a part of science from the beginning. Plato, Socrates, the pagan Greek philosophers—all put forth philosophies that are cornerstones of Western civilization! They used storytelling a lot! Part of what's going on now is reclaiming some of those old nature wisdom ways and weaving them into life as we know it in this age.
Susan Strauss

Negotiating interaction with an audience for Susan Strauss is based upon direct query in some cases and on what can best be described as a presumed psychic input. "When I am really present with a group, I look over them and ask myself what it is that they need?" Susan will sometimes wait to see if something moves either her or the story in a certain direction. She usually has a formal plan before arriving at the storytelling site, but she does not feel bound by that plan if circumstances change. She believes that these changes occur at the intuitive level.

Her approach with audiences varies depending upon the composition of the group. With adults, Strauss is likely to provide information before beginning the story. This information includes where the story came from, how she found the story, cultural nuances that enhances the story's appreciation, and biological information to deepen understanding.

With children, Susan will often ask what they'd like to hear or, relying upon her intuition, try to sense what is needed. Sometimes, questions directed towards the administrators will produce information about a situation that occurred in the classroom, providing Strauss with rich ground for storytelling. For example, at an all-male school, Strauss discovered that there was an incident with a bully just that morning. Although she had not originally planned to tell the story of Old Man Coyote and the Bullying Monster, that is the story she chose. It was very effective, according to both students and teachers. To encourage children to gain an understanding of what the archetype embodies, she relies on imagination exercises, encouraging the children to imagine what it would be like to be "coyote" or "wolf" or "eagle."
Teenagers affect Strauss in such a compelling way that she places them in their own category. She believes that they are unique in their approach to life. They have a distinct mistrust for things that are "not real." This lack of trust can translate into behaviors that can cause teens to be undesirable audience for storytellers. Relying on her gut level instincts, Strauss determined that what the students needed most was a story that was REAL. She proceeded to tell the story about a real life coyote that was caught in a leg-hold trap, her reactions as she and her husband approached the unfortunate creature, and the outcome of the story, the death of the coyote. She secured the attention of the group and their commitment to listen further. From that point, it became more easy to tell some of the Native American myths about coyotes and wolves.

Strauss believes that by keeping oneself open, a story does indeed find a storyteller. Research about various topics also opens new pathways into a storyteller's spiritual life.

Strauss believes that in most cases educators should only tell stories that they love. They must develop a relationship with the story. Susan confides that stories can fundamentally change a storyteller. As a case in point, she relates that when she begins research on a topic, she will often have strong dreams about the topic. In reading about mythology, she learned more about her dreams and what her metaphorical mind was trying to speak to her. "A story sticks to me from a place. I tell it and it grows with the telling."

To best learn stories, Strauss has developed the technique of scripting "little islands of language." She states that a storyteller must have a sense of the flow of the entire story beginning with opening issues,
major scenes, and how the issue gets acted upon by the various characters. Next, Strauss produces a flow chart with the pinnacle archetypes she wishes to highlight. She tells the story into a tape recorder and listens. After a satisfactory recording, she is likely to "guinea pig" the story on local school classes. She earnestly listens to and incorporates the all important feedback from students and teachers. She recommends that people wanting to utilize storytelling in their educational endeavors simply picture the story in their minds and they'll never get lost.

To tell a good story, Strauss believes that the storyteller must create for the audience the sense that they are going on an adventure. The initial issue must capture the attention of the audience. If this happens, the listeners will stay for the resolution of the issue. She believes that some of the most effective stories are ones in which the ending is a complete surprise. She uses language that entices listeners into the essence of the archetype as well. The natural world is one of her most popular topics for storytelling. Strauss insists that nature is super-real and that bringing creatures into these stories causes them to be viewed as quite real as well.

Susan possesses an amazing verbal range. She admits to delighting in "being thunder." She spoke in a voice that began way down deep in her chest and roared out, complete with a crackling sound at the end. I asked Strauss if this was the next lightening bolt forming. She smiled and said that she really hadn't considered it consciously. Susan uses different voices for different characters to alert the audience concerning which character is "speaking" at a certain point in the story.
Susan prefers not to take questions immediately after the storytelling session is completed, preferring to let people savor the experience. She believes that questions cause the brain to flip out of what she calls "story mode" and that the questions mostly serve the teachers rather than the students. Music, Susan concludes, would be a very good way to come out of story mode and still allow the story to linger.

The common school assembly format does not ordinarily lend itself to student/storyteller interactions. However, Strauss mentions that some interactions have been profoundly moving and that part of the nature of storytelling is an extremely intimate interaction.

She made a statement which puzzled me and I asked for clarification. Susan mused about a sense of loneliness after the story was done. She wondered what it was like in older cultures where the storyteller was part of the community and remained with the group after the story ended. Strauss described the feeling at the end of stories as "an emptiness." When asked if it might have something to do with nurturing--if the storyteller had given lots of nurturing in the act of storytelling and was then in need of reciprocate behavior from the participants. This function may have been fulfilled because the storytellers of the past were usually community members. Strauss affirmed by nodding and sighing, rather than choosing words as response.

Repetitive sound has some obvious functions, according to Strauss. The most obvious is to commit a certain segment to memory. Repetition provides a sense of familiarity and perhaps a place where people feel they can participate too.
When asked if stories create experiences, Strauss agreed that they do. She also believes that stories "get" other stories. Coyote stories and other stories about actual animals can encourage students to want to learn more about wildlife. Susan believes that this is an under-utilized tool in environmental education. She also emphatically stated that stories inspire memory. In describing her personal encounters with story-building activity Strauss said, "As I begin to put stories together, my attentiveness to the subject builds as I work on the project. The world starts to provide me with things when I work on the subject."

Not knowing the final outcome adds a sense of mystery to stories. The moment of "Aaahh haahl!" is a source of delight to many members of the audience. However, Strauss was quick to point out that in many traditional folktales, most listeners already know the outcome, but still enjoy hearing the story repeated.

Strauss believes that story pushes memory. "These moments reveal something to you or remind you that you once knew something but forgot it until the story pushed your memory." Ancient wisdom traditions, says Strauss, contained what some storytellers call the "bottomless pit of the myth." The function of these mystery schools was to enable the initiate to understand something about the spiritual powers of the universe. Part of learning about the "power" is learning about the myth. According to Strauss, contemplating the image of a seed was an effective way to begin to unravel the mystery of life, growth, and the whole of the universe.

Strauss believes that stories of place are especially important for most indigenous cultures. Stories are "planted in the land" by those residing there. Explanations for why raccoon has stripes on her tail, or
why a mountain looks a certain way—all come from stories. Strauss believes that each place has layer upon layer of stories. The more stories, the more power a place has. She uses Yellowstone National Park as an example to encourage educators to tell all the stories of a place. Yellowstone Park is bound up with stories about the geological history, the Native American experience, the colonial and military occupation, and the story about how Yellowstone came to be a National Park. Susan reflected that our contemporary North American culture lacks stories of landscape. She posits that this could be one of the reasons that we fail to see the land as sacred.

Upon further reflection, Strauss commented that if geology is the story in the land, then myths are the stories that people put into the land. The land becomes the inspiration for the myths. Susan explained how the ancients used metaphor to understand natural processes and principles in science. Creation myths contain science. "True mythology is a series of metaphoric pictures that the ancients put together to understand the reality of the universe. Some believe that the ancients had the clairvoyance to perceive the science within the universe." Susan suggests that people living in daily association with natural landscape develop empathy with that landscape. "Why is it that we in the modern world fail to have a story relationship with the landscape?"

Memorizing stories is not difficult for Strauss because she uses her "islands of language" to move her characters from one place to the next. What sociologists refer to as "thick description" is what Strauss takes to be her construction of "islands of language." She determines the moment in the story that she believes is important and begins to build the archetype.
She consciously puts in a description she thinks will create a feeling of the archetype. The senses are elevated if a storyteller is effective in creating the super-reality of a situation for listeners. An example Susan used was to create a sense of "wolfness." It is her goal to create the sense of the archetype rather than to explain the archetype. Most people, believes Strauss, want the archetype explained. "The true mystery of what the wolf carries or embodies can be experienced, even if it cannot be directly spoken about. Something can be known even if it is not directly spoken about. Once known, it can be acted upon." This is the value of myths.

When asked if people are hot-wired to learn through narrative, Strauss affirmed that, in her experience, people are predisposed to learn this way. Her examples included instant recall of stories told years ago and subsequently recalled to her by former program participants. She receives many letters from school children commenting on the story experience and what it meant to them.

Because of an incident in her personal life that involved a farmer telling a story about how the government was "taking people's land without good reason," Strauss wants to reach out to natural resource professionals and educators to learn to tell "the other side of the story." She saw what power the farmer evoked by using the images of an all powerful central government telling native ranchers how to best steward their land. The field biologists, natural resource managers, and environmental educators, according to Strauss, must gain confidence in their own story voice. They must "tell their stories!" She believes that part of the problem lies in the nature of science to quantify and separate. The beauty of stories,
insists Strauss, is that they are about relationships, relationships to other people, places, creatures. Scientists believe that in order to be credible, they must be dry and boring. According to Strauss, this simply is not so.

Strauss has a bias against stories that are blatantly moralistic. She particularly singles out environmental stories pushed by some environmental educators. These stories tend to be too obvious to the listeners. Comparing modern stories to some of the older fairy tales, Strauss points out that older fairy tales do not preach to people. Through the images in the tale, people are able to take on the fantasy. She tells environmental educators and naturalists that it is more important to give people the experience of nature through stories than to tell stories that have morals. By telling stories that bring out the beauty and mystery of nature, people find it difficult to argue with the unstated mystery.

In Holland, says Strauss, people tell stories about sick family members. A Dutch storyteller told Strauss that since the Earth is sick, we must begin to tell stories about the Earth.

Stories are effective because listeners are transported into the realm of fantasy where "the truth of life is experienced more deeply than in our daily cluttered lives." Daily life is cluttered with maintenance issues, says Susan Strauss. Stories are disarming and for that reason they tend to invite people to reflect upon life. During "story speak," what happens to characters happens to the listeners. People project themselves into the story. Stories can also be cleansing since people process things without knowing that they are processing. Susan calls stories "the campfire time of the day."
What people like about stories is that they are healing. Again, Susan mentions that both listener and teller process psychological material during story sessions. Evil beings in stories are important to children, says Strauss, because children are able to formulate strategies for their personal lives. Perhaps the way Old Man Coyote dealt with a bully is a lesson the child can apply to her or his own life situation. The value of stories for adults, suggests Susan, is that:

In life, if you can’t find your way out of a pattern of behavior and you hear a story that completely reveals what’s going on in that pattern—-it’s like a chiropractic adjustment. You are allowed to laugh at the foolishness of your own behavior. In being able to laugh, you are freed from having to perpetrate that behavior on yourself in the future. In story, we get the whole lesson without having to feel spurned ourselves.

