THE ROLE OF VISUAL IMAGERY IN ADVOCACY JOURNALISM

by

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(Under the Direction of William Griswold)

ABSTRACT

This study explores how visual imagery, specifically photography, can be used effectively to promote a positive conservation message. It discusses the impact of visual imagery, the importance of a point of view, and the dilemma of how to be truthful when the representation of reality is impossible. It examines the power of images to connect on an emotional and subliminal level. It deals with the responsibility of photojournalists to present social issues and to provide knowledge, guidance and solutions to audiences. It calls upon journalists to be authentic and fair in their visual communication; not to mislead or manipulate through subliminal messages. This paper includes a photo essay on sustainable development in Ecuador as an example of effective visual communication in service of a conservation message.

INDEX WORDS: Advocacy, Autoethnography, Biodiversity, Cloudforest, Deforestation, Ecuador, Maquipucuna, Photojournalism, Reality, Sustainable Development, Visual Communication

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A Thesis Submitted to the Graduate Faculty of The University of Georgia in Partial

Fulfillment of the Requirements for the Degree

MASTER OF SCIENCE

ATHENS, GEORGIA

2004

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DEDICATION

To my mother for her unfaltering belief in me and to my partner, Cayenne, for her continuing support, care, inspiration, and encouragement.

ACKNOWLEDGEMENTS

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CHAPTER 1 -- INTRODUCTION

Statement of the Problem

This study explores how visual imagery, specifically photography, can be used effectively to promote a positive conservation message. It discusses the impact of visual imagery, the importance of a point of view, and the dilemma of how to be truthful when the representation of reality is impossible. It examines the power of images to connect on an emotional and subliminal level. It deals with the responsibility of photojournalists to present social issues and to provide knowledge, guidance and solutions to audiences. It calls upon journalists to be authentic and fair in their visual communication; not to mislead or manipulate through subliminal messages. This paper includes a photo essay on sustainable development in Ecuador as an example of effective visual communication in service of a conservation message.

Importance of the Study

This paper examines the case study of a photographer creating a personal photojournalistic essay about sustainable development in Ecuador in order to better understand the role of photography in advocacy journalism. The study is important because:

- ➢ Photographs have a significant impact on our beliefs and perceptions, much of which we may be unaware.

- ➢ Only recently has much research into the impact of visual imagery been conducted

- ➢ What research has been done has concentrated on mass media conduits not essay.

- ➢ Given the potential for misuse, it is imperative that journalists of all kinds use photographs ethically

➢ As the condition of the biosphere degrades, it becomes increasingly critical that journalist understand how to convey to people the importance of conservation and becoming committed to saving the Earth.

My goal is not to present incontrovertible facts, but to enhance the present body of research knowledge and to refine the understanding of the role photography plays in advocacy essay. As Robert E. Stake writes, "The function of research is not necessarily to map and conquer the world but to sophisticate the beholding of it" (Stake, 1995: 43).

<u>Purpose of the Study</u>

The objective of my thesis is to analyze the role of photography in advocacy journalism and essay. Included in the analysis are the questions:

➢ Is visual imagery an appropriate conduit to communicate a personal vision or truth?

➢ Can photographs be persuasive and/or build awareness?

Given the social nature of the question and the lack of definitive research in this area a qualitative methods is appropriate for this study. In qualitative research as here, the answers to research questions are often discovered through a case study. A case study allows for the emergence of expected as well as unexpected results as situational conditions cannot be known in advance or controlled. A case study is just one perspective on the problem. It deals with the subjective experience of the observed, in this case a photographer.

The veracity of the study relies on the researcher's ability to be connected with and separate from the object of his observations. It is inconsequential whether the object is an other or the self. If it is a person distinct from the researcher, he must become intimately familiar with the details of the other's life as it pertains to the study. If it is the self, he must find a way to separate his role as researcher from his role as observed. That is, he must develop a level of

objectivity towards his subject. In either case the subjective values, feelings, and perceptions of the researcher become integral to the case. Here I have chosen to be both observer/researcher and observed/photographer, that is, I am using an autoethnographic approach.

Summary of Conclusions

As a result of this study I have concluded that journalists have a great deal to gain by the ethical use of photography to advocate for the conservation of the natural environment. In combination with words, images may be most effective. When consistent, the two complement and reinforce each other. Words appeal to the rational mind and direct the viewer toward the intended message of the image. Images flesh out the message, making it three-dimensional. Because they capture an instance of real people and events in real time, they operate on an emotional personal level. Recognizable elements in the photograph allow for identification with and internalization of the content, which is then combined with the prior experiences and memories of the viewer.   By providing instant situational context and selective focus photographs can build awareness for important issues with an immediacy that is unattainable through words alone.

In the end it is impossible to present actual reality or truth, be it in words or photographs. All we can do is present our personal understanding of the truth. As advocates for the environment we are morally bound to present all valid information, but we are not bound to present both sides where doing so would require the presentation of suspect information. We can use images to help people not only understand, but relate to conservation issues. Images can lead them to embrace solutions and personally   undertake actions.

Through its intimate appeal, photographs work on our opinions subliminally. This makes us vulnerable to the misuse of images. As journalists we are ethically bound not only to present photographs honestly, but to help others understand the impact images have upon them.

Structure

Chapter 2 of this paper examines the critical literature that elucidates the thesis objective. It looks at the historical context within which visual communication and advocacy journalism developed. It examines the role of journalism and the effectiveness of media persuasion, whether it works, if so, under what conditions, and to what extent.

In Chapter 2 I examine the unique aspects of visual imagery, specifically as they pertain to photographs. I compare and contrast visual communication aspects with those of verbal language. I explore the relationship of the unconscious and the emotional to the experience of viewing and creating a photograph.

I examine the aspect of truth in photography. I look at the extent to which reality can be represented visually.

There are many players in any photograph, among them the photographer, the subject, the viewer, the editor, the producer, and the medium. In my review of the literature the focus will primarily be on the photographer, the subject, and the viewer. I analyze the role of each and the impact each has on interpretation and meaning.

Chapter 3 describes the methodology I used to conduct my research. To gather data for my thesis I spent almost 2 months in Ecuador observing and photographing a cloud forest and sustainable development projects sponsored by The Maquipucuna Foundation. I became, through this process, the object of my research. So, using an auto-ethnographic approach to this qualitative study seems appropriate.

Chapter 3 reviews the reasons for using an autoethnographic case study and relays the details of the methodological approach used. I review the strategy I used to collect and verify data.

Chapter 4 provides a detailed description of what happened during the case study research. Armed with the counsel from those before me I strode into the cloud forests and communities of Andean Ecuador. This chapter describes how well the tenets of critical literature served me there.

Using anecdotes and photos I illustrate in detail how the study of my thesis question evolved through first hand experience in Ecuador. I explain how my work was enhanced or hindered by the principles I took with me. I tackle the issues of objectivity and fairness, of critical engagement and social issues, and of the relationship between presenter and viewer. I illustrate my theoretical conclusions with support from the critical literature.

I describe how different perspectives impacted my work. I discuss how I strove to present the truth and how I believe my personal vision impacted the outcome of the visual imagery individually and the essay as a whole.

In chapter 5 I summarize my experience in Ecuador and what I have learned. Based upon this experience I present my insights and advice. I give my opinion on how best to incorporate case study into this research. I illustrate the limitations and freedom of working in a visual rather than verbal mode. I give advice on how to approach a visual document, i.e., how to understand it within the context of media presentation.

I discuss the benefits and pitfalls of doing auto-ethnographic research. I describe my roles as observer and observed and present ideas on how to remain objective while writing a personal essay. I discuss the advantages and disadvantages of my approach.

The Appendix contains the photo essay I created on sustainable development in Ecuador. The essay explores the interdependence of humans and nature. It explores how man has impacted nature and how he is at the same time dependent upon nature. The essay looks at the biodiversity richness of the cloudforest in Andean Ecuador and how deforestation, oil, and pollution are threatening it. It provides alternatives to these threats in the form of eco-tourism, sustainable use of forest products, and sustainable agriculture. It points out the importance of gathering and disseminating knowledge in the form of environmental education and applied research. Finally, it recommends actions each individual can take to make a difference and help preserve biodiversity for our grandchildren, not only in Ecuador but in our own neighborhoods as well.

CHAPTER 2 – REVIEW OF THE CRITICAL LITERATURE

Introduction

In this chapter I will describe the critical literature on visual communication and advocacy journalism. First, I will give a brief summary of the history of both to put the discussion in context. Then I will review the main themes of the study – the roles of journalism, visual communication, advocacy, and the photojournalist as well as a look at perspective. Finally I will summarize each of the main theories – Advocacy Journalism, Communication Pleasure, Reality Mediation, Visual Intelligence, and Visual Documentation -- included in the critical analysis.

History of Environmental Reporting

Written advocacy in North America for the environment, as something that deserved protection separate from its preservation for human uses, was fist espoused by Ralph Waldo Emerson and Henry David Thoreau in the mid-1800's. They believed that nature should be kept wild and pure as an expression of God's great works. It was a refuge from civilization and a place to cleanse one's soul. Although Romantic Preservationism continued into the 20th century, the remainder of the 1800's and the early 1900's was marked by an emphasis on nature's utility for man.

In the 1920's Walter Lippman argued for objectivity in news reporting. But as Craig LaMay points out Lippman's idea of objectivity is "Objectivity as consensus…in which consensus belongs to those with the power to make it." That is objectivity represented the

prevailing values of society represented by government, commerce and other institutions. Even today criticisms of the press are that it represents the status quo and not true objectivity.

The next major literary work that advocated environmental conservation was Aldo Leopold's A Sand County Almanac in1949. It combined the utilitarian concept with the moral ethic of human stewardship of the earth. It still represents the philosophical foundation for conservation biology today.

Despite Leopold's Land Ethic, the scientific and technological advances of the 1950's brought about the belief that man could conquer nature and solve all problems. Synthetics, dams, the small pox vaccine, and electricity promised to keep everyone safe and enrich their lives. After World Was I there was a proliferation of science writers, each proclaiming the benefits of science. As John Burnham writes, "Like other journalists, they emphasized the facts—to the point that the science they portrayed was a parody: One discovery followed another, but not in any context, just something new, i.e., news."

With the publication of Silent Spring in 1962 by Rachel Carson the bubble was burst. She exposed the dangers to humans and animals of pesticides, including the miracle solvent, DDT. Gradually, other environmental ills came to the fore. The 1970's were marked by a substantial increase in environmental legislation: Clean Water Act (1972), Endangered Species Act (1973), CITES - Convention on Trade in Endangered Species of Wild Fauna and Flora (1973), Safe Drinking Water Act (1979). The UN held its Conference on Human Environment in 1972. The environment became big news and newspapers started to create environmental beats and hire environmental reporters. Reporting on the environment during this period focused on conflict and drama; much of it lacked depth and scientific validity. The emphasis was on health concerns.

With the deepening oil crisis in the 1970's and the recession in the 1980's, environmental news again went out of favor and less newspaper space was devoted to environmental news. Then in the late 80's we had the Three Mile Island and Chernobyl nuclear accidents and the Exxon *Valdez* oil spill. We learned about acid rain, global warming, the ozone hole, and the need for biodiversity. People were concerned about the environment again. They no longer trusted science to take care of everything for them. People started to ask for information that could help them make decisions about their life. Newspapers, large and small, along with television and radio started to add environmental reporters and expand their coverage of environmental news. Many of the same problems that had plagued journalism in the 1970's still existed. In 1991 Craig LaMay claimed, "the environment is a story in need of a new kind of reporting, if not outright advocacy…we must change the focus of the debate about what in this world has value – whether economic, social, or moral" (LaMay, 1991: viv-xv) Many journalists advocated offering solutions, not just reporting on problems and crises. Presenting the status quo as if it were objective is not enough. Presenting both sides when the credibility of each is not equal is presenting the facts, but not the truth.

Enthusiasm for the environment was not restricted to newspapers and journals. The Environmental Media Association was created in 1989. It uses Hollywood to pitch the environment to the public. According to Gretel Schueller, "The group's most important work, however, comes out of one-on-one meetings with writers and producers. Like door-to-door salesmen, the staff pitches tailored story ideas, characters, and stage sets with environmental themes that can be subtly woven into existing story lines" (Schueller, 2001: 68-69)

Today the atmosphere is changing again. Less coverage is given to environmental news and fewer staffs have individuals dedicated to the environment beat. Much of the work of

environmental news today is carried by advocacy journals like The Nature Conservancy, National Wildlife, and natural History. The articles published in these journals heavily combine photography with text. But they talk to the converted. Picture books, which enjoy a broader audience, have beautiful pictures that entertain and capture people's attention, but they tend to be superficial in content.

Nature photographers, with some notable exceptions, have not focused on environmental photography. They present the world as beautifully and realistically as possible, but not with the intent of advocating for it. That has started to change in the last couple of years. The perceived crisis in biodiversity and the race to save the planet have been a great part of the impetus. The North American Nature Photography Association (NANPA) just started to take environmental advocacy seriously in 2002.

Despite all this, the availability of literature on the environment is greater than ever before. With the advent of desktop publishing, publishing has become easier and more economical than ever. Even private individuals can afford to publish small runs of a book or journal. The ease of publication along with the Internet has resulted in information overflow. There is, as Roy F. Fox puts it, "information overload, where multiple mediums and channels release endless streams of images" (Fox, 1994: 70). We have become jaded. It is difficult for any message to get through.

History of Propaganda and Persuasion in Journalism

The limited effects theory of Lazarsfeld, which resulted from his study of the 1940 presidential election, was ground breaking, because it was the first major study which showed that media effects were not "powerful, uniform, and direct." Prior to Lazarsfeld's study, people focused heavily on the impact of urbanization, industrialization and modernization. Most studies

were based on short term duration and effects, and used anecdotal or impressionistic analysis. It was felt that urban people had become isolated. They were living in a mass society filled with people they did not know and could not talk to. They were separated from social and family connections. Therefore, it was assumed that the media had great power because there was a void of other competing social and psychological influences on people.

Lazarsfeld wanted to know what impact the media had on people's voting behavior. He, contrary to the current mode, set up a large scale long-term quantitative study that interviewed people repeatedly over a long period of time. In doing so he set the standard for survey analysis. What he found was that media messages did not change people's vote; in most cases they reinforced their original inclination. People who did change their vote cited other people, so-called opinion leaders, as the main influence not the media. From these results Lazarsfeld and his colleagues formulated the "two-step" flow hypothesis: the theory that the mass media often passes ideas directly to opinion leaders, who in turn pass them on to opinion followers. In other words the effects of mass media are indirect and only one of many other influences on individual decision-making.

Much of the response to Lazarsfeld's research was dismay. "If the media has no impact on people's attitudes then why do media research at all?" they reasoned. This was, however, a misreading of the concepts Lazarsfeld was espousing. He followed the 1940 election study with the Decatur study, the purpose of which was to understand the role of opinion leaders in influencing the decisions of other people. If he could identify opinion leaders and understand how to persuade them, media could be more effective in persuading a larger public. Lazarsfeld's ideas had a strong influence on marketing, propaganda, and public relations professionals.

Researchers after Lazarsfeld focused on the factors that influence people's attitudes. The idea that media had limited or minimal effects dominated research from the mid-1940's to about 1970. In 1959, Katz, who had worked with Lazarsfeld on the Decatur study, developed the uses and gratifications theory. He felt that people were more influential than media in shaping opinion. He saw behavior as a response to media only as filtered through one's social and psychological circumstances. He went beyond the ideas of limited effects proposed by Lazarsfeld to suggest that people are not just used by the media, but that they in turn use the media to satisfy their needs. They choose which messages or parts of messages to listen to and discard the rest.

Klapper picked up the uses and gratification theories of Katz as well as the limiting effects and media reinforcement ideas of Lazarsfeld. He described mediating factors, such as sex, age, psychological make-up, and social situation, which he felt had a greater impact on people's attitudes than the actual contents of media messages.

McGuire then stated that there were an infinite number of influences. And that evidence had failed to prove that massive media effects occur at all. Stephenson picked up on this idea and went so far as to state that it is audiences manipulate media. People are attracted to the media through the promise of entertainment. The interaction between media and audience is through play. In this interaction media is able to introduce new ideas that go against the status-quo. The individual finds freedom, self-enhancement, and joy.

In 1984 Ball-Rokeach developed the media dependency theory, which looked at a different kind of limited effect. It harkened back to the idea of the isolated individual. It recognized the role that society, individual make-up and relationships played in forming people's attitudes, but it saw a limited area or information void, where the individual was dependent on

the media for information. Here the media was seen to be powerful. The theories of structuralism and limited effects seem to merge in this theory.

Structural theory states that mass media, like all institutions in a social system, function as means of social control through which elites exercise power to maintain their position in the social system. This implies that mass media have powerful effects on people's attitudes. McQuail developed the idea of Structural Functionalism in the 1960's. As most structuralists do, he saw society as an ongoing system of linked working parts, of which mass media is one. Media helps provide balance in this system. Because media and people are part of the same system, media reflect, at least to a degree, the values and will of the people. At the same time media are seen as a means of maintaining society as it is, i.e., the status quo.

In the 70's Tichenor, Donohue, and Olien further developed these ideas in what is called Structural Pluralism. They too saw the media as an agent of social control, but they also saw that media was controlled by subsystems of society, specifically media owners and advertisers. They saw social power as control over the dissemination of knowledge, not just the possession of knowledge. The possession of knowledge and, especially the control, of knowledge reinforced and widened the gap between knowledge haves and have-nots, and therefore, between the powerful and the powerless. Their new idea was that although the media is always influential, it can under certain circumstances be used to promote social change. In larger, less homogenous areas (where the power strucuture is more dispersed) the media will respond to health and environment issues more aggressively and attempt to lay blame, although community structure places fundamental boundaries on individual action.

Ball-Rokeach plays off structuralist theory in that she sees a fundamental interrelationship between media, people, and society. People are active and involved in

interpreting messages and forming their opinions. She feels that media promote the status quo

and can have powerful influence, albeit under limited conditions. Where the individual has no

other place to get reliable information they will use the media. This, as in structural pluralism,

tends to be in larger broader contexts, although for different reasons. People are more dependent

on the media where they have less personal involvement or knowledge.

Ball-Rokeach tends to bring the concepts of limited effects and the media as exerting

powerful social control together. Limited effects theory was a reaction against the fear that the

media could brainwash an entire society into thinking anything they wanted. Structuralist theory

is a reaction to the extremes of saying the media has no influence. It recognizes the integration

of media in society and its role as an enforcer of elite beliefs, but it does not believe media has so

much power that it can snowball everyone. That is because it has incorporated the social

influence aspects of the limited effects theory into its paradigm. It recognizes that there are

situations of less homogeneity and other sources of information that mitigate the media's

influence. Although individuals do live in a contemporary society they are not totally isolated

and totally dependent on the media nor are they totally independent.

History of Photojournalism Theory

Little has been written about the history of photojournalism theory. Photojournalism

itself is a very young discipline. Man developed written language over 5000 years ago in

Mesopotamia. Daguerre and Talbot invented the first photographic processes in 1839. Although

the predecessor of the newspaper, the newsbook, was not published until 1641, it still precedes

the invention of the camera by almost 200 years.

Photojournalism as a discipline did not exist until the turn of the century. Two things

happened to make photojournalism possible. First, in the late 1880's with the invention of film-

loading smaller cameras, the camera became portable. Second, the half-tone process made it possible to print a photograph on paper. Before that craftsmen had to copy photographs onto wood blocks, soft stone, or linoleum before they could be printed by the presses. By 1904 a select few newspapers and magazines included photographs in their publications. These became very popular and increased demand.

Photojournalism theory, then, has had less than a century to develop and mature. Since the early 20th century people have contemplated the nature of visual communication, what photojournalism is and should be, and how people respond to visual imagery. We will deal with these issues specifically as they relate to photography.

There are two broad categories of visual communication theories: sensual and perceptual. According to Martin Lester, sensual theories "maintain that direct or mediated images are composed of light objects that attract or repel us" and perceptual theories "are concerned mainly with the meaning that humans associate with the images they see" (Lester, 2003: 47). Thus sensual theories focus more on the physical response to and interpretation of visual stimuli. Perceptual theories focus on the deeper or complex meaning assigned to objects after the all the sensual information has been incorporated.

Sensual theories include gestalt theory, constructivism, and ecological theory. Gestalt theory was originally developed as a psychological theory in Germany around 1910. It became associated with art and visual imagery around 1930. Gestalt theory purports that what we see is modified by the context in which it is seen. Our perceived reality is made up of parts that are distinct from one another. Where there are holes or missing links between those parts, our mind fills them in. In this way we make sense of our world and the whole becomes greater than the sum of its parts. A contemporary photojournalistic theory discussed here which relies heavily on

gestalt theory is visual Intelligence theory. Ann Barry and Rick Williams writings about the

physical subliminal impacts of imagery on the viewer are consistent with sensual theory.

Constructivism can be considered a clarification of gestalt theory. It examines how the

eye moves during perception and how we process the stimuli. One of the main proponents of the

theory is R. L. Gregory who developed his theory in the early 1970's.

A primary proponent of ecological theory is Gibson, who published his theory in The

Ecological Approach To Visual Perception in 1979. Ecological perception theory believes

meaning is not inherent in the object or image itself. It is the interchange between the producer

of the image and the observer through the picture that creates meaning. The producer selects the

content, which then elicits memories and emotion in the observer. Thereby the observer

internalizes a representation of the picture. It is this representation, not the picture itself that is

the aesthetic object. The influence of these ideas can be seen in visual intelligence and reality

mediation theories.

Perceptual theories include semiotics and cognitive theories. Semiotics is the study of

signs. A sign does not have meaning in and of itself. It is assigned meaning which must be

learned. Semiotics theory was developed by Ferdinand de Saussure in 1916 as a series of

classroom lectures.

According to Webster, cognition means the "state of being able to perceive objects or to

remember ideas." As such the study of cognition goes back to Plato and Aristotle. Visual

cognitive theory as it relates to contemporary imagery came to the fore in the 1970's and '80's.

It is distinguished from sensual theories of visual communication in that "a viewer does not

simply witness a light-structured object as in the gestalt theory, but actively arrives at a

conclusion about the perception through mental operations." (Lester, 2003: 56) According to

cognition theory viewers project onto images their own interests. Their memory and the image become linked together. The mind focuses on individually important details within the image and ignores the rest.

Reality Mediation is consistent with cognition in that it believes the meaning of an image is the combination of memory and the image itself. Our mind allows us, unlike in visual intelligence theory, to question what appears to be true in an image. We can ignore messages we do not believe.

Susan Sontag wrote *On Photography* in the 1970's at a time when the traditional newspaper and magazine markets for photojournalists had dried up. At the same time, art museums started to become interested in and exhibit some photojournalistic work. A sense of style and aesthetics became more important and the need to expose the horrors of war and homelessness less important. In this environment Sontag analyzed the relationship of photography to art and media and explored the capabilities of photography to imitate and reveal. While sensual and perceptual theories deal more with the response to imagery, she dealt with the creators of imagery.

<u>Themes in the Critical Literature</u>

Role of Journalism/Photojournalism

The problem we are discussing is to understand the role of photography in advocacy journalism. As part of this problem we need to look at the roles of photography and persuasion within various theories. We need to understand how those theories define the role of journalism and how the definitions compare to the role of advocacy journalism.

Across the critical theories examined here—Advocacy Journalism, Communication Pleasure, Reality Mediation, Visual Intelligence, and Reality Substitution—there is a broad

spectrum of ideas and beliefs. Even in terms of the fundamental role of journalism there are differences. But there are some similarities too. They all see journalism as presenting the world, a world filtered through the interpretation of the journalist. How valid and authentic that worldview is for us relies in part on the integrity of the journalist and sometimes others.

The theories differ in the goal of journalism. For Reality Mediation and Reality Confirmation the emphasis is on documentation. Communication Pleasure and Advocacy Journalism want to promote change. Advocacy Journalism wants to empower people to take action on behalf of the environment. Communication Pleasure wants to "rock the boat," disrupt the status quo and present new ideas. Visual Intelligence sees journalism as it is practiced as supporting and reinforcing the status quo in a negative manipulative way. Below is a brief summary of the way each theory sees the role of journalism.

Advocacy Journalism

According to Advocacy Journalism theory the purpose of journalism is to inform, educate, guide, and empower people to action in the service of the environment. Good environmental reporting presents a point of view built upon fairness, scientific facts, and a search for the truth.

Communication Pleasure

Communication Pleasure theory believes the purpose of journalism is to provide socialization and to challenge the status quo. "The achievement of mass communication lies in the way it short-circuits older beliefs, substituting new values for them." (William Stephenson, 1988: 65) This is accomplished through entertainment and enlightenment.

<u>Reality Mediation</u>

Photojournalism has, according to Reality Mediation theory, a social responsibility to authentically and honestly visually present the world and humanity for society. "We need the eyes of others to perceive and record their visions for us to view when we can. We have never needed them more. And that is the burden of the visual journalist—and of visual truth." (Julianne Newton, 2001: 181)

<u>Visual Intelligence</u>

According to Visual Intelligence theory we rely on photojournalism to help us understand our environment. The power of visual media comes from its ability to "communicate instantaneously and profoundly to both the conscious and the unconscious." (Williams, 1999: 3-4) Therefore, all images are both personal and political. Visual illiteracy and the lack of a shared social myth, however, manifest themselves in the manipulation of an unsuspecting public by unethical communicators.

<u>Visual Documentation Theory</u>

According to Visual Documentation theory, journalism embodies "a moralized idea of truth-telling." (Sontag, 1977: 86) Photojournalism tries to reveal the truth and embraces the media. Photography cannot quite be fine art because it embraces the media, which is democratic not elitist like the fine arts. And yet it is not quite journalism either because it is not well suited to telling the truth. "The camera's ability to transform reality into something beautiful derives from its relative weakness as a means of conveying the truth." (Sontag, 1977: 112)

As a participant in the media, photojournalism gives equal weight to all subjects, does not discriminate good and bad taste, treats a copy like the original, and minimizes the importance of

the artist. Photography becomes simply note-taking, on everything, from every angle. "The media are essentially contentless." (Sontag, 1977: 149)   We do not understand the world through photographs, we collect it.