Some of Susan’s favorite stories to tell are of the Jewish Hassidic tradition where there is a delayed reaction, and the punch line is delivered just perfectly. She says that the outcome of the story more or less sneaks up on the listeners and they get the most eloquent of jokes. She also appreciates the slapstick violence of the Norse myths in that this culture has done far more work about death and dying than our own culture. She also greatly prizes stories of a spiritual nature.

One final area explored with Susan Strauss dealt with what she sees in the faces of those who listen. When asked to explain, Susan talked about their eyes. "Their eyes get very deep. Their eyes go from human to deer eyes. Their eyes get deeper, rounder, darker. There is a quality in
people's eyes when they are being deeply, emotionally touched that is unmistakable."

Summary

When selecting stories, all four storytellers chose stories based on group needs (see Table 4). They also used their intuition and were open to the experience; stories found them. Fowler believes that the story must have elements of personal growth, and life experiences. They can have conflict and pain as long as the resolution is beauty, joy, harmony, humor, and growth. Fowler also believes that a story puts itself together. It has its own life. Fox tells stories that are sometimes spontaneous and some preplanned. Fox believes that stories trigger other stories. Strauss finds that research on a topic opens pathways to other areas of development.

Table 4. Selecting Stories: Items Mentioned By Storytellers

<table>
<thead>
<tr>
<th>Item</th>
<th>Bruchac</th>
<th>Fowler</th>
<th>Fox</th>
<th>Strauss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be open, use intuition</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Depends on program theme</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Based on group need</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Tells stories they love</td>
<td></td>
<td>Y</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>A story finds them</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

Note: Y = Yes, the storyteller mentioned this during the interview and/or answered yes to a direct question about the item.
Blank = The storyteller did not mention this item during the interview.
Table 5. Learning the Story: Items Mentioned by Storytellers

<table>
<thead>
<tr>
<th>Item</th>
<th>Bruchac</th>
<th>Fowler</th>
<th>Fox</th>
<th>Strauss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Mirror</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tape recorder</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Objects as visual prompts</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practices on friends/family</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Writes it down</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Identifies pinnacle archetypes</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uses imagination exercises</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uses &quot;Islands of Language&quot;</td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
</tr>
</tbody>
</table>

Note: Y = Yes, the storyteller mentioned this during the interview and/or answered yes to a direct question about the item. Blank = The storyteller did not mention this item during the interview.

Table 5 introduces items storytellers mentioned in response to questions about learning the story. All four did research and wrote down stories.

Places were an important source of stories. Bruchac mentions that myths are situated in particular geographical locations and if people live long enough with the land they learn the lessons from the original "source." Bruchac notes that native stories are often very complex and work on an individual on many levels. Part of what is learned is about relationship to place and other creatures. Fowler travels to many places
and these places "speak" to her. Fowler also looks to the landscape to see if it will share its story. She believes that it ultimately comes down to how educators can best teach discernment.

Fox comments about layers of history that are contained in the landscape: geologic, cultural, historical, and biological. A place exists through space and time. Part of that existence involves stories. Stories are often about relationships between people, places, and other creatures. Storytellers/educators need to learn all the layers of stories carried by a place.

Strauss notes that this is especially true about indigenous cultures. The more stories there are about a place, the more power the place has. Myths are stories people put into the landscape. Landscape inspires myths. Geology is the story held within the land. Educators need to learn all the layers of stories held by the land. Contemporary culture lacks stories of the land, perhaps due to the transient nature of society. Strauss tells stories with an environmental theme because of her great care and concern for the Earth but she is biased against stories that are blatantly moralistic.

Table 6 describes the storyteller's responses about how the landscape provides the inspiration for stories.

The techniques storytellers employed were many and varied (Table 7). All of the storytellers used repetitive sound and modulated their voices. They mixed teaching styles and utilized the element of surprise.
Table 6. Stories Related to Places and the Environment: Items Mentioned by Storytellers

<table>
<thead>
<tr>
<th>Item</th>
<th>Bruchac</th>
<th>Fowler</th>
<th>Fox</th>
<th>Strauss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Places have stories</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Tell stories with environmental theme</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

Note: Y = Yes, the storyteller mentioned this during the interview and/or answered yes to a direct question about the item. Blank = The storyteller did not mention this item during the interview.

Most of the storytellers interact with the audience before telling the story (Table 8). Fowler reviews physical setting and tries to intuit or "sense" or "feel" the group on an affective level. Fox holds discussion with audience before performance. She often initiates an activity (an imagination exercise) which engages the intellect and the imagination.

Strauss has several strategies for identifying which actions she will take. For adults, she relates the origin of story, how she found it, biological information that enhances the understanding, and cultural information about the specific population of origin. For children, she may directly ask what they would like to hear or ask administrators to relate classroom events which would be helpful to revisit within a story. For example, an incident of bullying makes good story material. For teens, true life stories are best.
Table 7. Telling a Good Story: Items Mentioned by Storytellers

<table>
<thead>
<tr>
<th>Item</th>
<th>Bruchac</th>
<th>Fowler</th>
<th>Fox</th>
<th>Strauss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costume/Props</td>
<td>Y</td>
<td>Y</td>
<td>Sometimes</td>
<td></td>
</tr>
<tr>
<td>Repetitive sound</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Lighting effects</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Mixes teaching styles</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Utilizes latest audio-visual technology if available</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allows quiet time for reflection</td>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Modulates voice</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Characters have different voices</td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Dramatic pauses</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Surprises</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Sense of adventure</td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
</tr>
</tbody>
</table>

Note: Y = Yes, the storyteller mentioned this during the interview and/or answered yes to a direct question about the item. Blank = The storyteller did not mention this item during the interview.

Bruchac is often able to confirm observations he made during the story performance such as verification that people were having emotional and physical reactions to the story. Fowler relies on feedback from teachers to help modify the program. She often receives letters from students. Fox often spends time debriefing the group post-program. She asks directed questions to stimulate processing of the experience. For example:
"Has the story triggered memories for you?" Interactions help people integrate stories into own lives. Stories trigger other stories. Strauss sometimes takes questions, but prefers silence so the brain doesn't "flip out of story mode." Music would be a good transition, according to Strauss. Strauss relies on feedback from teachers and often receives letters from students after the program.

Table 8. Group Interactions Before and After: Items Mentioned by Storytellers

<table>
<thead>
<tr>
<th>Item</th>
<th>Bruchac</th>
<th>Fowler</th>
<th>Fox</th>
<th>Strauss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negotiating interaction</td>
<td>Y</td>
<td>Y</td>
<td>Not Always</td>
<td></td>
</tr>
<tr>
<td>Debriefing</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td>Sometimes</td>
</tr>
</tbody>
</table>

Note: Y = Yes, the storyteller mentioned this during the interview and/or answered yes to a direct question about the item. Blank = The storyteller did not mention this item during the interview.

Respondents mentioned a number of reasons why stories are effective and why people like them (Table 9). Bruchac believes stories give people a chance to laugh at their own behavior safely as they follow the exploits of story characters. Bruchac states that people learn most effectively when they are relaxed and feel safe. Storytelling provides that security. He further comments that when people go home, stories stay with them and work on them on many deep levels.
Table 9. Reasons Stories are Effective and People Like Them: Items Mentioned by Storytellers

<table>
<thead>
<tr>
<th>Item</th>
<th>Bruchac</th>
<th>Fowler</th>
<th>Fox</th>
<th>Strauss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chance to laugh at self</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Find role models</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Learn how to behave towards the land</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Create an emotional reaction</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Feel part of larger group</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Healing</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Latent ability to reappear</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Emotional aspects</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Memory stimulant</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Stories are fun</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stories create experience</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>People are hot-wired to learn through stories</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

Note: Y = Yes, the storyteller mentioned this during the interview and/or answered yes to a direct question about the item. Blank = The storyteller did not mention this item during the interview.

Fowler notes that people place themselves in the story and "go home" with it. People sharing space and time together is another powerful element of the storytelling experience. Fowler claims that stories remind people, make people fall in love, tickle people. Sometimes stories are shared by very loving people in an individual's life. Fowler believes that stories create common ground between storyteller and listener.

Fox suggests that stories are a way to get information in where it can linger. Stories stimulate a part of the consciousness not brought to
the forefront by stating facts. Fox believes that people enjoy being transported through space and time. People also have a chance to learn about past cultures and other geographical locations. Fox is enthusiastic about the motivational component in storytelling. She claims that it is often overlooked by mainstream educators. For example, people may undertake an action to help heal the Earth after a storytelling experience. Regarding whether or not humans are hot-wired to learn through stories, Fox believes that it depends upon the person. All people have the capacity to learn through narrative, but it is dependent upon formative experiences and early learning patterns. Everyone has their own established modes of absorbing information. Ability to absorb information through narrative may be latent in some people not exposed to the experience.

Strauss claims that stories take people into the realm of fantasy where the truth of life is experienced more deeply than in cluttered daily lives. Stories are the campfire time of the day, allowing people to engage in reflection. People project themselves into the story. Strauss finds that stories can reveal damaging behavior patterns to listeners, thus freeing people from perpetrating that behavior on themselves in the future. Listeners get the whole lesson without feeling spurned. She also believes that stories beget other stories and inspire memory.

Each storyteller indicated that they were committed to reaching and changing people through the process of storytelling. Their selection of material was broad, spanning classic stories from older cultures through stories intrinsic to specific landscapes. Each provided compelling examples of their skills as educators as they used voice, movement, facial expression and hand gestures to articulate responses to my questions. They
were thoughtful and generous in their responses and the time allotted for the interviews.

Fowler, Fox, and Strauss are currently creating stories based on native landscape. They are giving voice to landscapes as they stand in relationship to particular locations. They express, as it were, a feeling of comfort, familiarity, respect, and affection for these places. The places have come into their consciousness not because of historical events recorded in the written tradition of the dominant culture, but because of some element within the natural world that touched an emotional chord within the storyteller.

The Environmental Educators

The five environmental educators include classroom teachers, field naturalists, a natural resource manager, and a post-secondary educator. All are experienced educators and interested in environmental ethics.

Chris Adkins and Jean Eells both hold teaching certificates. Chris Adkins has worked as a classroom teacher until the academic year of 1995 at which time he became the state coordinator for high school ecology programs. Jean Eells worked as a county naturalist/environmental education coordinator until her recent move to a privately funded organization called Trees Forever in which she manages youth environmental education programs.

Mark Edwards works for the Iowa Department of Natural Resources as the coordinator for the statewide trails program. Mark constructs trails for the state park system and uses those opportunities as teachable moments to inform trail crews and park visitors of the value in maintaining biological diversity and avoiding erosion through stabilizing native
vegetation. Edwards is a popular speaker at teacher workshops and a frequent contributor to local newspapers on environmental issues.

Sharon Kaufman is the Des Moines County Conservation Board’s resident naturalist and environmental education coordinator. She is also a Leopold scholar having devoted her master’s thesis to the pursuit of studying the Leopoldian Land Ethic. She is a frequent and popular speaker at many teacher and naturalist workshops. She recently coordinated the Iowa Governor’s conference on education about the environment and is a frequent contributor to many environmental publications.

Clifford Knapp is a post-secondary educator involved in teaching other adults how to interpret the environment to their students. He is a much sought after lecturer at professional workshops and seminars. He is currently working on a book about environmental ethics and how to incorporate ethics into the classroom.

Chris Adkins - High School Science teacher and Director for the Iowa Student Environmental Coalition (ISEC)

When asked what he took to be important ethical dimensions in teaching about the environment, Chris Adkins told me a story about a trip he took with his high school students to Ecuador. "When you are greeted in Ecuador," said Chris, "People clasp your hand and look into your eyes and ask you if you are ALIVE." Adkins explained that the full meaning of this question resides in whether a person is as fulfilled as s/he can be and worthy of this human existence. The holistic greeting does not ask what you own or about your social status, but how well you are living.

How well one is living is a question Adkins asks his students to examine in their own lives. Adkins encourages discussions centered on how
they are manipulated by advertisements, swayed by the culture of consumption, and what they value in their lives. In examining technology and its seductiveness and pervasiveness in Western society, he relates a story of a young man who visited his classroom after recovering from an automobile accident. The young man described the awesome technology of the auto he presumed he controlled, which ultimately injured him. The moral of the story for students is that we are not rightfully entitled to the technology we presume to control. We did not design it, engineer it, build it, test it, or evaluate it. Our only entitlement is having the money to procure it, a hollow claim. The visitor to Adkin's class said if students built a device, or trained an animal to perform in partnership with them, then the claim to that power would be legitimate. Even more legitimate would be engaging in activities where experiences were gained through the act of one's own body: running, climbing, racing, working to accomplish an end. The legitimacy is thus gained through physical, emotional, and psychological involvement of the individual or group. Money, in this interpretation of power, is the least important element in gaining legitimacy.

Adkins asks difficult questions regarding the measure of the worth of one's life. Is it to be measured in terms of house size, horsepower, income, and other tangible, economic markers, or a broader definition of worth?

The first "value" lesson shared by Adkins is an appreciation for diversity and the realization that students are part of a larger biotic community. Chris channels his students' reading material towards items that stimulate discussions on ethical behaviors and right relationship with the
natural world. Aldo Leopold's *Land Ethic* is one of the introductory texts. One of the greatest challenges for students in rural Iowa is shedding their distrust of perspectives that are more biocentric. Adkins suggests that students listen to other teachers. These "others" are rivers, owls, plants, and other members of the natural community. The teacher of the day may be introduced as "Prairie" or "Soil." Adkins encourages students to ask, "What is the story of the soil?"

Chris recalls the perspective of individuals who have worked with his school classes. A person working wild willow told students about gathering willow in the spring, how to remove the bark, bend and shape the willow, and turn it into artifacts. The guest speaker told the story so matter-of-factly that the students came to appreciate that this is basic knowledge needed by everyone who lives near rivers. Another guest taught a simple thanksgiving ceremony, as a common "duty" to perform by those who take things from the environment. Incorporated into the ceremony were aspects of joy and sacredness of the local environment. The context, once again, was presented in a casual, non-threatening way so that students began to associate conscious living and celebrating life as part of a daily routine that keeps one "rooted" within one's bioregion.

Adkins promotes what he calls "an ethic of wholeness," a sense of being part of one's natural environment, not separated from it. Environmental ethicists would describe this as a biocentric world view (Devall & Sessions, 1985).

Adkins helped create the Student Environmental Council, an Iowa based network of environmentally active high school students working for
intergenerational equity, restoration ecology, and manifesting a biocentric world view.

Mark Edwards, Trails Coordinator, Iowa Department of Natural Resources, Des Moines, Iowa

Searching for past histories of habitation within a specific bioregion, Mark believes, shows that people are beginning to move towards ethical behaviors in their interactions with the environment. An established or accumulating knowledge of an area's past cultural and natural history tends to move an individual into involvement in local issues—political, educational, activist, or some combination of all three. Integrating past and present, according to Edwards, encourages individuals to project themselves and their home territory into the future, to become part of forming the future that arises from their present vision. Recall, says Mark, that their vision is a composite of their accumulated knowledge of what existed in the past and what it currently experienced in relationship with a given land community.

Edwards becomes most hopeful when he hears people "thinking out loud" about how they can reinhabit a place or restore a damaged area. How one becomes native to his or her home place is one of the essential questions asked when one seeks to form associations with natural communities.

While people who are asking the above questions and behaving in nurturing ways towards the natural world give Edwards hope, he remains deeply concerned about the lack of intimate, physical, contact by children and adults with the natural world. If children and adults lack examples of healthy habitat and natural areas, they lack the foundation for making assessments of overall environmental quality. Further, if they lack
examples of people who are enjoyably immersed in the natural world, then they may not be stimulated to seek such experiences for themselves.

Activities that bind people with natural landscapes can be as uncomplicated as planting a garden or watching birds. It is the act of consciously expanding the boundaries of what is taken to be morally considerable, the emerging of a biocentric world view, that helps to connect people to the natural world. An appreciation for "earth time," a sense of time more geologic, seasonal, and life cycle-oriented than digitized, helps people to "let go." It is vitally important to provide opportunities for people to "be" in natural surroundings in order to build or awaken connections.

Jean Eells, Youth Environmental Education Coordinator, Trees Forever, Webster City, IA

Eells conceptualizes environmentally ethical behavior as a continuum, a path upon which an individual travels. Often, an individual "knows better," but is only able to accomplish certain levels for the time being. "Rejecting" behaviors are important to Jean, refusing a disposable cup, or refusing to purchase items not sustainably produced, or items that are overpackaged or cause pollution.

Non-verbal cues are essential markers. A moment of "hesitation" to Jean is the interface where she knows that an individual is questioning personal behavior and has started to think about the implications and consequences of choices she or he is making. The act of struggling with a choice indicates that recognition is occurring.

The "rejecting" behaviors are followed by "subtle conserving behaviors," according to Eells. Manifestations can include turning off
lights, walking instead of driving, reusing and repairing items rather than
discarding them. She believes that people are quite adaptable and can learn
new things.

The next level of behaviors includes large, life-scale decisions. Housing choices, vehicle choices, vacation preferences, free time
activities, and volunteerism indicate the next level of environmental
sensitivity. Eells believes that it is important to find one's niche and
express it. One's niche may change over time as sensitivity and awareness
increase.

Traits and values underpinning environmentally ethical behaviors
include responsibility, honesty, generosity, interdependence, and
interconnection as expressed by subtle non-verbal cues that may be more
difficult to detect. Jean's favorite example involves traveling through
woodland areas with other people and observing their reactions when they
observe someone indiscriminately stepping on plants, knocking plants over,
or striking trees with sticks or other objects. Words are rarely spoken,
but Eells observes "wincing" behavior. Her interpretation: the activity
does not feel comfortable to the observer. At that level, she believes the
messages of interconnectedness and interdependence are internalized. The
level manifested is that other species have value in and of themselves.
Philosophers call this intrinsic worth.

Eells commented on the notion of behavioral continuums. She believes
that language used by people in referring to other life forms is telling.
The language indicates whether or not respect exists for the natural world.
Jean likes to allow space in her litmus test for those who are proceeding
along the path, but may be temporarily ignorant of what the "right thing"
to do really is. However, the sense of feeling ashamed can be mitigated by learning a better behavior. Her test for comprehension is confirmed when she hears someone verbalize an "oh, I didn't know that" comment with a tone of "I'm going to stop doing that" in the future. Eells ponders how to teach a future environmental educator to listen for that comment and validate it as evidence of learning. She contends that it is often hard to separate people's comments that are made for the benefit of the educator from those that are spontaneous and sincere commitments to change.

For Jean, the essential belief is that more can be done. She is willing to proceed and not become complacent that she has done enough or is doing all that she will ever do for the benefit of the Earth. Eells encourages responsible planetary citizenship.

Other thoughts that Eells expressed involve what it means to be an environmental educator and why someone would want to become one. Jean ponders what one would do if charged with teaching someone else to become an environmental educator. She asks what they would need to know, how they would know if they've become one, and how much is enough. Her image of a pathway and behaviors on a continuum partially answer the questions she poses about monitoring the performance of an individual for environmentally ethical standards.

Behaviors, according to Eells, are cumulative, subtle, and become progressively more difficult to detect. She rejects dogmatic interpretations of some environmental ethicists who see only one alternative to environmental problems. Honoring and encouraging the value of diversity is promoted as Eells concludes that "There are many ways of
working. Diversity is important. What is your path? What is your way to work?"

Sharon Kaufman, Environmental Education Coordinator - Des Moines County Conservation Board and Leopold Scholar

"When an individual holds the environment as part of their value system, the environment becomes a factor in an individual's decision making," says Sharon Kaufman, Des Moines County Naturalist. She has been observing the interactions of people with their environment for most of her adult life (Kaufman, personal communication, 1995). A hierarchy of behaviors, according to Kaufman, can be observed, which indicate the level of critical thinking an individual is doing regarding his or her environmental behavior. Negative behaviors such as discarding cigarette butts along hiking trails, automatically stomping ants and wasps, and discarding aluminum cans instead of recycling them indicate little thought to future consequences. Kaufman believes that individuals engaging in these behaviors are not bad people, they are simply not thinking people.

Positive behaviors include consistently recycling and consciously thinking about choices of consumer goods, lawn care activities, and food purchases. Extensions of these simpler behaviors are reinforced by political actions such as voting, political activities promoting environmentally sustainable behaviors, and, most important to Kaufman, thinking for themselves.

Traits common to environmentally sensitive individuals include respect, honesty, kindness, and comfort. When asked to define "comfort," Sharon reflected that her first responsibility as an environmental educator is to help students acclimatize to the natural world. Feeling as though
they are part of the environment increases the level of comfort that people feel towards the Earth.

Throughout her active career in Iowa, Kaufman has been instrumental in bringing innovative educational programs to the state. When asked about the value of storytelling, Kaufman described stories as "a gift of oneself. You give the gift of your time to another human being." Stories don't necessarily tell a person what to do. They can, however, point out consequences so that a person can consider a certain behavior before acting. Stories can serve as an action plan for an individual.