Visual Communication vs. Verbal Communication

A big part of advocacy journalism is informing, educating, and guiding people to support of the environment. Within the critical literature on advocacy journalism there is little or no discussion of the role of visual imagery. We need to look to other theories to understand whether visual imagery can be an appropriate conduit to communicate a vision or the truth.

In this work we are looking at three theories that focus on visual communication. One of the questions we need to ask is, "How does visual communication differ from verbal communication?" Later, we will look at whether visual imagery can communicate effectively.

Reality Mediation and Visual Intelligence theories see visual communication as more powerful, visceral, and compelling than words. Reality Confirmation also sees a difference between visual and verbal, but sees an image as an appropriation of an object whereas words are merely an interpretation. Below is a brief summary of the way each theory compares visual to verbal communication.

Reality Mediation

Reality Mediation theory maintains there is not a clear split between visual and verbal communication. In fact, "words have their roots in images and would not exist had the mind not created them from visual response to light, sound, motion, touch, and smell." (Newton, 2001: 117) But the visual should remain foremost (primary), because viewers respond more strongly to pictures than words and they remember them better.

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<u>Visual Intelligence</u>

Because vision developed before verbal language, Visual Intelligence theory sees images as more closely related to our primal selves and to experience than words. Words have been co-opted by an educational system that teaches us to think linearly and accept binary solutions. We are thus removed from the immediacy of experience and primal feeling. The image, on the other hand, can be emotionally understood before it is cognitively processed. Images are "cultural, holistic, and associationistic." (Barry, 1997: 139)

<u>Reality Documentation Theory</u>

Reality Documentation theory tells us an image contains more than words can express about it. However, text "seems a less treacherous form of leaching out the world." (Sontag, 1977: 4) This is because text is an abstract interpretation, whereas a photograph seems more a piece or a facsimile of the world in much the same way that a death mask is a facsimile of a person. A photograph appropriates the object, words do not.

Truth, Reality, and Point of View

Concepts of truth and reality are important in any discussion of reportage. The extent to which we can know truth and represent reality bounds our ability to communicate accurately. How we choose to represent data, be it visual or verbal, effects the outcome and how we are perceived.

Since the beginning of thought man has tried to "discover" the Truth. Although individuals have claimed to possess certain "truths" the Truth is still elusive. The concept of reality is similar. Newton declares, "Many people believe we cannot really know reality, we cannot really know truth, and therefore that we cannot really know." (Newton, 2001:180) For

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Barry even the act of seeing is an interpretation of reality, i.e. a combination of physical response to stimuli and the filling in of meaning from experience and memory. Stephenson concurs, "I do not communicate truth or reality but only a semblance of it." (Stephenson, 1988: 195)

And yet we must believe something to function in the world. Therefore, we gather as many facts and perspectives as we can, so that we may approximate the truth. This is called a point of view or opinion—what we personally believe to be true.

For advocacy journalists and Reality Mediation theory, it is the striving after truth that is of paramount importance. For Reality Documentation theory, the interpretation of reality is more important than reality itself. "Photography is the reality; the real object is often experienced as a letdown." (Sontag, 1977: 147) For Visual Intelligence the misuse of facts to render a false reality is dangerous, because we want to accept what we see as reality. Below is a brief summary of the way each theory sees truth and reality.

Advocacy Journalism

Environmental issues are complex. It may not be possible to find definitive answers to these questions. But the advocacy journalist focuses on the search for truth. She tries to understand the context, the background and the science behind the issues. There is less concern with balance than fairness. Presenting a contrary point of view obtained from a dubious source does not further the truth. Presenting one's perspective based upon delving deeply into the issues and uncovering as many facts as possible is not only fair but socially responsible.

Communication Pleasure

Media "do not communicate truth or reality but only a semblance of it." (Stephenson, 1988: 195) Without a symbolic representation, reality it is too complex for ordinary people to understand.

Reality Mediation

Objective visual truth is unattainable, yet photojournalists strive for it nonetheless. The most truthful images are those that are the least manipulated, most accurate and fairest. "Successful and reasonably truthful communication through visual images is possible—but we must frame the production and use of reality images as 'mediated communication,' rather than as 'objective truth.'" (Newton, 2001: 4) Visual truth depends upon the integrity of all parties involved in the making and publication of images. These images, then, represent mediated communication. They have the power to evoke or suppress truth. What appears as visually realistic changes with the relativity of individual perspective, time and culture.

Visual Intelligence

What we see as reality is really an interpretation of it. "It is an image created in the brain, formed by an integration of immediate multi-sensory information, prior experience, and cultural learning." (Barry, 1997: 15) We use our past experience and values to fill in what is missing in perception.   The power of the media resides in "the psychological strategies of advertisers who create tension by deliberate omission and then supply their product as the solution." (Barry, 1997: 103) We feel we must be able to believe our eyes to survive in the world. So, we accept images, even manipulated and artificially constructed images, as real.

<u>Reality Documentation Theory</u>

"The camera's ability to transform reality into something beautiful derives from its relative weakness as a means of conveying the truth." (Sontag, 1977: 112) With this statement Susan Sontag calls into question the objectivity of the camera. Photographs, rather than presenting reality as it is, present it as we have never seen it before. They beautify the ugly, they exalt the insignificant, and they minimize the great.   All objects are democratized. We get so used to looking at the world through photographs that "reality has come to seem more and more like what we are shown by cameras." (Sontag, 1977: 161) Realism is what I perceive not what is there.

Persuasion

PERSUASION IN JOURNALISM

It is the inability to know the Truth that makes persuasion necessary. If Truth were known there would be no need for multiple opinions.

Advocacy Journalism, Communication Pleasure, and Reality Mediation see the presentation of information, verbal or visual, as increasing awareness and thereby changing attitudes or enabling others to take action. As Reality Confirmation points out context can change meaning. Visual Intelligence warns that in practice, media often attempt to manipulate thought through juxtaposition of images that serve their commercial purposes. Below is a brief summary of the way each theory sees persuasion in journalism.

Advocacy Journalism

Advocacy Journalism theory hopes to persuade through the presentation of a point of view and solutions based upon scientific fact, research, and the pursuit of truth. The goal is to empower individuals and move them to action.

Communication Pleasure

Media use entertainment to attract and persuade their audiences. They entice; they do not manipulate or oppress. They present new ideas for old ones, i.e. they "'rock the boat,' to be in the forefront of change in status quo conditions." (Stephenson, 1988: 65)

Reality Mediation

The goal of visual media is to present information society needs and expose wrongs. Reality Mediation theory believes "if people know what's going on in the world, they will be better informed and work to improve society." (Newton, 2001: 98) In everyday practice some media suppress and manipulate truth. Media need to be careful that they do not desensitize through ever more shocking images, that they do not construct images so carefully that reality is misrepresented, that they do not succumb to the temptation of promoting the economic interests of those in power.

Visual Intelligence

Barry believes images are a powerful tool for persuasion because they reach deeper recesses of our beings and they are more capable of conditioning attitudes than words are.

"Most consumers, including educators, remain unaware of exactly how and to what extent their emotions and attitudes have been influenced, even consciously manipulated, by visual language and logic…" (Barry, 1997: 5) Much of this influence is exerted unconsciously

but then affects conscious thinking. Because we are visually illiterate we become vulnerable to the manipulation of entities strictly out for their own gain. "The Third Reich showed how attitudes and behavior can be controlled at every level of personal, social, and political existence through the manufacture of visual images that bypass linear logic and convince by association." (Barry, 1997: 300)

Reality Documentation Theory

The photograph is not discrete in and of itself. Its meaning changes based upon context, usage, and juxtaposition. A picture of an A-bomb can be used to show the dangers of war or to advertise a safe. Photographs have changed the way we look at the world and how we value what is in it, for good or bad. Sontag writes how people are manipulated by photographs. "A capitalist society requires a culture based on images. It needs to furnish vast amounts of entertainment in order to stimulate buying and anesthetize the injuries of class, race, and sex. … The camera's twin capacities, to subjectivize reality and to objectify it, ideally serve these needs and strengthen them. (Sontag, 1977: 178)

PERSUASION AND AUDIENCE RECEPTION

Reading essays and viewing images is not a passive activity. The audience brings with it its own intent, biases, and values. Therefore, how audience members respond to persuasion is important in understanding the effectiveness of persuasion. Critical theories on audience reception range from the viewpoint that the audience participates in and manipulates the media to the media manipulates the audience without its knowledge.

Advocacy Journalism focuses on attracting and holding attention, believing the importance of the topic and the information given will then be enough. Communication Pleasure

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sees the readers or viewers as exercising free will and being in control. They choose what they want to participate in and enjoy it. Reality Mediation believes that media may try to manipulate viewers, but that viewers can overcome manipulation through reason and intuition. They are not victims and, in fact, participate in the construction of meaning. Visual Intelligence sees viewers as visually illiterate and, therefore, vulnerable to subliminal manipulation. That is, they are manipulated without even knowing it. Below is a brief summary of the way each theory sees audience reception to persuasion in journalism.

<u>Advocacy Journalism</u>

Advocacy Journalism theory believes individuals are the key to environmental action. But most people have a short attention span. One must use entertainment to attract and hold their attention so they will listen to the educational messages and follow the guidance or adopt the solutions.

<u>Communication Pleasure</u>

Communication Pleasure theory believes audiences respond to media because they freely choose to not because they are vulnerable or manipulated. Media offerings are so great, varied, and entertaining that audiences "thoroughly enjoy what they are being offered for the first time in man's history." (Stephenson, 1988: 204) Media are available to everyone and allow viewers to follow their own wants, needs and preferences. They accept media offerings to the extent they are entertained and can identify with them. Audiences do not just passively receive media communication they actively participate in it.

Reality Mediation

Newton believes we have a physiological response to visual stimuli intended to manipulate us, but our reason and intuition allows us to challenge the apparent veracity of such an image. People are not victims of images but rather participate in the construction of their meaning. "In this way, we can frame media as part of us, not things external to us that operate on us, but originating *out* of us, both in our creation of them and in our responses to them." (Newton, 2001: 115) We develop a personal relationship to the image and an interpersonal relationship through its broader context and reach. The response to an image may be the next evolution in ability to take in experience. To be moved in our deepest recesses we need only the equivalent of a person not the person in the flesh. Whether an image violates or sanctifies is dependent upon the viewer not the producer. "The key to whether the photograph violates or sanctifies or both is in the act of beholding –in the hearts, minds, eyes of the witnesses—be they voyeurs or beholders." (Newton, 2001: 121)

Visual Intelligence

Because of the power of images, associative logic, and our visual illiteracy, we are not always aware of the influence images have upon us. Yet these influences can emotionally prime our attitudes toward ideas. Advertising often appeals to the unconscious by subliminally linking likeable images with a product, thereby associating the good feelings from the images with the product itself. Much communication attempts to manipulate through creating a void. Advertisers "create tension by deliberate omission and then supply their product as the solution." (Barry, 1997: 103) The presentation of the product reduces anxiety in the viewer, who tends to believe what he sees. To reduce vulnerability, viewers must first stop automatically accepting what they see as reality. They must understand that what they see may be a fabrication. Until

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then we will be left "as Intuitive Illiterates, unarmed and vulnerable to sophisticated media manipulations." (Williams, 1999: 4)

Roles of Photographer, Subject, and Viewer

Each participant in an image contributes to the meaning. Each photographer sees what is before her differently. She expresses her personality in what she selects for capture and how she chooses to express it visually. The relationship between the photographer and the subject being photographed as well as the relationship between the subject and his surroundings is visible in the image. Each viewer will understand the image differently based upon his own life experiences and values. The role that each of these people play in the making of meaning is important to understanding the role of photography in advocacy journalism. Whether the image is successfully persuasive, whether the image reveals what the photojournalist intended is dependent upon how these roles are played.

Reality Mediation and Visual Intelligence theories believe photographers have a responsibility to get as close to the truth as they can. Reality Documentation theory points out that by virtue of photographing an object the photographer attaches meaning to it and changes how we think about it.

Reality Mediation and Reality Confirmation theories believe that photographing others is potentially harmful. For Reality Documentation theory, the image appropriates the subject. For Newton the image, especially if widely used and known, impacts the life of the subject. But according to Reality Confirmation the subject communicates its essence to the viewer as well.

According to Visual Intelligence theory people want to believe what they see. But, the meaning of a photograph is not static, but rather dynamic according to Reality Mediation theory, because it is altered by the context of the viewing, i.e. time and place, as well as the meaning

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brought by the viewer. The unique combination of the input from photographer, subject, viewer

and the materiality of the image combine to change how we think about that piece of the world.

At its best we see the world in a fresh way and are able to hold on to an otherwise fleeting past

(Sontag, 1977). At worst we are manipulated and anesthetized against depictions of an

increasingly sexual and violent world (Barry, 1997).

Below is a brief summary of the way each theory sees the roles of photographer, subject,

and viewer.

Reality Mediation

The photojournalist, according to Newton, has the responsibility to lead "viewers to the

best 'visual truth' she can find and convey." (Newton, 2001: 91) At the same time she presents a

point of view on subjective experience that includes the retelling of the best and worst of people.

We know little about how subjects feel when they are photographed. We do know they

change their behavior in front of a camera. Newton believes that, "society can no longer assume

that taking pictures of people, or being the subject of visual representation, is a harmless activity.

Visual reportage impacts people's lives, positively and negatively, and has taken its place among

the rituals of culture."(Newton, 2001: 61) The image itself reveals something about the subject

and the photographer. It also gives us a glimpse into the relationship between photographer and

subject.