Sharon reflects that Western culture has not been telling stories for some time. The oral tradition has been largely dormant for hundreds of years. The age of scientific discovery and the Enlightenment period lacked traditional oral markers in the culture's collective memory. Now, as culture evolves, the stories that Euro-Americans resurrect are from the Dark Ages of Europe, violent stories such as Little Red Riding Hood and The Three Little Pigs. The Grimm Brothers collected stories that, to a certain extent, were degrading to women and people with disabilities. Sharon believes that it is natural for people to seek elements within their cultural traditions that cause them to feel pride. She posits that society may see oral tradition emerge as accounts about scientific discoveries emerge and people seek greater understanding of the natural world surrounding them. If so, the movement has already begun. For example, The Universe Story: From the Primordial Flaring Forth to the Ecozoic Era (Swimme & Berry, 1992), presents a scientifically accurate account of geologic and biological events in the genre of narrative.
Science is also finding its story voice through the work of paleontologist Robert Bakker, author of *Raptor Red*, a story about an early Cretaceous dinosaur called Utahraptor. Dr. Bakker (1995) uses his scientific knowledge about ancient geology, plant, and animal species, to weave a believable story about two sister dinosaurs traveling through western North America over 60 million years ago. The story is engaging, yet Bakker manages to educate readers about paleontology, predatory dinosaurs, and climate on earth during a different geological period. It appears as though Kaufman is correct in commenting that science will adopt the tools of the storyteller to advance information.

Inquiring about how she judges the performance of a good storyteller, Kaufman describes how a good storyteller "captures" an audience. When a potential distraction or interruption happens, and the listeners are oblivious to the distraction, a "capture" has happened. Eyes wide open and jaws agape are visible signs of rapture with a story performance. Kaufman observes that storytellers rarely ask directly what the story was trying to teach. They are more inclined to ask what the group remembered about the story. Storytellers also seek feedback by asking listeners to describe a scene, or describe how a monster, coyote, or a place looked. In most cases, listeners form a visual impression built upon the words woven by the teller.

Depending upon whether a person is visually oriented or auditory oriented, it is not uncommon for the listener to see the storyteller become the person or creature they are portraying. Kaufman noted that this is something that the storyteller has taken great pains to construct for the audience, a very conscious part of performance. The way a storyteller like
Susan Strauss carries herself and uses body language to convey "coyoteness" is all part of the art of how the image is formed and maintained. Hand gestures and voice inflections are precise and deliberate. These storytellers are very aware of what works. It is important to differentiate this as an art form, an atmosphere created, rather than an act of mysticism. Kaufman wanted to be clear that highly developed stagecraft can give observers the sensation that there is a supernatural event taking place. Sometimes the skill of the performance artist can cause people to suspend judgement and allow forays into the nonrational, nonlinear, world.

When asked if science will ever take narrative seriously, Kaufman countered that science without philosophy is a religion of sorts. Giving knowledge (facts) without the context is only part of "the story." A story makes context real to people.

In concluding our discussion, Sharon Kaufman reflected that two of the most important things for an environmentally motivated person to have are self-esteem and hope. The original context of parent-child storytelling is in an intimate, nurturing, relationship and is perhaps why stories are so effective. In storytelling, there is the giving of the gift of one's time. When one receives the gift of another's time, the self-esteem of both is increased. Stories can be a vehicle for unleashing collective hope.

Dr. Clifford Knapp, Professor of Outdoor Teacher Education, Northern Illinois University-Lorado Taft Campus

Cliff Knapp is likely to begin an environmental ethics/environmental education workshop with questions, rather than statements. He often asks participants a series of questions similar to those asked in bioregional circles: "From where you are, point North" or "What are the edible wild
plants in your area?" and "Can you name five native grasses?" Asking such questions is a strategy to promote thinking and further inquiry into the nature of the local environment.

Knapp is not satisfied with a merely theoretical explanation of environmental ethics when he teaches others how to communicate about that topic to future students. Environmental ethics, according to Knapp, is best promoted through increased bonding and connection with the natural world. He continues questioning: "What instructional activity has the goal of advancing an environmental ethic?" It is an activity that will promote empathy, caring, respect, joy, reverence, thankfulness, and justice.

Familiarity with animals, plants, and ecosystems helps people extend their idea of community beyond the human-centered world.

Knapp uses Des Jardin's (1993) definition of ethics to explain how ethics involves the relationships that humans have with the natural world. Biocentric and anthropocentric ethics are on a continuum, a line upon which people manifest a world view. Knapp explains that a biocentric ethic is one in which the consciousness is extended beyond the human world to encompass the rest of the natural world. An anthropocentric ethic views humans as the center of planetary activity and space and "resources" rightfully under the domain of humans to dispose of as they see fit. Knapp will often ask participants to physically place themselves on the biocentric-anthropocentric continuum, aligning themselves according to the degree of biocentric and anthropocentric world views they currently hold. Their choice of physical placement along the continuum is often revealing and stimulates further discussion.
Typical questions asked of workshop participants are: "Have we as humans ever considered our responsibilities to the natural world?" and "How do we justify taking these responsibilities in order to connect people to the Earth and form bonds?" Knapp believes that people must, first of all, go outdoors.

Summary

Table 10 summarizes the key questions that the five environmental educators ask students, behaviors they observe in individuals acting ethically towards the Earth, and key values related to Earth-conscious living.

Environmental educators shared a concern that students and the public at large begin to manifest skills of thinking for themselves as indicated by the level of questions they ask regarding their behavior and that of others. Educators indicated that personal choices in consumer goods and leisure activities suggest the level of thinking about one's impact upon environmental quality.

All believed that environmentally ethical behavior requires the recognition that people are members of a larger community including nonhuman nature and even ecosystems. Further, educators believed that intellectual and emotional connections with one's natural habitat are neither developed nor strengthened in a vacuum. Connections and commitments are forged through physical contact with the natural world. The contact can be self-initiated or can come about through guided, deliberately crafted educational activities. These in situ events in nature, are essential prompts for developing and manifesting environmentally ethical behaviors.
### Table 10. Comparison of Environmental Educators on Items Related to Environmental Ethics

<table>
<thead>
<tr>
<th>Item</th>
<th>Adkins</th>
<th>Edwards</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key questions asked of students</strong></td>
<td>1. How well are you living?</td>
<td>1. Have you studied the patterns of human habitation in your local area?</td>
</tr>
<tr>
<td></td>
<td>2. Have you examined how media manipulate your consumption of goods and attitude towards other species?</td>
<td>2. What is your current knowledge level of local natural history?</td>
</tr>
<tr>
<td><strong>Key behaviors observed when environmentally ethical decision making occurs</strong></td>
<td>1. Conscious living--students reflect upon and evaluate choices. Ask questions about a product's impact</td>
<td>1. Involvement in local political, educational, and environmental activist issues</td>
</tr>
<tr>
<td></td>
<td>2. Purchases reflect thinking about impacts</td>
<td>2. Undertake local land restoration activities</td>
</tr>
<tr>
<td></td>
<td>3. Students are part of a larger community and behavior towards the greater community is respectful</td>
<td>3. Watch birds</td>
</tr>
<tr>
<td></td>
<td>4. Seek opportunities to &quot;be&quot; in natural areas</td>
<td>4. Seek opportunities to &quot;be&quot; in natural areas</td>
</tr>
<tr>
<td></td>
<td>5. Expand thinking regarding personal boundaries and what one takes to be morally considerable</td>
<td>5. Expand thinking regarding personal boundaries and what one takes to be morally considerable</td>
</tr>
</tbody>
</table>
1. What key "life scale" decisions are you making?
   - Eells
   - Kaufman
   - Knapp

1. Are you thinking for yourself?
   - Eells
   - Kaufman
   - Knapp

1. What are the natural history features of your local environment?
   - Eells
   - Kaufman
   - Knapp

2. What instructional activities have the goal of advancing environmental ethics?
   - Eells
   - Kaufman
   - Knapp

1. Rejecting behaviors
   - a. Overpackaged goods
   - b. Food produced unsustainably
   - c. Disposable/one-time use items

2. Hesitation behaviors as people struggle with their choices

3. Subtle conserving behaviors
   - a. Turn off lights
   - b. Walk
   - c. Carpool
   - d. Repair--do not discard items

4. Life scale decisions
   - a. Housing
   - b. Transportation
   - c. Diet
   - d. Free-time activities
   - e. Volunteerism

Hierarchy of behaviors:

1. Positive--think about
   - a. Choices
   - b. Food purchases reflect knowledge of sustainable ag and eating lower on the food chain
   - c. Lawn care
   - d. Political activity campaigning, letter writing, voting, etc.

2. Negative behaviors
   - a. Little or no thought about purchases
   - b. Squashing wasps, bees, and other small species
   - c. Littering
   - d. Discarding items Not recycling

1. Go outdoors
   - Eells
   - Kaufman
   - Knapp

2. Knowledge of local flora and fauna, weather, and cultures and ability to discuss them

3. Extend the idea of community beyond the human-centered world
   - Eells
   - Kaufman
   - Knapp
Table 10 (continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>Adkins</th>
<th>Edwards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key values and/or traits</td>
<td>1. Appreciate and acknowledge diversity.</td>
<td>1. Sacredness of wild/tame places.</td>
</tr>
<tr>
<td></td>
<td>2. Joy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Sacredness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Entities like &quot;Prairie,&quot; &quot;River,&quot; &quot;Owl&quot; are viewed as teachers</td>
<td></td>
</tr>
<tr>
<td>Eells</td>
<td>Kaufman</td>
<td>Knapp</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>1. Responsibility</td>
<td>1. Respect</td>
<td>1. Respect</td>
</tr>
<tr>
<td>2. Honesty</td>
<td>2. Honesty</td>
<td></td>
</tr>
<tr>
<td>4. Interdependence</td>
<td>4. Self-esteem</td>
<td></td>
</tr>
<tr>
<td>5. Interconnection</td>
<td>5. Hope</td>
<td></td>
</tr>
<tr>
<td>6. Internalized sense</td>
<td>6. Comfort - at ease</td>
<td></td>
</tr>
<tr>
<td>of connection</td>
<td>of connection</td>
<td></td>
</tr>
<tr>
<td>witnessed by</td>
<td>in outdoor settings</td>
<td></td>
</tr>
<tr>
<td>&quot;wincing</td>
<td>&quot;wincing</td>
<td></td>
</tr>
<tr>
<td>behavior&quot;</td>
<td>&quot;behavior&quot;</td>
<td></td>
</tr>
<tr>
<td>7. Extend circle of</td>
<td>7. Stories serve as</td>
<td></td>
</tr>
<tr>
<td>consideration</td>
<td>&quot;Action Plans&quot;</td>
<td></td>
</tr>
<tr>
<td>beyond the human</td>
<td></td>
<td></td>
</tr>
<tr>
<td>point of reference</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
For these reasons, agriculture education and high school and post-secondary levels should promote hands-on activities in relatively undamaged natural areas. Educators should attempt to influence the affective as well as the cognitive domain. Lessons with a spiritual dimension result in feelings of reverence, sacredness, and justice towards the Earth. Environmental ethics involves a series of norms and rules which outline what is "good" and "right."
CHAPTER 6
SUMMARY OF FINDINGS, DISCUSSION,
CONCLUSIONS, AND RECOMMENDATIONS

Summary of Findings and Discussion

This study has explored situated contextual narrative from the experience of professional storytellers and professional environmental educators. Qualitative or naturalistic research searches for meaning within the context of individual lives and world views. This research combined analysis of literature that might motivate ethical environmental behavior with analysis and description of techniques perfected by accomplished storytellers.

Qualitative research is interpretive. The potential of storytelling as an educational tool depends upon the willingness of educators to risk involvement with an educational methodology that is not generally practiced by those engaged in education about agriculture, forestry, and natural resource management. All four storytellers and one environmental educator in this study advocated storytelling as a primary teaching mode.

The effectiveness of storytelling may not be realized by mainstream educators due to their reluctance to be vulnerable enough to learn the technique. The environmental educators and professional storytellers indicate that the storytelling mode requires a specific level of intimacy. Emotional boundaries are often encountered and crossed during storytelling. Mainstream educators may be disinclined to open themselves to "the story" as described by Bruchac, Fowler, and Strauss. They may also be reluctant to
open their emotional circuitry to a classroom or public group. Modern science tends to disparage affective-level phenomena or ignore it altogether. Yet, one of the prerequisites of being an effective storyteller is creating a shared sense of openness and vulnerability with the participants. Field testing some of these stories in agricultural, natural resource management, and environmental education classes, while beyond the scope of this study, would likely have reinforced the analysis.

This chapter summarizes and interprets the findings of previous chapters. The discussion begins by restating the initial research objectives and ends with conclusions drawn and recommendations according to these objectives.

The Research Objectives

Objective one

The first objective was to discover which behaviors indicate that a person is acting in an ethical manner towards the natural environment. A significant finding is that observant educators noted gradients of behavior when assessing an individual's level of sensitivity toward the natural world. Further, the behaviors may be blatant, easily measured and observed, or subtle, nuanced, non-verbal messages that educators have learned to recognize. Regardless of the situation, encouraging educators to recognize behavior yields a list of diagnostic items that both beginning educators and seasoned classroom teachers can use to measure the progress of students towards ethical behavior.

Most of the educators began their analyses of individual student behavior focusing on what Jean Eells views as "life scale decisions,"
decisions that reflect active cognitive processes of evaluating the impact of everyday choices on environmental quality. The choices include consumer behaviors, leisure activities, and more subtle behaviors such as choosing to walk around a young plant rather than treading on it. Interactive behaviors with the natural world express what ecologist E. O. Wilson calls "biophilia." Wilson (1993) hypothesizes that humans are naturally attracted to a diversity of life forms, to living organisms, to places with wildness. This innate emotional attraction can manifest in both positive and negative ways. Aaron Katcher and Greg Wilkins (1993) suggest that this tendency exists both in children who throw stones at birds, wounding them, and children who feed birds. Each behavior, therefore, is an expression of biophilia. Further, the behaviors are choices and choices are learned.

Gary Paul Nabhan and Sara St. Antoine (1993) offer several explanations for biophilia and the connection between learning cycles and biophilia. One possibility is that the biophilia response is simply a learned behavior, nothing more, nothing less. The second prospect is that the biophilia response is based in the genetic makeup of each individual. Some individuals are genetically predisposed to exhibit this behavior, while others are not. The third possibility, with the most direct bearing upon the field of education, is that:

a child's learning environment greatly conditions the expression of any genetic basis for biophilia. Unless the appropriate environmental triggers are present in a certain cultural/environmental context, biophilia is unlikely to be fully expressed. (Nabhan & St. Antoine, 1993, p. 230)

**Implications**

Nabhan and St. Antoine claim that creating opportunities for student/nature interactions provides the necessary stimulus to propel a
certain response. This response fits the parameters outlined by environmental educators surveyed in this study and demonstrates environmental sensitivity.

Educators interviewed believe it is possible to determine an individual's sensitivity towards the natural world by the level of knowledge they demonstrate about the local flora and fauna, weather conditions and watershed cycles, and by the level of discomfort they exhibit when observing others participating in activities which are insensitive or damaging to the environment. Eells describes this as "wincing behavior." She observes this when sensitive individuals watch others trample plants and strike growing trees with sticks and other objects.

Knowledge of local ecosystems including indigenous plants and animals appears to be prerequisite for protecting those areas. According to focused studies on the tropics, anthropologists determined that New Guinea's Kalam people could identify by name 1,400 different plants and animals of their local ecosystems (Majnep & Bulmer, 1977). According to Alan T. Durning (1992), the homelands of indigenous people make up a considerable share of the planet's unscathed ecosystems. These intact ecosystems harbor a large proportion of Earth's biological diversity as well. Durning states that the biosphere's most species-rich habitats are often homes of endangered cultures. Much of the knowledge about local ecosystems is transmitted through conversation with other humans and through interactive contact with the natural world (Diamond, 1993) in contrast to the very human-centered "built" environments associated with Western cultures. Both oral tradition and intimate living with the natural world lead a society to develop vast
stores of memory about the natural world. The persistence of this knowledge system seems, according to Diamond, to be a function of the utility the knowledge brings in terms of food, shelter, clothing, decoration, and mythic traditions, rather than a sense of kinship with the natural world. Diamond believes that, as humans develop exploitative technologies, those technologies are freely used, often at the expense of the local ecosystems. By the year 2020, population models suggest that human population will reach over 11 billion before leveling off (Ehrlich & Ehrlich, 1990).

Behaviors of this human population may be respectful or demeaning towards the Earth.

Utility-based decisions for maintaining biological diversity appear to support data from a variety of sources indicating that inhabitants of the tropics consciously increase biodiversity by protecting genetic diversity. This activity results in additional sources of material to exploit (Denniston, 1995; Durning, 1992). Further, Durning suggests that the rest of human culture is indebted to these indigenous people because their activities have resulted in an increase in genetic diversity.

Modern societies depend on an ever narrowing range of genetic strains for their food and other products of the earth. Reserves of genetic diversity are crucial insurance in a global economy that has converted so many ecosystems to high-yielding but vulnerable monocultures. Crop fields, orchards, animal farms, tree plantations, pastures, fish runs—all have been turned into genetically-uniform super producers. ... The banks of genetic diversity that have repeatedly rescued such monocultures from pests, diseases, and changing soil and climate conditions are the fields, forests, and streams of indigenous peoples. (Durning, 1992, p. 17)

Indigenous cultures transmit knowledge, skills, and abilities regarding utilization of natural resources through oral tradition. Stories appear to be effective in teaching about natural cycles, biological life, and techniques that maintain biological diversity. Modern agricultural
educators, natural resource management professionals, and environmental educators may find that stories are appropriate vehicles for teaching current inhabitants about the native biological diversity surrounding them, making it more likely that they will establish healthy sustainable relationships with their local bioregion.

We may be on the threshold of a major cultural bifurcation as our almost limitless access to information about present global environmental conditions and data about past civilizations is integrated with introspection. The potential introspection may increase our willingness to take on the work of restoration ecology and sustainable agriculture. Information exists about restoring large areas of disrupted land to presettlement conditions. The new agriculture may be able to flourish within those reconstructed land-based communities. Oral traditions can supply technical and cultural information needed to work with natural cycles rather than against them.

All educators interviewed were convinced that environmentally ethical individuals seek opportunities to interact with the natural world. A growing sensitivity towards the natural world would increase the frequency of activities like hiking, gardening, bird-watching, and restoring of damaged land. Stephen Trimble (1994) believes that close association with natural areas and resident plants and animals produces a sense of self-worth for children. This sense of self-worth is grounded in the ability to form direct connections with the natural world. Educators can be instrumental in orchestrating these interactions.

To Edith Cobb (1977), awareness of connections with the natural world while retaining a sense of one's individuality is a key to maintaining
psychological balance. Cobb's original research began in the 1940s. She eloquently describes a sense of well-being attained by children during their play activities. This state is often gained when children attain what Cobb calls "unity" with their environment. Deep ecologists dance around phrases such as "self" and "other," suggesting the surrender of the larger "self" to nature is necessary to form a deep ecology consciousness. Many ethically inclined individuals find the complicated language of deep ecology difficult to internalize and embrace. Edith Cobb may have summarized a deep ecological consciousness more clearly in her observations of how children learn while at play.

If Cobb and Trimble are correct, then effective environmental education benefits environmental quality, and promotes psychological well-being. Sustainable agriculture, ecological forestry, and restoration ecology may be self-healing activities for humans to undertake. In healing the land, we heal ourselves. Humans are likely to come to these activities only through hindsight and by calculating the effect of continued human habitation on natural resources. Human impact can also be measured against what is known through archaeology and anthropology. Today, society has benefited from accumulated global human experience available for scrutiny and futures planning and need not repeat former mistakes in natural resource management.

Key values

Educators commented on key values and observable practices in assessing environmentally ethical behaviors. They agreed and expressed without prompts the notion that an environmentally sensitive individual has an expanded sense of moral consideration. Comments about expanding the
circle of consideration to include other animals, plants, ecosystems, and elements of the landscape were numerous. They also described connections that they felt towards the landscape, demonstrated by individuals acting in environmentally ethical ways. Nabhan and Trimble (1994) advocate hands-on environmental education in outdoor settings to assist children to fully develop their cognitive and emotional capacities. Becoming familiar with landscapes of childhood, according to Nabhan and Trimble, is prerequisite to forming emotional bonds with the natural world. These affective-level ties seem to lead to more appropriate behaviors towards the land. Unless contemporary culture engages in learning the story of the land from those who know it well, it may be more difficult to advance the causes of sustainability (Sheridan, 1995).

Sharon Kaufman's comment about comfort levels in the outdoors is a key concept. She consciously works towards increasing that comfort zone for her students, believing that the level of comfort with natural areas is necessary for an expanded sense of consciousness and felt sense of connections.

Just as storytellers seemed comfortable with the notion that stories were entities in and of themselves, acting with volition, educators appeared willing to bestow a level of personhood to elements within the landscape. Chris Adkins articulates the ability of Prairie, River, and Owl to act as teachers.

Key values important to educators included caring, empathy, generosity, honesty, hope, interdependence, joy, justice, kindness, respect, responsibility, reverence, sacredness, thankfulness, and
self-respect. Part of the merit of stories that exemplify these values is allowing people to formulate plans for how they will behave in the future.