When someone approaches an image to view it, he sees content, but also context. The

photograph is contained within a medium. It is viewed at a specific time and place, perhaps

during an event. We bring to it our own memories, values and experiences. "Thus, the

equivalent meaning of a picture is dynamic, in that it integrates memory with present experience

to create meaning." (Newton, 2001: 67) The viewing of an image then creates meaning that was

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not there before the viewing.   This meaning "creates new levels of equivalents that influence our perceptions and guide our behavior in the physical world." (Newton, 2001: 67)

Visual Intelligence

Photojournalists have personal and social responsibilities to use their images ethically, to understand how their images impact others, and to become informed consumers of images. When people view images they accept them as true. The messages and content displayed by the images then affects the viewers' attitudes and behaviors. Barry informs us, that "people predictably act as if the world portrayed by media were a reality, and this behavior in turn inadvertently pushes the society toward actualizing it, initiating a self-fulfilling prophecy on a gigantic scale." (Barry, 1997: 336) The power of images resides in their ability to give us ready-made answers that can then "provide the lowest common denominator of taste and sensibility, values and attitudes." (Barry, 1997: 103)

Reality Documentation Theory

Reality Documentation theory maintains, "The painter constructs, the photographer discloses." (Sontag, 1977: 92) Photographers collect images to show us the world. They take notes on everything they see, from every angle they can. They can attach importance to the commonest object or lower the grandest object to level of the commonest. In so doing, they appropriate the objects they photograph. They also express themselves in the image.

Sontag believes that every photograph represents an act of aggression in its taking. The photographer waits until the subject is in the right light or has the appropriate expression. In deciding when and how to take the picture the photographer relates and to some extent has power over her subjects. According to Sontag, "There is something predatory in the act of taking a

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picture. To photograph people is to violate them, by seeing them as they never see themselves, by having knowledge of them they can never have, it turns people into objects that can be symbolically possessed." (Sontag, 1977: 14) It separates the equivalent of the subject from the reality of the subject. Yet, the essence of the subject is disclosed in the photograph. "Essentially the camera makes everyone a tourist in other people's reality, and eventually in one's own." (Sontag, 1977: 57)

Looking at photographs changes how we think about the world. The photographer tries to show us reality in a fresh way. Exotic objects seem intimate, familiar objects seem abstract. This enhances our knowledge and appreciation of the world until the photographs seem more real than the world itself. We become addicted to the unique. We can be shocked by the horror, the pain, or the embarrassment of the images we are shown. And yet exposure to them anesthetizes us and we need more and more horrifying scenes to continue to feel shocked. In the 1970's Sontag believed, "Needing to have reality confirmed and experience enhanced by photographs is an aesthetic consumerism to which everyone is now addicted. Industrial societies turn their citizens into image-junkies; it is the most irresistible form of mental pollution." Sontag, 1977: 24). Through photographs we are able to take possession of the past that is gone and the world we live in.

Table 2.1: Theory Comparison

	Advocacy Journalism	**Visual Intelligence**	**Reality Mediation**	**Communication Pleasure**	**Reality Documentation**
Participant Focus	Journalist	Viewer	All	Viewer	Photographer
Journalist	Ethical, socially responsible; Separates fact from opinion	Unscrupulous	Socially responsible	Pushes the status-quo	Caught between truth-telling and beautification
Journalism Genre	Advocacy theory	Sensual visual theory	Perceptual visual theory		Art and media
Journalistic influence	Possible	Great and often negative	Contributive, but surmountable	Minimal	Expands knowledge, makes world artificial
Goal of journalism	Advocacy for the environment	Ethical delivery of information	Document the world, social responsibility	Pleasure	Beautification, truth-telling
Journalistic representation	Context, truth	Archetypes	Facts, humanity	Symbolic	Note-taking, all objects of equal importance

Verbal Communication

ADVOCACY JOURNALISM

Main Theory Statement

Advocacy Journalism believes that a healthy environment is critical to our well-being and the world's survival. It is the role of the environmental journalist to synthesize the facts and provide a fair, but personal, perspective that offers readers solutions and, hopefully, empowers

them to act on behalf of the environment. The emphasis in Advocacy Journalism is on truth, education, and persuasion in service of the environment.

Primary Theory Sources

LaMay, Craig and Everette E. Dennis (Eds.), *Media and the Environment*, Island Press,

   Washington D.C., 1991.

Description of Theory

   Craig LaMay and Everette Dennis summed up the role of Advocacy Journalism when they wrote, "Development of valid and coherent concepts of man in nature requires an interrelating and a synthesizing of knowledge. It is a task of interpretive leadership" (P. xx). Although the environmental journalist also targets a broad mainstream audience, s/he is different than a typical newspaper reporter. The environmental journalist does not focus on crises. "The templates that help reporters easily turn a local fire into a news story don't exist for the global environment. Journalists have a lot of learning and a lot of explaining to do" (John Maxwell Hamilton, 1991: 14). She needs to understand the technical details underlying environmental science in more depth than other reporters do. (Sharon Friedman, 1991) Environmental issues are complex. The environmental journalist must keep up with the science, sift through the facts, understand the issues, and structure them in a way a broad audience can understand, yet present them with enough depth and context that important elements are not lost.

   What the environmental reporter is careful to avoid is merely presenting the opinions of opposing sides. Not all sources have equal knowledge and/or credentials. Government officials are by far the most quoted sources for environmental articles in newspaper reporting. Scientists, on the other hand, are rarely interviewed. Environmental journalists need to rely on a broad

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range of sources and give those with the greater validity the greatest weight in reporting. (Friedman, 1991) The reporter should not leave it totally up to the public to decide who is right. The reporter should present a point of view from an informed perspective on a preferred solution. The belief is that environmental issues are too complex to be fully grasped by reading one article, the audience does not have time to keep up with the issues on an ongoing basis, and they are too important for their resolution to be left up to chance. It is felt that people are looking for this type of guidance. Many people are confused about environmental issues and afraid of the consequences (Teya Ryan, 1991). Without guidance they are inert, not knowing how or if they can make a difference. With guidance they feel empowered; they are presented the opportunity, if they wish to, to get involved.

There are then several characteristics environmental journalists share. They

➢ Entertain / persuade: "Thus those who care about seeing quality environment coverage … must, in fact, become expert in persuasive communication, at finding angles and connections between and among stories that will ignite public interest and inspire a desire and demand for more information" (Everette E. Dennis, 1991: 63)

➢ Provide context and background: "While any good reporter can provide the facts, it will be the environmental reporter's job to provide the context and background that readers and viewers need to understand the issues. … People seeing only facts without context in hazardous situations may decide that they are helpless to intervene or change a situation, and therefore may not participate in the debate" (Friedman, 1991: 23-24).

➢ Educate: "Morally there is no choice: better to teach and navigate through oceans of information than to inform and simply drown in them" (LaMay, 1991: 111). "I

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personally do not think environmental reporters have much choice but to educate if they are going to keep pace with the public's growing level of sophistication about environmental issues" (Friedman)

➢ Are fair: "Advocacy does not mean Greenpeace is always right and the oil companies are always wrong" (Ryan, 1991: 88).

➢ Tell the truth: "The purpose of my writing is to search for truth and to empower others to do the same" (Meadows, 1991: 79)

➢ Present a point of view: "This is what I saw as a reporter. This is who I talked to. This is my perspective, and here are my suggestions for change" (Ryan, 1991: 81-82).

➢ Focus on solutions: "We let our audience know there are answers, that there are ways they can influence the destiny of life on the Earth" (Ryan, 1991: 83)

➢ Empower individuals: [Christopher Larsch] "What people need is not simply *more* information, but *usable* information that allows them to engage one another as citizens. … empowering people is, in part, what covering the environment is all about." (Ryan, 1991: 82)

For many environmental reporters the idea is to be able to go further, to delve deeper, and to be able to express their own point of view in an area of crucial significance to the world. They want to focus attention on issues which to-date have received, in their minds, too little attention. They want to set the agenda for a public debate on environmental issues.

COMMUNICATION PLEASURE THEORY

Main Theory Statement

The main tenet of Communication Pleasure Theory is that people seek out media in order to be entertained or receive pleasure. Media do not oppress or manipulate their audiences. On the contrary, the audience manipulates the media.

Primary Theory Sources

Cupchik, Gerald C. and Stephen Kemp, "The Aesthetics of Media Fare," in *Media Entertainment, The Psychology of Its Appeal*, Dolf Zillmann and Vorderer, Peter (Eds.), Mahwah, New Jersey, Lawrence Erlbaum Associates, Publishers, 2000.

Stephenson, William, *The Play Theory of Mass Communication*, New Brunswick, Transaction Books, 1988

Vorderer, Peter, "Interactive Entertainment and Beyond," in *Media Entertainment, The Psychology of Its Appeal*, Dolf Zillmann and Vorderer, Peter (Eds.), Mahwah, New Jersey, Lawrence Erlbaum Associates, Publishers, 2000.

Zillmann, Dolf, "The Coming of Media Entertainment," in *Media Entertainment, The Psychology of Its Appeal*, Dolf Zillmann and Vorderer, Peter (Eds.), Mahwah, New Jersey, Lawrence Erlbaum Associates, Publishers, 2000.

Description of Theory

Stephenson (*The Play Theory of Mass Communication*) sets up a dichotomy between work (communication-pain) and play (communication-pleasure). Work "produces goods, services or ideas, etc., by application of effort for a purpose" (Stephenson, 1988: 193). Play produces only pleasure. Our playtime is our free time. It is through play in childhood that we

develop our most internalized deepest beliefs. These are reinforced by society until they are permanent. But it is also in play that media has the opportunity to introduce new concepts and values. Mass media, including plays, art, and theater, can show the individual what alternatives exist for behavior and self-autonomy.

Although Stephenson equates play with fun, he means more than just laughter. Play deals with culture at different levels. People have a desire for pleasure and stimulation. When they get it, it allows "each person to choose something different for himself," a concept Stephenson calls convergent selectivity. Convergent selectivity allows an individual the choice of how to behave based upon individual desires and needs. It can be something as trivial as a desire for a Coke. Low culture, such as television, which has universal appeal, allows "moments of self-enhancement, of self-existence, a breakthrough into communication-pleasure" (Stephenson, 1988: 206).   Within opera, drama, and the like there are clearly opportunities for self-enhancement. Works of high culture are complex. They offer symbolic representations of reality that provide meaning and depth to their audience, which can select what it needs from them. Through fantasy they offer "a liberation of the human spirit." Mass media need to focus on those moments of opportunity for individuality.

The individual, though constrained by social controls (a form of communication-pain), does not feel constrained by mass communication. In fact, the individual subjectively manipulates mass communication. It engages in the communication willingly and finds joy in it.

According to Stephenson, mass communication should have two objectives. "It should suggest how best to maximize the communication-pleasure in the world. It should also show how far autonomy for the individual can be achieved in spite of the weight of social controls

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against him" (Stephenson, 1988: 205). In communication pleasure lies the maximization of self-enhancement.

The contributors to *Media Entertainment, The Psychology of Its Appeal* share Stephenson's assertion that people seek pleasure and stimulation and often find it in mass media entertainment. Most non-work time is playtime and is spent with some form of entertainment. They agree that people use the media to satisfy their own needs and desires. The media do not manipulate their audiences.

They move beyond Stephenson in the way they define the relationship between audiences and the media they engage in. In today's society where information technologies are so pervasive as well as interactive and products are targeted toward smaller and smaller interest groups, the individual has more and more control. Peter Vorderer sees a fundamental change taking place in society. "The mass audience seems to disappear, apparently being replaced by individual media users. Less than ever before, can the audience's use of the media be described as *reception*. It is rather an interaction between participants on one side and offerings of the multimedia on the other" (Vorderer, 2000: 22) Stephenson too sees the audience engaging in the communication experience, though perhaps not to the extent that Vorderer describes here.

Stephenson makes a distinction between high and low culture, the former being "richer than real life" and the latter being trivial, but providing moments of self-enhancement. Cupchik and Kemp focus on the approach to a work rather than the work itself (Cupchik and Kemp, 2000). They make little distinction between a work of high culture and one of low culture other than the historical legacy of a work of high culture. A person approaches a work either with a desire to find pleasure and stimulation or to understand the meaning of the work. In the former he reacts to the work, which evokes feelings in him. His encounter is one-dimensional. In the

latter he brings his personal experiences to the interpretation of the work. This is a reflective

task that engages the individual's deep emotions. Thus the work is multi-dimensional. The

individual seeking pleasure satisfaction will seek out works best suited to satisfy his need. The

individual seeking to understand will seek out the work most likely to invite challenging

interpretation. It is possible to use both approaches on the same work by the same individual at

different times. But high culture tends to lend itself more easily to a multi-layered rich

interpretation. Low culture tends to be more easily analyzed at a superficial level. Both provide

entertainment. It is the quality of entertainment or the satisfaction of the desire to be pleasured,

stimulated, or challenged that cause people to seek out media works.

Visual Communication

REALITY MEDIATION THEORY

<u>Main Theory Statement</u>

Reality Mediation Theory attempts to "analyze the role of visual reportage in the

understanding of others, the world, and ourselves." (Newton, 2001: xi) This theory looks at truth

and the extent to which it can be achieved. It analyzes the contribution of photographers,

subjects, editors, viewers, and society in establishing what truth is within a visual image. It is

concerned with issues of ethics, social responsibility, and objectivity.