**Objective two**

The second objective was to analyze stories for content applicable in teaching environmental ethics such as bioregionalism, deep ecology, and ecological feminism. This objective was pursued by analyzing various arguments made by philosophers and environmental ethicists about the three emerging ethics.

Consistent in the three ethics is a behavioral component. Subscribing to one or more of the ethics implies a certain code of conduct. Participants in these ethics are not just enjoined to think about decisions and perspectives, but encouraged to act on those principles.

Part of the work of the three environmental ethics is to persuade people that there are severe problems that must be acted upon for the good of all. A secondary purpose relates to the universality of the challenges and the need for a cross-disciplinary approach to solving problems. This approach can embrace actions advocated by some mainstream education theorists (McNeil, 1990). For example, deep ecologists argue for lifestyles that impact less on natural resources. The actions advocated support scientific inquiry, which is able to measure the cumulative effect of human actions on the biosphere. These effects include soil erosion, loss of biological diversity, and ozone depletion. A deep ecologistic argument for simplifying one's lifestyle logically includes a reduction or elimination of auto travel, air conditioning, and synthetic products that damage stratospheric ozone. Likewise, social scientists offer evidence that
heterogeneous societies nearing theoretical carrying capacity experience an increase in social dysfunction, anomie and crime (DinAlt, 1994).

Learning activities in a supportive of environmental ethics require action and teaching values. Indeed, part of the language of philosophy and ethics centers around discussion of facts and values. Bioregionalists and deep ecologists insist that participants come to know their home range so that they can become active members of a land-based community with deep and abiding relationships and respect for members of the natural community.

Ecofeminists seem less invested in creating a new culture and more intent on reaching parity in the present one. However, bioregionalists and deep ecologists share a desire to create a new culture and cite specific activities that are essential for fomenting the change. Resistance to power wielded by those with access to economic, military, and other resources is part of the task of deconstructing systems of domination (Quigley, 1992). Those sharing a bioregional deep ecology and/or ecofeminist world view gain currency by their acts of questioning mainstream assumptions.

Ecofeminists and bioregionalists would agree in reaching goals through consensus, whereas deep ecologists may be viewed as less willing to compromise points than either ecofeminists and bioregionalists. All three ethics appear to agree regarding the urgency for change and the need to convince community members that the overwhelming need for change is valid.

Objective three

The third objective was to analyze the delivery style of four storytellers for similarities that make them effective presenters and to determine the differences that add uniqueness to their presentations.
There were striking similarities among storytellers. All of the storytellers relied upon a certain level of intuition to guide them in story selection. Bruchac and Strauss related that they often would not know exactly which story they would tell until they began their performance. Fox indicated that she sometimes relies on intuition for selection but reminds educators that once stories become part of long-term memory they are easily recalled.

All discussed stories as though they were entities. Stories are not just words crafted into chains of meaning by the storyteller. Stories, according to the informants, seem to take an active part in bringing themselves to people who need them.

The stories seem to have volition and consciousness. During my first interview, the notion struck me as somewhat eerie and unusual. However, during the third interview, with Susan Strauss, I became comfortable with the concept. The storytellers were casual in their representation of story as entity. All informants represented stories as such without prompts from me. They believed that stories in certain cases actually chose them. Strauss suggests that initiating research about a story topic often opens pathways to other areas of development. An element of logic appears as each teller begins to put their performance together, but then the intuitive/affective domain mixes with the cognitive and makes it difficult to assess where the transition occurred. It appears to be different for each storyteller.

Selena Fox prepares for her programs with research in the sciences and then moves into literary references. For example, if the topic is botany, Fox reviews scientific literature about geographic distribution,
botanical and common names, physical characteristics for identification, chemical properties, and possibly wildlife food value. She also consults literary references for historical allusions and sometimes consults poetry for an added dimension. She indicates that research sometimes draws her to consider possibilities for teaching she hadn't considered previously. Susan Strauss also relates that initial research on a topic pulls in sometimes surprising and unfamiliar directions. The comfort level experienced by these professionals is such that they appeared to have no misgivings, allowing them to "be open to the story" and let it "take them" where "it" wanted to go.

Learning stories and delivering them effectively often intimidates neophytes and seasoned educators inexperienced in the technique. Informants undertook this task in a relatively systematic fashion.

Practice is a key ingredient in good storytelling. The more familiar the teller is with the scenario and the more time spent before different audiences, the more engaging the performance. There is a direct cause and effect relationship between the effort placed in developing this craft and the interest level of the participants. Most tellers employ tape recorders in their practice session so they can hear and critique their delivery, making changes when necessary.

Mirrors are used by the storytellers to monitor their visual impression. Hand movements, physical stance, facial expressions—all create part of the mystique of storytelling. Informants recommended that beginners practice in front of a mirror so, as Susan Fowler states, "you are looking into at least one other set of eyes . . . there is real power in the human gaze."
Sequentializing the story internally is a prerequisite for adding the story to long-term memory. Performers suggest that newcomers to the art visualize the story, seeing it in their mind's eye, before attempting to speak the story. Writing the story down from memory is also recommended. Strauss refers to "islands of language" which are central points she wants to emphasize and remember. She visualizes the key scenes and navigates her characters through the scenes until the story resolves.

Repetitive sound involves the audience in a familiar activity in which they can participate. Chants, songs, and drums provide sound backdrops for some stories. Stories are rhythmic and musical, according to Fox and Strauss. The musical quality, Fox believes, is an aspect of storytelling which engages the intuitive mind. Strauss claims that an obvious reason storytellers employ repetition is to be sure that if the audience didn't "get it" the first time, they eventually will.

Implications

Effective presenters capitalize on interpreting gestures to produce superior programs. Nearly 65% of all human communication is non-verbal (Axtell, 1991; Parratt, 1995; Risk, 1990). Educators can teach more effectively by studying the growing body of research on non-verbal communication (Regnier et al., 1992). Skills previously reserved for theater arts majors and musicians may be necessary for the repertoire of mainstream educators (Khoury, 1994). Non-formal educators such as park interpreters, museum technicians, and nature trail guides have employed histrionics and theater arts skills for decades (Tilden, 1967). They know that their audiences are voluntary. If the attention of the group or individual is not engaged from the beginning, it is unlikely that people
will participate in the event, what Susan Strauss calls "staying for the ride." Teaching about the environment is important and necessary. It is important that participants in educational events about the environment stay for the whole ride. Given the increased sophistication of students, the increased competition for their attention, and the increased demands made upon the time of educators, this ally in teaching is welcome. Improving the delivery skills of educators may be as important as increasing their content knowledge in their discipline.

Stories are capable of creating experiences. Post-program debriefing of listeners by Joseph Bruchac confirmed his assumptions. People related that they experienced emotional and physical reactions during the programs. Experience, claims Susan Fowler, becomes the common ground between storyteller and listeners. Fox advocates pre and post program discussions with participants to assess initial thoughts and feelings and to evaluate how the experience has changed the participant.

Stories inspire memory according to Susan Strauss. They also accommodate other stories that are generated as a result of the chosen story being told.

The motivational component of stories, Selena Fox insists, is often overlooked by mainstream educators. She believes that, on deeper levels, stories can be transformative, providing the impetus to undertake actions healing to the Earth. A physiological effect occurs when a person is engaged in listening to a story. Fox explained that when emotional situations are introduced into educational settings, the information is stored in brain areas where that information is easily recalled. The
long-term memory areas of the brain access this affective-level information more easily than simple cognition.

Fox discussed dreams as part of story experience. The notion that dreams are stories that individuals tell themselves is a foreign concept to many. After the interview, searching for literature on the phenomenon called lucid dreaming, research dealing with brain activity during sleep phases was located. The areas of the brain stimulated during dream sequences are the same areas stimulated when Homo sapiens are engaged in active, wakeful learning (Godwin, 1994).

Dreaming is intimately connected to learning and is triggered at certain times during the night by neurons firing in the brain stem and by the synchronous presence of theta rhythms. (p. 47)

Biological research on brainwave measurement explains physiologically why stories are effective learning tools. There are neural and chemical bases for the observations. Brain areas active during learning cycles are the same areas active in periods Godwin (1994) calls lucid dreaming; the hippocampus is among those active areas of the brain. The implanting of story imagery and messages into the hippocampus, the area devoted to long-term memory, is an under-utilized strategy in mainstream education, Fox claims. Fox also reminds educators to mix teaching styles so they maximize the opportunity to reach people with various learning styles (McCarthy, 1987).

Places have stories. Joseph Bruchac relates that traditional Native American myths are situated in particular geographical locations. He posits that if people live long enough with the land they learn the lessons from the original "source." Further, he believes that all people have that
original source available to them. He warns that living in opposition to the natural source can be damaging.

Susan Fowler spends many days on the road telling stories. These specific locations have become wellsprings of story information for her. She described how the individual places "speak" to her and the stories follow the encounters.

Layers of stories exist in landscape, according to Selena Fox. The layers include geologic, biological, historical, and cultural. The stories carried by specific places are often about relationships. Fox stresses that it is important for educators to learn all the story layers that landscapes hold. Environmental ethicist Eugene Hargrove (1979) states that modern environmental attitudes are the product of several centuries of attitude shifts towards nature. He also suggests that the 19th century botanists, biologists, geologists, and artists contributed to this culture's increasing understanding and sensitivity to the natural world (Hargrove, 1989). In that regard, Fox and Strauss can be interpreted as advocating a return to the original roots of education about the environment.

The accumulation of story layers endows specific places with power. Susan Strauss believes that myths are stories that people put into the landscape. The landscape is also responsible for inspiring myth. Strauss, too, insists that educators learn all the layers of story held by the landscape. In Strauss' judgment, people who lived in daily association with the landscape tended to have more empathy and sympathy for the landscape. The stories that accumulate reflect that sensitivity. She notes that contemporary cultures lack stories of landscape perhaps because of the transient nature of modern society.
A commonality expressed by each storyteller is the power of the landscape to be generator and receiver of stories. As generator of stories, the landscape is also teacher. Bioregional narrative is especially concerned with the realities of place. Expression of an environmental ethic, therefore, would seem to be linguistically and organically bound to place. Where are the stories of place for our own Western culture? The stories of place seem more related to the deeds of humans rather than the intricacies of natural history and landforms. If these storytellers are compelled to generate stories about place, and older cultures expressed part of their identity through their indigenous landscape, then perhaps increasing tenure of people within the North American landscape will, over time, generate stories that are respectful and inclusive of the intricacies of native landscape.

If the land can teach, the land has stories; giving pause in our modern agribusiness world to listen to the wisdom bound up in the land would seem to be necessary. The transient nature of modern society is antithetical to forming emotional bonds with and an appreciation for natural landscapes. The stage play, *Planting in the Dust*, produced by the Land Stewardship Foundation in Minnesota, incorporates an important line in the dramatic storytelling style of a one-woman play. The main character, Annie, tells her friend, "the land does not belong to us, we belong to the Land. We rise up for a short time, and then we sink back down." The story embodies the geologic history of landscapes and helps people deal with temporal reality and be more willing to change damaging practices. As these storytellers and others continue to create narrative of place, the concept of landscape as partner will grow. This work will be aided by restoration
ecology principles through which more holistic and respectful relationships with the land community will seem possible and necessary. Agriculture and agriculture education should take on the dimensions of the supporting landscape. The ultimate foundation for culture and society is healthy land. All other disciplines--science, philosophy, mathematics, history, language arts, music, and economics--ultimately depend upon the health of the land community. Assisting society to acknowledge this should be among the most important goals for agriculture education.

What appears to be lacking in modern agriculture is a relationship with the land. The relationship is sacrificed for short-term economic gains (Soule & Piper, 1992). Perhaps the longer a culture lives on the land, the more it will come to feel those relationships described by Strauss and Bruchac. Members of contemporary technological societies are inheritors of narrative traditions that, deliberately or accidentally, tend to set human beings apart from the natural world. This separation is further reinforced with dominant and recorded stories tending to honor and elevate actions of exploitation and arrogance while ridiculing cooperative, life-affirming behaviors that tend to honor diversity (Eisler, 1987; Fitzharris, 1994).

The importance of storytelling within specific cultural groups must not be overlooked or marginalized (Ben-Amos, 1976; Gunn-Allen, 1992; Johnstone, 1990; Mander, 1991). Narratives provide guideposts for behaviors towards and attitudes about human interactions with human society and with the wider natural world. Understanding the influence of stories and mythic systems provides insight into environmentally damaging behaviors. Exposing the root causes of behavior makes possible the process of remything (Wirth, 1994b).
A growing cadre of educators use environmental issues as the focus of their storytelling. The storytellers interviewed recognize that the natural world is in peril, and much of their storytelling accommodates that theme. Each storyteller, however, goes about this task in different ways.

Joe Bruchac, for example, relies on the intrinsic power of the story to go to work on an individual when they "go home and live with the story." This is a faith that elders have instilled in Bruchac, and he is comfortable in this belief.

Susan Strauss is openly biased against stories that are blatantly moralistic. While she is fully aware of the environmental challenges facing modern societies, she prefers stories that do not preach to listeners. She believes that often the attitude of the storyteller/educator is so obvious that the listeners are not permitted to come to their own conclusions about the story's message.

Susan Fowler is keenly aware that human behavior is responsible for much environmental damage. However, she is buoyed by the belief that humans are most certainly part of the solution. Her stories are a direct outcome of her observations about people integrating their lives into the fabric of the environment. Fowler believes that, ultimately, the principle of using stories within the framework of environmental and natural resource education is distilled into how well educators are able to teach what she calls discernment, by which she means conscious living. The environmental educators interviewed say similar things in regard to monitoring personal choices.

Selena Fox uses storytelling with the deliberate intention of helping people expand their conscious perception and understanding of themselves.
and surrounding the environment. The stories are, therefore, goal oriented and not told just for entertainment.

Stories are effective, according to Joseph Bruchac, because they stay with people and work on people on many deep levels. Story creatures can be followed at a safe distance, giving the listener the space to laugh at the behavior of a character that is like their own behavior.

People sharing space and time together is an often overlooked element of storytelling, according to Susan Fowler. Emotional aspects are reflected in stories, and people are able to find role models for behaving in relationships with other people and the land. Further, Fowler says people enjoy stories because they remind, they tickle, they cause people to fall in love, a theme echoed by environmental education coordinator Sharon Kaufman.

Selena Fox believes that the effectiveness of stories lies in their ability to get information in "where it can linger." Fox agrees with Fowler in believing that the emotional content of stories creates a memory trace that is a significant event for most people. Fox also chides that stories are just plain fun. People enjoy the roller coaster emotional ride of being surprised, scared, and thrilled. These are palpable emotions, and thus are added to long-term memory of an individual.

Susan Strauss calls stories the "campfire time of the day." They are an oasis where busy people can leave their cluttered lives and do some self-reflection without necessarily realizing that they are engaging in self-reflection. Projecting themselves into stories is also enjoyable, and a healing experience for many people, according to Strauss. The ability to
deal with psychological and emotional matters in a safe place is valuable for people in an increasingly time-restricted society.

Narrative, according to storytellers, is an effective learning pathway that bring information into the long-term memory of students. Stories often have an emotional component; activation of the affective domain is a route to long-term memory.

Environmental educators interviewed during this study stated that, in order to gain commitment to change behavior, people must come to feel connected to their natural habitats and landscapes. They further believed that there is an emotional connection as well as an intellectual connection to landscape. If emotional connections to landscape are important to assure environmentally ethical behavior, and if stories are capable of eliciting emotional reactions from listeners, then stories about landscape and relationships with landscape are necessary components of educational programs directed to teaching about the environment and environmentally ethical ways of interacting with the natural world.

Conclusions and Recommendations

The conclusions and recommendations of this research study are discussed by objective.

Objective 1

Discovering which qualities of behavior indicate that a person is acting in an ethical manner towards the natural environment.
Conclusions

1. The behaviors delineated by the environmental educators as indicative of an environmentally ethical individual range from subtle to blatant.

2. These behaviors are best viewed as existing on a continuum rather than as absolutes. Such a view allows educators to monitor movement and improvement over time as an individual gradually or quickly expands his or her sphere of consciousness to include more and more members of the land community.

3. Many of the behaviors that educators judged as important to observe included personal consumptive choices.

4. Educators believed that a hands-on, out-of-doors, component was necessary for students to form meaningful emotional and intellectual bonds with their native landscape. Emotional connection with the environment is a prerequisite to environmentally ethical behavior.

5. Educators articulated key environmental values as: caring, empathy, generosity, honesty, hope, interdependence, joy, justice, kindness, respect, responsibility, reverence, self-esteem, and thankfulness. These values are similar to values promoted and accepted by most democratic governments and as such, ought not to be viewed as threatening to dominant Western culture. Rather, these values are exemplary and ought to be reinforced in every aspect of the mainstream curriculum.

6. According to Edwards and Kaufman, people who act in environmentally ethical ways tend to be individuals who become actively involved in political and educational process at the local level, thus
manifesting a bioregional consciousness regardless of whether they call that consciousness bioregional or not.

**Recommendations**

1. Develop and provide a list of criterion behaviors to educators so they can identify and model environmentally ethical behavior as outlined by the educators interviewed during this study.

2. Part of the secondary and post-secondary curriculum should focus on consumer information. This information should include data about the life-cycle of products, impact of certain products on energy consumption and environmental quality, and low impact alternatives.

3. At all levels of education, teachers should provide outdoor experiences for students. Students should be encouraged to construct narratives about their home landscapes. This activity ought to be undertaken with a level of reverence and respect as well as cognition.

4. The teaching of key environmental values need not be sub-divided. Rather, these values ought to form the core of curricula on active citizenship. Stories which model or express the key values identified by environmental educators should be collected under one cover. An explanation of the ethics can be included after the stories. Educators may begin the process of teaching about key values by modeling those behaviors themselves.

5. Pre and post contact with learners is essential to determine the impact of the story. Educators can model Fox’s strategy of debriefing since they likely will not have the time constraints of most professional storytellers who make their living by being transient. This will facilitate the learning process.
6. Elicit responses of high school and post-secondary students unfamiliar with environmental ethics regarding key values and environmentally ethical behaviors. Compare students' responses to those of environment educators.

Objective 2

To analyze traditional and contemporary stories for content applicable in teaching environmental ethics such as bioregionalism, deep ecology, and ecological feminism.

Conclusions

1. An understanding of what the environmental ethics of bioregionalism, deep ecology, and ecological feminism embody is important in order to select narratives that promote praxis contained within a specific ethic.

2. A descriptive and normative understanding of ethics will assist educators in evaluating observed behaviors and promoting thinking and acting that reflects bioregionalism, deep ecology, and/or ecological feminism.

3. Numerous older and contemporary stories model ethical consciousness in terms of behaviors described within the stories.

4. Since messages are most easily transmitted and received between individuals sharing the same or similar folk groups, stories from other cultures are less effective in impacting the thinking and behavior of people in contemporary cultures. More specifically, modern culture is having the most profound and damaging effect upon natural ecosystems. Ancient stories from other cultures, even Native North American cultures,
are inadequate to reach citizens of the dominant culture. The most effective narratives to address the global nature of environmental challenges are being written today.

5. A mixture of teaching styles is the most effective way to reach the greatest number of learners. In that regard, modern technology ought not be excluded from the toolbox of the contemporary storyteller.

6. There is a broad potential of storytelling modality for modern agriculture, natural resource, and environmental education. Classroom teachers of agriculture science, natural resource management, and environmental education can, with intention and practice, attain a comfort level with the topic of philosophy and ethics so they can use this information to introduce environmental ethics to their classes. The story mode would be the vehicle for the ethics lessons.

7. In thoroughly examining each of the environmental ethics, bioregionalism appears to have the most significant and relevant claims to address how modern agriculture might moderate and evolve to be more integrated within the natural community. Bioregional stories are a genre beyond the noticeable dualisms, binary conflicts, resolutions, and transformations that characterize many narratives from cultures around the world. The story content in bioregional narratives is engaging, celebratory, connected to physical place, and life-affirming. Bioregional narratives seem cut from a different cloth. The revelations shared are those accessible to all people who choose conscious participation in life within their local bioregional communities.
Recommendations

1. Field test several stories mentioned within this study for pre- and post-test responses by students regarding their environmental values.

2. Secure cooperation of an interdisciplinary team composed of literary scholars, scientists, and environmental educators to create stories of landscape specific to the major biomes within the continental United States.

3. Consider all natural habitats for inclusion when preparing narratives for site specific locations.

4. Require all undergraduates to take and pass a course in environmental literacy. Components of this course should include information and discussion about the following areas: (a) natural ecosystems and their values; (b) biological diversity; (c) fundamentals of soil generation and chemical characteristics; (d) crop growth, soil erosion, and the impact of modern agrochemicals on field workers, consumers, wildlife, ground water, and the global economy; (e) a comparison of economic systems where costs are measured and counted as natural capital erodes; and (f) a thorough grounding in local natural history including identification of local plants and animals.

Ideally, this course would be offered as a senior-level high school course.

5. Since part of bioregionalism supports maintaining a balance between human population and a healthy environment, a cross-cultural analysis of stories on the impact of human population should be undertaken. This research encountered no stories regarding population. Has this topic been a taboo literary and mythic subject under patriarchal world view? The
WorldWatch Institute (Jacobson, 1991, Newland, 1977) indicates that more than 65% of women around the planet do not have access to adequate birth control and family planning services. As global consciousness grows and women attain parity with men in life-scale decision-making, stories about reducing family size may emerge.