<u>Primary Theory Sources</u>

Newton, Julianne H., *The Burden of Visual Truth: The Role of Photojournalism in Mediating*

Reality, Mahwah, N.J., Lawrence Erlbaum Associates, Inc., 2001.

<u>Description of Theory</u>

Reality Mediation Theory primarily deals with visual portrayals of humans in news reportage in newspapers, magazines, and television. It is concerned with issues of ethics, social responsibility, and objectivity. The photojournalist's role is to report human experience of socially significance events as honestly and accurately as possible. A photojournalist observes a news event, understands it and then tells about it. While this means that photojournalists should not manipulate the situation or bias their coverage of the news, to provide honest coverage they must also present a point of view. They may not have the answer or the "truth," but their duty is to uncover and expose the facts and to reveal the humanity behind the facts.

As part of our own survival we are constantly observing the world around us and trying to make sense of it. When individuals were more isolated, when communication was limited, this may have been sufficient. But in our modern world of almost instant worldwide communication, our world has become too complex and encompassing to perform this task by ourselves. As the need for physical interaction due to increased communication capabilities has decreased, our options for interaction with mass communications have increased. We turn to the eyes of others to see and record for us what we cannot record ourselves. The place we turn to most often is news media.

Through our own experience and our neurophysiological make-up we have learned to trust and believe that what we see is real. We transferred that sense of trust, that belief in reality to the authority of the news media. We believed in the photojournalistic goals of social responsibility, honesty and truth. But over time we learned that the media can mislead and misinform, that the institutions of the press are sometimes influenced by the economic power bases they depend upon. We know that sometimes the truth is hidden not revealed.

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We are one step removed from much of reality. Photojournalists mediate that reality for us. Since we can only glimpse pieces of reality at a time through their eyes, they must give it context for us. Photojournalism responds to, contributes to, and mediates our understanding of contemporary culture. It must, of necessity, construct a visual reality. Mediation Reality Theory stresses the need for authenticity and honesty in that construction to avoid misinformation.

Although information is distributed widely to the masses, every interaction between a viewer and the media is a personal one. We each bring to the viewing of an image our own experiences and memories. Much of it is also physiological. "The images we create and to which we respond are one way we process the emotions and ideas exploding along the neural pathways and immunological viaducts of our beings" (Newton, 2001: 118).

The viewing of an image then not only impacts how we understand the world and the people in it, but also ourselves. Recent research shows that it affects how we act as well.

But the interactive piece of an image is not limited to the interaction between viewer and image. According to Reality Mediation Theory the interaction extends to the photographer and the subject photographed, as well as the viewer. The photographer can influence the behavior and attitude of the subject as can the subject influence the photographer. Together they influence the outcome of the image, in that the image reveals something about the photographer, the subject, and the relationship between them. So the quality of the interaction affects the quality of the image. The viewer approaches the image with his or her own set of personal biases, decides whether to connect with the image or not, interprets what is seen and constructs meaning from it.

VISUAL INTELLIGENCE THEORY

<u>Main Theory Statement</u>

Visual Intelligence Theory looks at the mechanics of perception, how it works physically, the impact it has on conscious and unconscious selves. It attempts to make others aware of the extent to which visual imagery influences one's emotions and attitudes, often subliminally. It exposes the intentional manipulation of media, especially advertising, upon a visually unsophisticated public. It advocates the development of a visual intelligence, through which viewers develop non-linear analytical skills, awareness of the impact of visual images, and the ability to process image manipulation in an informed purposeful way. It urges the ethical use of images by media of all kinds.

<u>Primary Theory Sources</u>

Barry, Ann Marie Seward, *Visual Intelligence: Perception, Image, and Manipulation in Visual Communication*, Albany, N.Y., State University of New York Press, 1997.

Williams, Rick, "Beyond Visual Literacy," *Journal of Visual Literacy*, 19 (2), 159-178, Autumn, 1999.

<u>Description of Theory</u>

Visual Intelligence Theory believes it is important for each of us to develop an understanding of perception, how it works, how it is manipulated by the media, and how we can use that understanding to resist negative influences on our lives.

We learn to see as children before we learn to talk, therefore "images are a natural part of our primal sense of being and represent the deepest recesses of ourselves" (Barry, 1996: 69). Perception is the primary way we learn about the world and images are the mental pictures of

that world. But only 10% of perception involves the eyes. The sensory inputs from our eyes are processed by the conscious and unconscious workings of our brains. What we think we have seen is not only affected by but also altered by memory and emotion.

What we see is processed directly as experience, but to understand language we must first process it cognitively. This means that we begin respond to situations and images emotionally before we have time to think through them rationally. In fact much of our rational thought is merely an attempt to make sense of what our visual intelligence has already processed, to make our emotional responses acceptable to the conscious mind. It is then the visual processes, not the rational ones, which are the primary motivators of behavior.

Our eyes are constantly scanning the horizon and filling in intuitively from memory or experience what we do not understand. Perception "is a process that reduces reality to its simplest shape and that fills in empty space with something that isn't really there" (Barry, 1997: 65). We see what we want to or expect to see. This is why we can be fooled by illusion. Our mind cannot see what it cannot imagine. What we see is as much a product of what is inside of us as it is of what is "out there." "Perception is a dynamical system that utilizes the input from the body's sensory systems, synthesizes this with memory and understanding, and creates from both an integrated sense of self and mind" (Barry, 1997: 36).

But as a result of daily repetition and reinforcement from others we have learned to trust our perception. We want and need to believe what we see for our own survival. It is partly this need to believe what we see that makes us want to accept the images we see as "real." This is true even when the image is a two-dimensional photograph and we cannot see beyond the boundaries of the frame, beyond the photographer's perspective.

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We cannot go everywhere and see everything ourselves, so we have trusted the media to bring the world to us, to become extensions of our senses.

As a society in the United States we have, as Joseph Campbell described it in 1987, no unifying cultural myth. Many people are experiencing a void, an emptiness. We have become vulnerable for "when internal needs remain unsatisfied, they continue to assert themselves, finding a way into consciousness despite our subconscious or conscious refusal to deal with them ... We may thus already be emotionally "primed" toward accepting or rejecting certain ideas or people through influences of which we never become aware" (Barry, 1997: 21). Media and advertising have striven to fill the void with images of "distorted sexual identity and violence as entertainment (Barry, 1997: 337)."

The images the media use are powerful because they are not linear, but holistic, cultural, experiential, and metaphoric. They "operate both spontaneously as pre-conscious motivators of behavior and subsequently as they become part of the unconscious memory that forms the biases that later guide our decisions and our behavior" (Williams, 1999: 19).

We accept the world presented to us by the media as real. We process it emotionally "before we become experientially sophisticated enough to judge the nuances of manufactured visual 'realities' (Barry, 1997: 329)." And our acceptance of the manufactured reality pushes society toward actualizing it.

Barry gives examples in cigarette advertising and Nazi propaganda of the pervasiveness and depth of media control. Cigarette advertising has caused over 430,000 deaths a year through the use of archetypal images. The Third Reich used visual images to control personal, social, and political existence at every level.

Most people understand that images are everywhere and advertising is meant to persuade. But due to a lack of training in visual intelligence, they are unaware of the extent to which their emotions, values, and attitudes are being manipulated and shaped by these images. Media researchers are even now just beginning "to recognize how patterns in mass media first legitimize and then normalize socially destructive attitudes and behavior' (Barry, 1997: 3).

Our educational systems teach us predominantly how to think with our rational minds. We have learned from the media how to interpret images. Thus they have dominion over how we live our lives. Thus "we are left as Intuitive Illiterates, unarmed and vulnerable to sophisticated media manipulations" (Williams, 1999: 4).

The way to combat the influence of the media is to develop an understanding of how it manipulates images to manipulate us. We need to realize that not everything we see is real, in fact, that some of it may have been intentionally engineered. In questioning what we see we take the first step toward not automatically accepting what is presented.

Equally important as how the public perceives images is how journalists and advertisers use them. Journalists are both consumers and producers of images. They must become conversant in intuitive visual processes. They need to understand how their images affect users/viewers. "It is important that they develop an awareness of and an empathy for those with whom they communicate. It is important that they develop personal integrity and personal and social ethical standards" (Williams, 1999: 41).

VISUAL DOCUMENTATION THEORY

Main Theory Statement

Modern society has become addicted to photographs. It has confused reality with the image of reality. We know the world by collecting a series of images of the world in our minds.

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The image has become reality for us and is preferred to reality. A photograph captures a moment in time – time moves on, the photograph remains, i.e., the image turns reality into a shadow. Photography can transform something ordinary into something beautiful, but it cannot represent the truth. It mirrors reality, but also interprets and judges it. It represents not how reality really is, but rather how the photographer perceives it.

Primary Theory Sources

Sontag, Susan, *On Photography*, New York, N.Y., State Picador USA – Farrar, Straus
andGiroux, 1977.

Description of Theory

Susan Sontag describes our dependence on photography for understanding the world. Photographs have become so engrained into the social fabric of our lives that we use them to know the world, to define what is important, and to substitute for reality. Sontag claims, "Industrial societies turn their citizens into image-junkies; it is the most irresistible form of mental pollution." (P.24 SS)

Photography is a mixed blessing. It broadens our knowledge of the world, but makes it more artificial. Photographs mirror reality but distort it at the same time. Sontag believes photography turns people into objects, "To photograph people is to violate them, by seeing them as they never see themselves, by having knowledge of them they can never have, it turns people into objects that can be symbolically possessed." (Sontag, 1977: 14)

Sontag shows how photography in the 20th century has pursued an unveiling of the most trivial and mundane aspects of reality. Photography is a great equalizer. "No moment is more important than any other moment; no person is more interesting than any other person." (Sontag,

1977: 28) Photography also numbs us. In an attempt to demystify reality it shows, along with

the trivial, the horrifying, the painful, and the shocking. That which was too terrible to look at in

the past now becomes familiar. It loses its shock value and we become alienated and numb.

To Sontag photography is a manifestation of surrealist philosophy. One of the goals of

Surrealism is to blend the conscious and unconscious realms of experience or as Sontag writes it

has the "idea of blurring the lines between art and so-called life." Photography is well suited to

Surrealism because it mirrors reality without ever becoming reality. In presenting a narrower

interpreted reality photography changes it. It creates confusion around what is more real –

reality or the photograph. "Photographers, operating within the terms of the Surrealist sensibility,

suggest the vanity of even trying to understand the world and instead propose that we collect it."

(Sontag, 1977: 82) The world becomes a collection of images in our mind.

As an art form, photography is able to take the trivial, the horrifying, and the mundane

and present it as something beautiful. According to Sontag, "the camera's ability to transform

reality into something beautiful derives from its relative weakness as a means of conveying the

truth." (Sontag, 1977: 112) Photographs do not reveal they acknowledge; they do not bond one

to nature they estrange. (Later on Sontag reversed her stance and claimed photographs can and

do move us to empathy.) They cause us to look at reality in a different way; they make it fresh.

We are so used to relying on images for our understanding of the world that

"photography is the reality; the real object is often experienced as a letdown." (Sontag, 1977:

147) The photograph, not reality, has become the standard of what is beautiful. What is

important is not what is real, but what the photographer perceives to be real.

Photography is distinguished from traditional fine arts because it has embraced media.

Unlike fine arts which are elitist, media are democratic. Photography does not discriminate

between the original object and the photographic copy. An object has no more meaning than any other object. Nothing is in bad taste.

We attribute the qualities of images to real things. Photographs make the uncommon—beauty, horror—common and thus deaden our feelings for what we experience first hand. "But the force of photographic images comes from their being material realities in their own right, richly informative deposits left in the wake of whatever emitted them, potent means for turning the tables on reality—for turning *it* into a shadow," writes Sontag. (Sontag, 1977: 180) Images become reality.

Reality itself becomes weakened. "The attempts by photographers to bolster up a depleted sense of reality contribute to the depletion. Our oppressive sense of the transience of everything is more acute since cameras gave us the means to 'fix' the fleeting moment." (Sontag, 1977: 179) The photograph is permanent. Reality is fleeting. We see the world through photographs. We look to photographs to confirm reality and enhance experience.

CHAPTER 3 – METHOD

Introduction

From a methodological standpoint I started with a case study. The case study examined a photographer who spent two months in the Andean cloud forest documenting the people, places, and activities involved in the sustainable development of the villages and forest in and around the Maquipucuna Cloud Forest Reserve. For the case study I took an autoethnographic approach. I played the roles of both object/photographer and observer/researcher. I used qualitative techniques of discovery and interpretation of observations to understand and draw conclusions about the case.

For my study of the role of photo essay in advocating environmental change, I drew upon the three related methodologies: qualitative design, autoethnography, and case study. In this chapter I describe what each one is, current trends, if applicable, why it was chosen, and how it relates to my study. Then I examine how the three interrelate to provide a comprehensive framework for conducting my study. Finally, I review strategies for data collection and analysis procedures.

Qualitative Method

A qualitative method starts with a question to be answered. It is not a hypothesis to be proved or disproved; rather, it is a discovery process. The question I am exploring here is, "What is the role of visual imagery in advocacy journalism?" Corollaries to that question are: "Is visual imagery an appropriate conduit to communicate a personal vision or truth?" and "Can

photographs be persuasive and/or build awareness?" These are appropriate questions for a qualitative study because little research has been done on this topic. According to John W. Creswell such a question is ideal, "One of the chief reasons for conducting a qualitative study is that the study is exploratory; not much has been written about the topic or population being studied." (Creswell, 1994: 21)

A qualitative approach is subjective and context-bound. It explores aspects of the subject question in a natural setting using, primarily, observation. It gathers as much multivariate data as possible and induces conclusions from the information gathered. I would like to describe four main attributes of qualitative design. They are holistic, empirical, interpretive, and empathic.

Holistic

A qualitative design is holistic because it attempts to understand the breadth of the question in all its complexity. It is constrained by time and place, but not design. That is, it situates the observer and the observed in the world, but the design is emergent. The researcher does not know what she will find. She seeks as many perspectives as possible. The goal is to understand through induction.

My study placed the object/photographer in Ecuador from May 23 to July 28, 2002. I observed and took notes on the photographer's activities everyday. I also observed the interactions between and among the photographer and others, be they conservationists, oilmen, villagers, or farmers. Through my observations I sought to understand the issues. I became aware of differing perspectives, I gained an appreciation for the importance of passion and beauty, and I began to see the benefit of social support.

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Empirical

A qualitative study is empirical in that it is based upon observation in a field-oriented context. It observes real people living real lives in a natural setting. "The province of qualitative research, accordingly, is the world of lived experience, for this is where individual belief and action intersect with culture," write Norman K. Denzin and Yvonne S. Lincoln. (2000: 8) When one interacts with others it is impossible not to have an impact, but the intent is not to intervene or alter the natural setting.

I observed the photographer as she lived in Ecuador and moved among villagers. Here the photographer's belief in sustainable development intersected with the individual's actions in support of it, or not. Here industrialized Western notions of quality of life and preservation of nature intersected with rural Andean notions of the same. I attempted to observe those interactions, yet not influence them.

Interpretive

Interpretation may be the most characteristic aspect of a qualitative study. Robert E. Stake amplifies this to, "Most qualitative researchers nourish the belief that knowledge is constructed rather than discovered." (Stake, 1995: 99) It is through interpretation that the discovery happens. Much of the discovery may be intuitive, verified through repetition rather than factual validation.

Only recently has there been much research into the use of visual communication in journalistic work, let alone its use in advocacy journalism. Few studies have been conducted and those that have are generally confined to mass media such as newspapers, television, and magazines. With so little scholarly knowledge to build upon, the construction of knowledge through observation and interpretation is vital. This is the focus of the study at hand.

Empathic

A qualitative field study is informal. The researcher interacts with the participants in the study. Objects of observation are individual human beings with personalities, beliefs, and needs. They are not objectified. In understanding them as individuals, one becomes empathetic to them and begins to see the world from their perspective. According to Lincoln and Denzin, this is vital to qualitative research, "The center [of qualitative research] lies in the humanistic commitment of the qualitative researcher to study the world always from the perspective of the gendered, historically situated, interacting individual." (Lincoln and Denzin, 2000: 1047) At its best the audience experiences vicariously what the observed experienced. The danger is in the researcher identifying with the observed to the point she can no longer separate the answers from the viewpoint.

The photographer and I are one and the same even though our roles in the study are different. Therefore, I innately had great empathy with myself. I also tried to develop an empathy with others so my viewpoint would not be one-dimensional but richly populated from multiple perspectives.

Engagement and social issues

As we enter the 21st century many people believe qualitative research should serve social goals. Lincoln and Denzin write, "Qualitative inquiry is properly conceptualized as a civic, participatory, collaborative project. This joins the researcher and the researched in an ongoing dialogue." (Lincoln and Denzin, 2000: 1049) They believe qualitative research should be tied to the "hopes, needs, goals, and promises of a free democratic society." (Denzin and Lincoln, 2000: 3) That is, qualitative research is not just about the relationship between the researcher and the

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researched, or about social and cultural context of the research. It is about the improvement of social conditions.

My research project looks at sustainable development and how it can be promoted through visual imagery. Sustainable development is an important issue for third world countries. Many of these countries have unstable governments with poor cash flow. Politicians are usually in office for eight years or less. It is tempting for the government to increase cash flow, gain political approval, and obtain short term economic success by engaging in industry that is not sustainable. Industries such as mining, logging, oil extraction, and large mono crop farming cause deforestation and deplete non-renewable resources. To combat this trend many conservation organizations are trying to work with communities from the bottom up in participatory sustainable activities. They present communities with alternatives to deforestation such as crafts from sustainable forest resources, shade grown coffee farming, and eco-tourism.

The conservation organizations work with the members of these small communities helping them understand the principles of sustainable development and why it is important not only for nature but for themselves and their children. But to be successful lo n a broad scale and to combat the counter pressures of large unsustainable economic development, there needs to be broad based understanding of the need for sustainable development. Conservation organizations struggle with how to accomplish this.

Journalism can play a role here in helping conservation organizations garner support for sustainable development. The case study follows a photojournalist, who like many environmental journalists, believes a healthy environment is critical to our well-being and the world's survival. It is the role of the environmental journalist to synthesize the facts and provide a fair, but personal, perspective that offers readers solutions and, hopefully, empowers them to

act on behalf of the environment. The emphasis in Advocacy Journalism is on truth, education, and persuasion in service of the environment.

The primary mainstream media are newspapers, television news, and magazines. Much has been written about each of these media and I will not engage in a discussion of them here. My study looks at the potential of personal visual essay as an effective means of supporting sustainable development.

Personal visual essay is appropriate for advocacy journalism because it presents an informed point of view, the truth as one individual sees it. Personal visual essay is appropriate for ethnographic qualitative study because it deals with the important social issue of how media can support sustainable economic development for poor people in third world countries.

<p align="center">Autoethnography</p>

An ethnography is a type of qualitative study, which examines a cultural or social phenomenon in a natural context. The researcher or ethnographer acts as an objective outsider collecting data by observing the activities and interactions around him. Subjective experience, then, becomes a fundamental part of the research. Autoethnography is essentially ethnography where the primary object of the research is oneself. The autoethnographer must try to be both inwardly reflexive and outwardly objective, discovering the specifically individual and evaluating it in the context of the larger social group. Carolyn Ellis and Arthur P. Bochner define autoethnography as:

> an autobiographical genre of writing and research that displays multiple layers of consciousness. Back and forth autoethnographers gaze, first through an ethnographic wide-angle lens, focusing outward on social and cultural aspects of their personal experience; then they look inward, exposing a vulnerable self that is moved by and may move through, refract and resist cultural interpretations. Concrete action, dialogue, emotion, embodiment, spirituality, and self-consciousness are featured, appearing as relational and institutional stories

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impacted by history, and social structure, which themselves are dialectically revealed through actions, feelings, thoughts, and language. (Ellis and Bochner, 2000:28)

Autoethnography observes and reflects on the individual daily occurrences of lived experience. One of the advantages of autoethnographic research is the privileged access one has to the thoughts, motivations, and values of oneself. However, for some people looking at the self is too subjective and solipsistic. Others, such as Deborah E. Reed-Danahay, believe, "For the most part, autoethnography has been assumed to be more "authentic" than straight ethnography. The voice of the insider to be more true than that of the outsider in much current debate." (Reed-Danahay, 1997: 3-4) The autobiographical aspect of autoethnography when heartfelt conveys an authenticity that viewers can relate to and empathize with. It may be easier to trust such authenticity than to accept the supposed omniscience of an objective outsider. (See H. L. Goodall Jr., 2000: 91-92)

Within my study I have tried to examine my own values, prejudices, and feelings. I have tried to separate out my roles as researcher from my role as photojournalist. Throughout my study I accentuate the distinction between roles by referring to myself in my photographer role as 'she' and in my role as researcher as 'I'.

Through my dual role I have been able to embrace the wider issues of visual communication, the ethics of truth and reality, and the social reality of sustainable development as well as immerse myself in the particulars of the rainforest and the activities of the people attempting to preserve their way of life and environment. Like current qualitative research autoethnography is concerned with social and political realities as is my study.

According to Goodall, "Self –reflexivity is not necessarily about using self-examinations to come to final judgments about persons, places, or things. Or, even about yourself. Sometimes, it is reflexive enough just to raise relevant questions. Why? Because the questions

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you raise reveal how you think, what you are considering relevant to the task of interpreting an event, and what values and attitudes you carry into that activity." (Goodall, 2000: 147-148) In my study I raise many questions about the nature of visual imagery and the impact it has on others. I have little concrete observational data on the impact of my photography on others. But where I do not have actual results I do raise questions which are relevant to the study and are based on the critical literature.

To do autoethnographic research one must be aware of the personal biases that constitute the self. One must examine who she is, where she comes from, and what is important to her? (Goodall, 2000: 132-144) In the writing of my research I first address my background, those aspects of my life that are fixed and immutable. These have an impact on who I am and how I perceive the world. I then examine those aspects of my life and experiences that have shaped me as an adult and influenced my beliefs, values and prejudices. I then try to evaluate the impact of my circumstances on my experience in Ecuador, how they may have colored my perspective, and the extent to which I have overcome them.

The writing of autoethnographic text is usually first-person, informal, and filled with anecdotes from personal experience. It analyzes and interprets clusters of experiences to gain a more general understanding. This is how I have approached the writing of my research in the field. I have offered up the feelings and reactions of myself as photographer. I have observed the way I as photographer worked and interacted in the field. And I have interpreted the photographs that were produced as a result of my experiences. Much of this has been presented in the form of anecdotes and examples.

The trend in ethnographic research is to become more autobiographical not less. By exposing individual thoughts and biases they present the text as a combination of subjective and

objective observations not fact. The viewpoint of the researcher is itself reflective of a social and cultural perspective. As Charlotte Aull Davies explains, "Instead of making the ethnographer disappear, they make themselves more visible, even central in the production with the idea that in so doing, in presenting their groping towards understanding, they undermine their own authority so that their interpretations become simply one perspective with no superior claim to validity." (Davies, 1999: 15-16) The goal is not a definitive answer but a viewpoint based upon one set of circumstances. This can then in turn be later combined with other viewpoints to gain some overall understanding of the problem.

<p style="text-align:center"><u>Case study</u></p>

Since a qualitative autoethnographic study consists primarily of observation of a social or cultural phenomenon in a natural setting, a case study is a natural form for it. A case study is bounded by time and place, in this instance from May 23 to July 28, 2002 in Ecuador. A case study looks at a particular case in the context of a particular question. Here I am looking at a photojournalist, myself, as she documents sustainable development in a cloudforest in Ecuador. The analysis includes the product of the trip as she put together the physical photo essay at home. Stake explains, "We will have a research question, a puzzlement, a need for general understanding, and feel that we may get insight into the question by studying a particular case. … This use of case study is to understand something else." (Stake, 1995: 3) The question I am pursuing is "What is the role of visual imagery in advocacy journalism?"

The goal of a photo essay is to understand a question as thoroughly as possible through the particulars of one case. Stake believes that both case study and qualitative design in general "call for the persons most responsible for interpretations to be in the field, making observations, exercising subjective judgment, analyzing and synthesizing, all the while realizing their own

consciousness. (Stake, 1995: 41) Throughout the case study I observe and analyze how visual imagery impacts the opportunities, reactions, and outcome of the photographic work. In this case study I examine:

➢ The expectations of the photographer upon arrival in Ecuador and how those changed throughout the study.

➢ The principles the photographer brought to the study and how they changed throughout the stay in Ecuador.

➢ The challenges and difficulties of performing the photographic work in Ecuador

➢ What went well; what didn't

➢ How a predominantly visual perspective

  o Affected the engagement with others

  o Affected the photographer's perspective of sustainable development

➢ How interaction with others impacted opportunities the photographer had for engagement with sustainable development and

➢ How perspective and attitudes changed after returning home from Ecuador

<div align="center">Data collection and analysis procedures</div>

There is no one prescribed method for doing data validation in an autoethnographic case study. Data triangulation in a classic sense is difficult because there are few hard cold facts that can be objectively gathered from a statistically significant sample size. The primary mode of data collection I used was observation and the critical literature. I kept a log of events and my reactions so details would be recorded accurately and not subject to memory drift. Attempts at interviews were unsuccessful due to my inability to speak Spanish, to procure translated consent forms in time, the need for interpreters, and the lack of funding for a planned second trip to

Ecuador. Given the emphasis on visual communication there were also some benefits to a lack of verbal communication. It forced me as photographer to focus on the visual to observe more keenly, to rely more on my other sense to pick up meaning in gesture, texture, and tone.

When dealing with one case study it is difficult to triangulate data. One can look for trends in observation. But if the nature of the study is that little is known about it, as is the case here, then there are few other studies or circumstances to triangulate against. In fact, triangulation may not be necessary, or even desirable. To a qualitative researcher knowledge is not discovered, but rather it is constructed. Stake examines the issues of data triangulation in the context of qualitative studies: "The stronger one's belief in constructed reality, the more difficult it is to believe that any complex observation or interpretation can be triangulated. For Denzin and many qualitative researchers, the protocols of triangulation have come to be the search for additional interpretations more than the confirmation of a single meaning." (Stake, 1995:114-115)

Instead of triangulation I have tried to see things from multiple perspectives. There is rarely one truth to any given situation. In understanding the viewpoints of others and in researching the viewpoints of the critical literature I have tried to develop a balanced viewpoint. I have presented this viewpoint in several ways. I have presented raw data in the form of anecdotes. I have presented my opinion as just that, my opinion. I have supported my opinion with quotes and perspectives from the critical literature. I have made information about myself as researcher and object of my research known so the reader can better interpret my motivation, needs and desires. I have given the reader enough information that s/he may create their own unique interpretation based upon their own experiences and values.