6. Timeless stories about landscape may have evolved because of utilitarian benefit, sacredness or both. Teams of scientists, cultural anthropologists, and folkloristic specialists must continue to document those stories as potential prescriptions of how humans might live better in place.

7. According to Egan (1986) mainstream education has focused attention on the cognitive domain almost exclusively. This has occurred at the expense of the affective domain. More research is needed regarding the impact of narrative on the affective domain.

Objective 3

Analysis of the delivery styles of four storytellers for similarities that make them effective presenters, and to determine the differences which added uniqueness to their presentations.

Conclusions

1. The art of storytelling must be honed and practiced in order to be effective. Educators need to invest their emotions and time in order to capitalize on this effective teaching tool.

2. Storytellers used anecdotes in their presentations in addition to formal stories. This anecdotal material is widely accessible to mainstream educators trained to be keen observers of their surroundings. The
perception of the storyteller often brings a story to an audience and makes it memorable.

3. Theatrical techniques were used skillfully by all storytellers interviewed as very effective vehicles for helping the story to come alive in the mind of the listeners.

Recommendations

1. Educators should be encouraged to draw on their personal experiences to create meaningful narratives to utilize in teaching everything from natural history to agroforestry.

2. The plan of study of future educators, regardless of the discipline, should include experiences with the creative arts, dramas, film, and audio-visual interpretation of material as well as computer literacy.

3. Narratives based in fact, that is, the organic reality of the landscape, are most effective and potent for bringing the dimension of the natural world to program participants. Therefore, anyone making formal or informal presentations in environmental education, environmental ethics or agriculture, should be well-educated about the natural and cultural history of the landscape they interpret to program participants. Lack of knowledge in any of these areas will lead to an incomplete story.

In conclusion, narrative must be taken seriously by professionals in agriculture, agriculture education, education, environmental education, forestry, and natural resource management. Narrative is an effective pathway into emotional and cognitive domains and long-term memory. The emotional impact of stories is perhaps the most important reason to use
them. This research described how emotional reaction enters long-term memory storage and recall.

The three environmental ethics of bioregionalism, deep ecology, and ecological feminism encourage alternative world views and behaviors that are life-affirming and sustainable. In contrast, mainstream agriculture, forestry, and natural resource management are not sustainable.

People understand communication most efficiently when the folk group of the message giver closely matches the folk group of the message receiver. For this reason, the most effective stories to change the behavior of mainstream Western culture will come from story crafters of Western culture folk groups. The current dearth of stories should not be cause for despair, but rather, an occasion to celebrate the challenge and opportunity for new work to begin.
APPENDIX A

SUMMARY DATA ON RESPONDENTS

<table>
<thead>
<tr>
<th>Professional Storyteller</th>
<th>Date Interviewed</th>
<th>Location</th>
<th>Credentials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ph.D. Literature</td>
</tr>
<tr>
<td>Susan Fowler</td>
<td>May 1995</td>
<td>Woodward, Iowa</td>
<td>M.S. Agronomy</td>
</tr>
<tr>
<td>Selena Fox</td>
<td>September 1995</td>
<td>Madison, Wisconsin</td>
<td>M.S. Psychotherapy</td>
</tr>
<tr>
<td>Susan Strauss</td>
<td>August 1995</td>
<td>Bend, Oregon</td>
<td>M.S. English</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environmental Educators</th>
<th>Date Interviewed</th>
<th>Location</th>
<th>Credentials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chris Adkins</td>
<td>May 1995</td>
<td>Madrid, Iowa</td>
<td>M.S. Education</td>
</tr>
<tr>
<td>Mark Edwards</td>
<td>April 1995</td>
<td>Madrid, Iowa</td>
<td>B.S. Sociology</td>
</tr>
<tr>
<td>Jean Eells</td>
<td>May 1995</td>
<td>Webster City, Iowa</td>
<td>M.S. Adult Education</td>
</tr>
<tr>
<td>Sharon Kaufman</td>
<td>October 1994</td>
<td>Galena, Illinois</td>
<td>M.S. Education</td>
</tr>
<tr>
<td>Clifford Knapp</td>
<td>October 1994</td>
<td>Galena, Illinois</td>
<td>Ph.D. Education</td>
</tr>
</tbody>
</table>
Dear __________: 

Thank you for agreeing to participate in this project which seeks to make explicit epistemological connections between environmental ethics and situated contextual narratives.

As a popular, practicing storyteller, your perspective is important to this project. I would like to share your insights with a wide audience of environmental educators working in Kindergarten through post-secondary levels. Many of these educators are searching for educational tools which will assist in teaching about living sustainably in place and monitoring or changing personal behaviors to be sure that this occurs.

I would like permission to directly quote from our communications, citing you as the source of the information. I will provide you with a written copy of my research so that you are assured that I am accurately reflecting your viewpoint.

Thank you very much for your cooperation.

Sincerely,

Danielle M. Wirth
APPENDIX C

KEY QUESTIONS TO STORYTELLERS

1. Some storytellers talk about negotiating interactions with the audience prior to beginning the story. Can you tell me what you think about that?

2. A storyteller once said that a story finds or chooses you. Some storytellers are not sure which story they will tell before they begin. Have you had experiences similar to this?

3. How do you select the stories you will tell?

4. How do you learn the stories that you share?

5. How do you tell a good story? What to you are essential elements for a good story?

6. Do you spend time with the group after you complete the story? If yes, what are some of the things you do or talk about? Do you ever ask questions about what was learned from the story?

7. Repetitive sound in stories.... Do you use it? Can you tell me what role you believe voice plays in storytelling?

8. Do you think that stories create experiences? Can you tell me more about what you think about this?

9. How about creating mystery? Is this an essential element for story-telling?

10. Some believe that places have stories. What do you think about that? Do you have some examples?

11. Do you ever use what sociologists call "thick description" in your stories? If you do, why do you use it?

12. Do you memorize stories, or do you have other ways of assuring that you are able to perform your craft?

13. Some people believe that we as humans are "hot wired" to learn through narrative. What do you think about that statement? Is there anything you can tell me about your audiences over the years that would suggest that there is some truth to this statement?
14. The natural environment is currently under pressure from human activities. Do any of your stories deal with this theme? Have you or others ever written stories because of this concern?

15. Why do you personally think stories are so effective?

16. What is it about stories that people seem to like?

17. Which story is your favorite to tell? To hear?

18. Is there a question that you would like me to ask YOU about storytelling?
REFERENCES CITED


McCarthy, B. (1987). *The 4Mat system; Teaching to learning styles with right/left techniques.* Barrington, IL: Excel.

McIntosh, A., MacLeod, D., & Herney, S. S. E. (1994). *Witness on theological considerations concerning superquarrying and the integrity of creation; Public inquiry on the proposed Harris superquarry.* Inquiry submitted to the Scottish Office Inquiry Reporters Unit, Scotland, pp. 6-20.


ACKNOWLEDGEMENTS

This study represents a transition in my life as a "hands-on" field naturalist/environmental educator to the world of academics and theory-building. With this degree, I graduate from my "mid-life crisis" started in 1992, while maintaining my life's goal of being of service to my home planet. My interest in natural history has never wavered throughout my life and I thank my maternal aunt and uncle, Dot and Andy Garber, for providing the initial exposure to the grand and glorious natural kingdom, my original inspiration. Philosopher Karen J. Warren kindled my interest in environmental ethics. She continues to be a beacon for the ecofeminist community and I am indebted to her for her friendship over the years and her insight.

Naturally, I wish to thank the storytellers and environmental educators for their patience, time, and insights. While I initially focused on environmental ethics as the central pivot to this study, I found that these educators and storytellers were completely captivating both in the strength of their personal character and profound insights into human nature and the global condition. They became the central focus soon after the interviews began. I am inspired to know you are working for a restored Earth.

Next comes Iowa State University. I include here Dr. David Williams, now Associate Dean for the College of Education, but in 1991, was instrumental in my choosing Iowa State for graduate work. Dr. Williams projected the strength of character and commitment to a better world which
encouraged me to pursue this somewhat unusual research agenda. Dr. Williams remains a most gracious mentor and provider of insight into the field of education. Dr. Lynn Jones both inspired and challenged my world view with exercises in critical thinking and good humor. I will remain in his debt for the moral support he provided throughout this project and for his occasional role as the devil's advocate.

Dr. Gary Atchison, who embodies the concept of gentleman and scholar convinced me to attempt this degree and supported me the entire time. I thank you for the confidence placed in me. My ascension into academia comes in no small way through your strong support. Dr. Atchison is a scientist who inspired me through his commitment to environmental quality and fundamental grounding in environmental ethics.

Dr. Bob Hollinger provided me with volumes about ethics and agriculture and lively discussions about human values, ethics, and philosophy. It was an epiphany in my life when Betty Wells told me to include you in this committee. You've never let me down. I hope to live up to the grand expectations you've set for me during introductions made to colleagues at the university. Your generosity in terms of listening to my ideas and books that now live in my cabin is most appreciated.

I deeply appreciate my Co-major Professors, Dr. Julia Gamon and Dr. Betty Wells. Dr. Gamon was the only person who could rein me in and convince me to sharpen my focus when my writing was fuzzy. She read and commented on countless drafts and encouraged me to keep going when I found it difficult. I will remain indebted to you for your patience, insight, and kindness during this project. Dr. Gamon knew exactly when to allow me my head and when to put her foot down. I thank you for both roles.
Dr. Betty Wells remains in my opinion, the world's best editor. Any literary finesse and silk is largely her responsibility. She took my awkward sentences and turned them into tightly wound violin strings. She was relentless in making me explain exactly what I was trying to say and was always there to listen and encourage. For the countless hours spent on this project, I thank you. For you enduring friendship, there are no words adequate to express my thanks.

Finally, my family. First, my mother and father, Winnie and John Bossman. For my Dad who believed in my writing ability from an early age and encouraged and praised me, I thank You. For my Mother who instilled in me a feminist conscience and the firm belief that I had no boundaries for my life's work, I thank You. My maternal Grandmother, Mary Rose Clarke, who told me stories and taught me the value of narrative. I can still hear your voice.

There are no words to express my thanks to my Husband, Don, and Son, Max. This work is as much yours as it is mine, as we all share the commitment for a healthy and peaceful Earth. For the humor, games, snacks and neck massages I am indebted to my Son. For the soul strength to keep going and the value of his insights I thank my Husband. Together they provide the rock upon which I stand.

To my many friends who listened, nurtured, and cared, You are all in my heart forever. I rise today, not as much from my own strength, but from the power of your strong arms and shoulders which lifted me here. Thank You All!