In short I have tried to approach what Laurel Richardson terms crystallization.

I propose that the central imaginary for "validity" for post modernist texts is not the triangle—a rigid, fixed, two-dimensional object. Rather, the central imaginary of the crystal, which combines symmetry and substance with an infinite variety of shapes, substances, transmutations, multidimensionalities, and angles of approach. Crystals, grow, change, alter, but are not amorphous. Crystals are prisms that reflect externalities *and* refract within themselves, creating different colors, patterns, and arrays, casting off in different directions. What we see depends upon our angle of repose. Not triangulation, crystallization. … crystallization provides us with a deepened, complex, thoroughly partial, understanding of the topic. Paradoxically, we know more and doubt what we know. Ingeniously, we know there is always more to know. (Richardson, 2000: 934)

CHAPTER 4 -- DETAILED DISCUSSION

<u>Introduction</u>

I was sitting in the classroom listening to my professor describe a project in Ecuador where people were helping local Andean residents improve their standard of living while at the same time conserving the flora and fauna of the cloud forest. At that moment I knew this was something I had to be involved in.

I had recently quit my corporate executive job where, with help from my team, I automated manual functions, provided sophisticated data analyses, and designed automated systems for the future. None of this seemed important to me. I wanted to make a difference in people's lives and the Earth.

In my application to graduate school, I had written, "I believe our natural resources are in peril and we must find ways to preserve them. 240 people are born every minute. Each of them needs to be fed, clothed, and sheltered. To meet these needs, people consume natural resources. If people do not understand and value the importance of our natural resources, then wherever there is a short-term conflict between preservation of nature and preservation of people, nature will lose. … 35 species go extinct every day in the world's tropical rainforests alone.… I would like to understand how people perceive nature so we can better educate and influence them concerning environmental issues."

In the classroom my professor was explaining how the Maquipucuna Foundation was leading the kind of work I felt was so important. I hoped there would be a role on this project for me.

Six months and many research hours later, I strode into the cloud forest and communities of Andean Ecuador armed with a camera and the knowledge of those before me.   My goal as a photographer was to document the efforts of the project and the beauty of the cloud forest. I would create a photojournalistic essay aimed at educating people about the need to preserve nature by helping people improve their lives through the sustainable use of it. As a researcher my readings had caused me to ask many questions. Was it ethical to present an informed point of view? Must I be totally objective, present all sides, regardless of the source? Would a photo essay or a text essay be more compelling? Can photographs be persuasive or can they only touch the hearts of the already converted? Can a photograph represent reality or present the truth?

I grappled with these questions as I photographed every day for almost two months. I walked away with over 4000 photographs of villagers, researchers, staff, visitors, coffee farms, sugarcane fields, gardens, archeological digs, cloud forest, birds, insects, spiders, snakes, and frogs. I spent months sorting through photographs, processing them, doing additional research, and analyzing the results of my experience.

<u>Methodology</u>

Qualitative method

I knew from my research there is relatively little written about the impact of visual imagery in advocacy journalism. There is a great deal of literature on the impact of mass media on readers that dates back as far as the 1920's (Lasswell, Lazarsfeld, Hovland, among others). Most of this research deals with mainstream media and textual or verbal communication. If it takes on visual imagery it is usually within the context of TV or advertising (McLuhan, Gerber, Schramm). The work I proposed to do was both similar and in significant ways different. I wanted to learn from these scholars the way media can impact readers so I could make better

choices in my own essay. But my work differed from theirs in that I was not using a mass medium. I wanted to create a photo essay not a newspaper article or TV news story. And I intended to house my message primarily in photographs not written words. There are a handful of relatively recent scholars, who have tackled the issues of visual imagery and they were helpful (Susan Sontag, Paul Martin Lester, Ann Barry, Julianne Newton, Rick Williams). But no one dreally tackled all three issues of visual communication, advocacy journalism, and truth.

Once I reviewed the literature I needed to decide how to structure my research. Given the exploratory nature of my topic, i.e., how little was written on my theme, I felt a qualitative method would work well. I would conduct the research in the field in Ecuador. My dual goal of creating a photojournalistic essay and understanding the role of visual imagery in advocacy journalism precipitated a dual role of photographer and researcher. As a photographer I needed to be in Ecuador to take the photographs, to understand on an emotional or visceral level what the cloud forest meant and how people related to it and depended upon it. I wanted to use my pictures to report on my experiences. As a researcher I needed to study with some level of objectivity what I as a photographer was doing. I wanted to observe my photographer self in third person. I would then inductively interpret and analyze my observations to come to an understanding of the role of visual imagery within the context of my sojourn in Ecuador.

I would depart from the standard third person narrative to give a personal first-person account. "By not insisting on some sort of personal accountability, our academic publications reinforce the third-person, passive voice as the standard, which gives more weight to abstract and categorical knowledge than to the direct testimony of personal narrative and the first-person voice" (Ellis and Bochner, 2000: 734). I would rely on my own direct testimony and personal narrative. In this way I would also be more personally accountable.

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In this situation a case study approach seemed natural. I would observe and study myself, as photographer, in the field, creating my essay. The emphasis was on my observation of myself as I photographed in Ecuador and later as I put together the final product. The context was bounded by time, place and activity. The timeframe stretched from May 23 to July 10, 2002 in Ecuador and July 2002 to July 2003 in Atlanta, Georgia.   Throughout the case study my two selves interacted through observation and keeping a log of activities and reflections. It required that I analyze my emotions and investigate my motives, that I remain open to new ideas and experiences. It required an understanding of the subjectivity of experience and of the different and multiple perspectives of others.

But the case study is more than the observation of my experiences as a photographer. Most qualitative studies these days have a social theme as does mine. I brought some personal beliefs to the study. Without nature man cannot survive. When one tries to preserve nature in isolation from man, nature will always lose. It is only when there is mutual benefit to man and nature that nature can prevail. To sustain that benefit the local people, the custodians of the forest, must be invested in its health and preservation. Activities cannot be dictated from the top down, but must be embraced by the community. I did not know as I left for Ecuador if my beliefs would stand up to the test of reality. The answers to my questions evolved over time through inductive reasoning.

I believe that what I learned from this case study has implications for a larger context. Issues of truth and ethics transcend time and place. Preservation of nature and culture are world issues. What I am doing can be applied in other contexts. If photo essay can move others in a

moral and ethical way to support local communities in their efforts to preserve nature then what I am doing is important.

Issue Identification

Throughout the case study I tried to identify issues as they evolved. Issues can be multi-faceted, having political, social, historical, and/or personal implications. I tried to step back from my photographer self by observing and identifying how I, as photographer, struggled against constraints and coped with problems. In this way issues retained their context but did not become oversimplified. I tried to understand their categorical implications-political, social, and historical, which then allowed them to be applied in a more general context.

Data Validation

There is no one prescribed method for doing data validation in an autoethnographic case study. Data triangulation in a classic sense is difficult because there are few hard cold facts that can be objectively gathered from a statistically significant sample size. One could conceivably compare empirical data against that gathered by other researchers in the same context.   This was not possible since I was the lone researcher on this project. I could make multiple trips to the area and study the same phenomenon over time. This, while certainly possible and perhaps desirable, was not within the scope of my project. Also possible but not within scope would have been to visit similar communities in different areas/countries.

Another form of validation, which Stake calls 'methodological triangulation', utilizes multiple ways of gathering data and then looking at consistencies and conflicts within the data. "The fourth protocol is actually the one most recognized: methodological triangulation. To increase confidence in our interpretations, for example, we may follow direct observation with a

review of old records. … With multiple approaches within a single study, we are likely to illuminate or nullify some extraneous influences. When we speak of methods in case study, we are again speaking principally of observation, interview, and document review" (Stake, 1995: 114). My intent was to gather observational data, capture photojournalist reactions in a log, conduct interviews, and review scholarly literature. While most interviews did not take place, the study is rich in observational data and self-reflection, and insights form critical literature.

Some qualitative researchers have begun to reject the notion of data triangulation. "For Denzin and many qualitative researchers, the protocols of triangulation have come to be the search for additional interpretations more than the confirmation of a single meaning" (Stake, 1995 P.114-115). For other researchers it is the test of authenticity that is important. "To me validity means that our work seeks verisimilitude; it evokes in readers a feeling that the experience described is lifelike, believable, and possible" (Ellis and Bochner, 2000: 751). The readers of my photo essay will have to attest to its verisimilitude.

Narrative Description

As a researcher I adopted the role of observer of myself, the photojournalist. Although intimate knowledge of one's subject is important, it is also important to distinguish between the observer and the observed. Even within my own mind I found it expedient to externalize myself in my role as photographer. Therefore, within this document and for the sake of clarity and separation of roles, I will refer to myself in my role as researcher as "I" and in my role as photojournalist as "she" or "Marty."

There are several parts to the case study as I defined it. The first part is an examination of what the photojournalist brought into the case study. Personal facts such as gender and race plus life experiences contributed to her (Marty, the photojournalist's) cultural and personal

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biases and values. I tried to discern what expectations she had when she arrived. All of these affected how she perceived and interpreted new experiences. Also knowledge of visual and media theory inclined her toward certain principles of journalism and visual communication.

As a researcher I wanted to understand what excited the photographer, what motivated her. I examined her conservation and nature values so I might understand how they impacted her approach. Once she arrived, it would be important to understand who the stakeholders were she needed to interact with and what biases each brought to the case study.

What she experienced during the course of the case study makes up the second part of the case study. I followed her around in everything she did. I observed what she chose to photograph, when she chose to go out, what notes she took on her photos and situations. I noted her use of landscape and close-up, what she chose to include and what she left out.

I paid attention to her use of the senses, her reliance on the visual. I wanted to know how a visual focus affected her perception, if the other senses were distracting or additive.

I noticed how she interacted with others, whom she enlisted to walk with her in the cloud forest to learn about nature. I watched how people received her as a photographer, whether they were excited to have their picture taken or apprehensive and fearful. I watched to see if she was respectful, if she was curious, and if she was open to whatever was in front of her.

I wondered how her biases and perceptions changed throughout the course of the study and if disappointed or confirmed expectations impacted them. I wanted to know how well the principles she extracted from the literature served her.

I noted the constraints and difficulties she encountered and how she strove to overcome them. I watched how she dealt with opportunities for visual capture that were presented to her,

and those that were missing. I observed how she interacted with others who might hinder or enhance her ability to capture events on film.

The third part of the case study looks at how she incorporated her experiences and learnings from Ecuador into the production of her photojournalistic essay. I observed the care she took with her photographs once she was back in the US.   I noted her approach to her medium, which photographs she selected for her essay and how she used them, i.e., their order and juxtaposition. I wondered how her attitudes and perspective would change over time after leaving Ecuador. I was curious to see if she ever felt tempted or pressured to misrepresent a scene to make a point. I paid close attention to people's reactions to her work, whether they were moved or impressed.

I became aware of my own reactions to her work and how it made me feel. I wondered if the photos, even if beautiful; and accurate, would really depict the reality of the cloudforest as I and others experienced it. I looked for a balanced approach, showing both the positive and the negative. I wanted to know if the photos as individual captures of experience moved me differently than the collection of photos in the essay as a whole.

As a result of my observations and study, I analyzed the data I collected from the case study. This makes up the fourth and final part of the case study.   I noted what went well and what did not go as well. I developed assertions and interpretations based on my findings. I looked for patterns. I noted connections between the specific case study instance and social processes. I drew generalizations from the specifics where appropriate.

I looked at how she could have been more effective: What changes could she have made in her approach, subject matter, photo selection, or relationships that might have yielded more compelling, truthful, or unambiguous results.

POSITIONINGS

Because Marty, the photojournalist is the object of my case study, it is important to know something about her. Marty as I, the researcher, is also important to know. As van Maanen puts it, "[Sometimes] we learn about the lives and account of others (depictions and accounts of which are vital to the development of a skill set for any ethnographer), but to the virtual exclusion of autobiographical information about the self who produced the text. The result is often the creation of an authoritative, omniscient narrator—a modernist textual god—whose observations we are supposed to trust simply because they appear to be born out of a kind of 'immaculate perception'" (Goodall, 2000: 91-92). In talking of autoethnography, Goodall asserts, "The hard part is analyzing yourself closely enough to be able to "read" these features of your makeup in a way that allows a critical and cultural perspective on them" (Goodall2000: 132-134). He believes we need to look at fixed and subjective positionings.

At any given point in time and space we possess certain attributes or positionings, such as gender and race, which are essentially fixed. This is as true for Marty as anyone else. When she went to Ecuador at the start of the case study in May 2002 Marty was 51 years old, widowed with no children. She was a Caucasian female, brought up and educated in the United States. As a child she lived in a lower middle class semi-rural neighborhood in the Midwest. She was the daughter of a white collar father of German descent and a German immigrant mother. She nurtured her understanding of German culture in post graduate studies in German literature. Though she no longer attended church as an adult, she had a strong religious foundation and understanding of the protestant religion as her grandfather had been a Methodist minister. As an adolescent she attended his church.

Marty's fixed attributes gave her some biases that were in some cases affirmed and in others balanced by personal life experiences, or subjective positionings. Being older meant Marty had had time to pursue a career and develop strong personal interests. Although she never had children, she knew what it was like to be raised by a stay-at-home mom since her mother did not work. Yet she also understood the lure and satisfaction found in having a challenging career. She understands some of the challenges women in the workplace have faced. When she started working in 1977 even in the US there was a lack of childcare and maternity benefits, and few of the husbands she knew helped in the home or with the children. It was generally only acceptable for mothers to go to work as a stop gap financial measure but not for long term career goals. She understands that attitudes change slowly and believes that women in Andean rural Ecuador are starting to develop new work norms as well. (See figure 4.1.)

Figure 4.1 Female workers at the Colibris workshop in Ecuador

Her immigrant mother exposed her at an early age to another culture and different ideas. For Christmas she had goose and apple strudel while the other kids had turkey and apple pie. From this she learned acceptance of other ideas and customs. There is no one right way.

Before going to Ecuador, Marty had worked and/or vacationed in many different countries, ten of which are classified as third world countries, as is Ecuador. Her exposure to third world countries tempered her bias toward defining normal life as one of secure shelter, indoor plumbing, hot water, electricity, telephones, cars, and safe drinking water. She has worked in multi-lingual work environments in three different countries and projects. It has taught her how to minimize misunderstandings and deal with ambiguities. She has discovered the importance of learning and following local customs.

Marty is familiar with small town/semi-rural area dynamics having been raised there. Yet she is not familiar with agricultural or trade issues because she lived in a subdivision and was raised in a white collar atmosphere. This made her more reliant on the Maquipucuna Foundation for direction in this area.

Her white collar upbringing, her own studies and her career did teach her the power of education. She brought this bias with her to Ecuador and used it to document efforts to teach children about the environment. It is also the impetus behind much of her desire to create a photojournalistic essay that will teach others about the value of conservation for people and wildlife.

Figure 4.2 A student from Quito finds a large toad during an environmental education day.

As a child Marty developed a love for nature. Adjacent to her house was a several block long parcel of forested land. She spent many hours wandering, discovering, and playing in these woods. As a young adult she started reading about nature and conservation as well as donating monies to support conservation efforts.

In the 1990's she developed a passion for wildlife and nature photography, which she still holds today.   In 1996 she went to the arctic tundra. (See Figure 4.3.) This wild place is so isolated the nearest city is 250 miles away and can only be reached by float plane. The migrant Dene Indians left the area some 40 years ago to live in the cities and no one has lived there since. The awe and wonder of such wilderness touched Marty's soul in a spiritual way and assured her of the need for conservation of wild places.

Figure 4.3 The arctic tundra is a mystical wild land replete with wild animals

Her passion became so strong that in 2001 she quit her job to pursue a Master's degree in Ecology and Journalism. Her studies have provided her with an understanding of conservation issues and ecological complexities. She has applied these to her photo essay on sustainable development in Ecuador, the result of her efforts within this case study.

From early childhood on Marty learned the importance of honesty. Her mother set an excellent example and rewarded her for honesty. She learned that honesty, no matter how difficult, is the best policy. From this requirement for honesty, Marty developed a strong ethic, which she carried with her to Ecuador. But she knows life is complex and situations are rarely black and white. The nature of photography is selection. It can be tempting to leave a part of a scene out and just select the part that supports your cause. It is easy to let one's bias work subliminally, for example, in not thinking to take a photograph which offers support for a view one does not share. Marty was aware of these issues and determined to deal with them ethically.

CONSERVATION ETHIC

In many journalism circles there is the attitude that one must be objective, must present all sides and not take any. This gives your viewers the ability to make up their own mind. But there are also journalists who believe that 'objectivity' can be misleading, that it skews the truth by presenting unequal data as though they were all equal. Back in the early 1990's Meadows wrote, "I do my best to remember that the purpose of my writing is to search for truth and to empower others to do the same" (Donella H. Meadows, 1991: 79). Truth is not objective; it requires one to take a stand. It is also relative, based upon what is known and believed at any given place and time. Julianne Newton believes that is exactly what we need. "If we could redefine journalism, whether verbal or visual, in a manner that openly acknowledged the relativity of individual perspective and presented information as the best available information, not as a conclusion or as "the truth," journalism would benefit tremendously" (Newton, 2001: 55). In a world where the health of the biosphere continues to degrade and 3 billion people have no access to clean water, some journalists believe, "the environment may be the one area where the issues are so crucial and so complex that it is imperative reporters offer the public some guidance" (Teya Ryan, 1991: 84-5).

Marty agrees with those who advocate for the environment. She came to Ecuador looking for information on how The Maquipucuna Foundation and cooperative villages are practicing conservation. She wanted to know if the work they have been doing since the foundation was started in 1988 is working. She wanted to experience the cloud forest and the people herself. She then wanted to present her perspective on the truth in a photojournalistic essay about the area and its conservation efforts.

She agrees with organizations like The Maquipucuna Foundation that conservation cannot exist in a vacuum. Local peoples must be committed and support, if possible lead, conservation efforts. Empowerment is an important part of advocacy journalism. Empowerment includes people inside as well as outside the project. Many people are confused about environmental issues and afraid of the consequences (Ryan, 1991). Without guidance they are inert, not knowing how or if they can make a difference. With guidance they feel empowered; they are presented the opportunity, if they wish to, to get involved. Marty hopes with her essay she can empower people outside this project to support those inside this and other projects.

The emphasis in Advocacy Journalism is on truth, education, and persuasion in service of the environment. Marty wants to educate people about the need for conservation of the cloud forests in Ecuador through presentation of her personal truth and persuade them through moving visual imagery to support it. With this purpose in mind Marty left for Ecuador.

PRINCIPLES

Before she left for Ecuador Marty read what the critical literature had to say about truth, advocacy, and visual communication. From this literature she extracted some guiding principles for her work.

Truth

➢ Explore depth and complexity (Friedman, 1991)

➢ Nail the facts and put them in context (Ryan, 1991)

➢ Learn the science (Hamilton, 1991)

➢ Seek the perspective of all relevant sides (Ryan, 1991)

➢ Present the situation as I perceive it (Newton, 2001)

➢ Respect human beings. (Fred Ritchin, 1990)

➤ Be fair, accurate, and honest. (Barry, 1997)

➤ Use images fairly. (Newton, 2001)

➤ Do not use photographs to mislead or misrepresent. (Newton, 2001)

Advocacy

➤ Make it interesting (Dennis, 1991)

➤ Entertain / persuade (Stephenson, 1988)

➤ Educate (Newton, 2001)

➤ Invite participation through emotional appeal. (Stephenson, 1988)

➤ Focus on solutions (Ryan, 1991)

Visual Communication

➤ Use the particular to express the universal (Barry, 1997)

➤ Photograph with empathy for subjects (Williams, 1999)

➤ Give clear unambiguous messages through my images (Barry, 1997)

➤ Capture in photographs what cannot be described in words. (Holger Hoege, 1990)

➤ Understand the impact that an image holds for me as I am taking it (Williams, 1999)

Marty used these principles as a starting point for how to work while she was in Ecuador. I was anxious to see how well they would serve her.

EXPECTATIONS

Marty was not sure how remote an area she was entering in the cloud forest, but she did know that third world countries usually lack infrastructure. Although even poor people in such countries somehow manage to have TV, they often go without running water, electricity, telephones, and cars. Marty would find that in the Andean region of Ecuador she visited the villages had recently acquired both TV and electricity. Because of the low population and the

proximity to the cloud forest drinking water was clean. Telephones and cars were indeed scarce, yet this had little impact on her work.

Her expectations of the cloud forest were somewhat typical of an eco-tourist. She expected to see lots of mammals, especially monkeys. She thought birds would be colorful and easy to see. She believed the insects and amphibians would all be quite large. She thought plant life would be varied and dense. She was wrong on all accounts except the plant life. The monkeys had long ago been hunted and other mammals, though present, were hard to find, nocturnal, or scarce. The birds hid in the tree cover. One could hear them, but it was difficult to see them. Although some snakes, frogs and insects were large, many were tiny. She was used to photographing in temperate or more open spaces and assumed the relationship to light and object would be similar here. Light conditions in the cloud forest proved to be very different. The canopy filtered the bright sunlight and made it softer, but hid the soft morning light altogether. This impacted what and how she was able to photograph, but had very little impact on the overall outcome of the case study.

More important were the expectations she had around interactions with others. She felt it was important to get the perspective of a wide range of stakeholders in the project in order to explore all sides of the truth. The primary vehicle she planned to use was interviews. Getting interviews turned out to be challenging for multiple reasons including the need for interpreters and translated and approved release forms. How she dealt with this and what it meant to her project are discussed in the Challenges section of this chapter.

She expected conservation staff employed by Maquipucuna to be well-trained and conservation-minded. But tensions between desire to preserve, to please tourists, to create pleasant atmosphere, to ease daily activities, to reduce costs, and to increase income made it

difficult for them to always do what was best for the wildlife and forest. The implications for the

project will be discussed in the Challenges section of this chapter.

She thought she would have access to a wide variety of places and topics to photograph.

The Maquipucuna Foundation was very generous in the opportunities they provided her. But

there were still some challenges in getting personal records of villagers and having the needed

time to always do a quality job. Again, these concerns are discussed in the Challenges section of

this chapter.

STAKEHOLDERS

Before we plunge into what happened during Marty's stay in Ecuador it is important to

understand who the other stakeholders in the case study are and what their goals and biases are.

Below is a description of the primary stakeholders:

Table 4.1 Primary Stakeholders

Stakeholder	Description
The Maquipucuna Foundation	Owns a cloudforest reserve eco-lodge 1 kilometer from Marianitas. Works with local villages to provide incentives to decrease deforestation and preserve the flora and fauna of the reserve. Goal: Conserve Ecuador's biodiversity and sustainably use natural resources. Promote the participation of local communities in sustainable development programs.
The village of Marianitas	Works with The Maquipucuna Foundation on conservation initiatives. Several villagers work as guides at Maquipucuna's reserve. Owns Santa Lucia Reserve next to Maquipucuna Reserve Goal: Conserve and protect the over 650 hectares of montane cloud forest belonging to the community; develop sustainable sources of income for the community members; and help educate and benefit residents.

The village of Yungilla	Received advice from The Maquipucuna Foundation. Developed an eco-tourism business. Now part of Jocotoco Foundation. Goal: Promote Ecuador's avifauna and its wilderness throughout a variety of bird watching and cultural tours. Take definite steps to ensure the long-term conservation of the habitats that rare birds depend upon for their survival.
The World Bank	A United Nations' specialized agency made up of 184 member countries. Provides loans, policy advice, technical assistance and knowledge sharing services to low and middle income countries to reduce poverty. Provided money to The Maquipucuna Foundation for its conservation projects. Also functions as a monitoring agency for project effectiveness. Goal: Fight poverty and improve the living standards of people in the developing world.
Local media	Local Quito news station that filmed an environmental education day for some Quito grade school children at the Maquipucuna reserve.
World wide media	Teams from Discovery Channel and National Geographic that were filming at the reserve as part of films they were producing to promote conservation.
Researchers at the Maquipucuna reserve	Academic researchers studying various scientific aspects of the cloud forest and surrounding area from an Incan archeological dig to pollination of orchids by euglossine bees to water quality in the streams.
Staff at the Maquipucuna reserve	Typically former farmers or housewives who have found alternative incomes by working for The Maquipucuna Foundation.
Educators at the Maquipucuna reserve	A group of people dedicated to environmental education, usually of kids. They consist primarily of people who work for The Maquipucuna Foundation, university professors, and college volunteers.

Marty had interaction with each of these groups and to a varying degree each had an impact on what she did and how she did it.

Discovery

Marty participated in Ecuador as a photojournalist. Newton describes a primary aspect of photojournalism, which applies to Marty's work. "Photojournalism is a form of visual anthropology. … photojournalists observe, participate, record, analyze, immerse themselves in the culture of the observed, report what they find, and continue to observe" (Newton, 2001: 135). Examples are the photos in Figure 4.4. The indigenous man in an internet café documents the changing face of culture as westernization and technology affect how people live. The children playing in the river illustrate how some aspects of culture are the same everywhere.

Figure 4.4 Photojournalists observe and record the culture around them.

While Marty was in Ecuador she photographed every day. An excerpt from her journal describes how she planned her day: "My normal routine was to go to bed shortly after dark. Since the reserve is near the equator, there is a full 12 hours of darkness as well as light. I would

photograph as late in the afternoon as I could. Dinner was shortly after dark. Then I would go to

my room and, especially when I was the only researcher there, would read and/or study Spanish

for a long time before going to sleep. So as not to lose a moment of sunlight, I would get up

before dawn, take a shower, and get dressed. Usually by this time it was light and I could take

off down one of the forest trails until time for breakfast. I would try to photograph all day either

in the reserve or wherever life's adventures took me that day"

As she photographed she tried to keep in mind the principles she brought with her and the

themes of visual communication, truth, and advocacy she was studying for her photojournalistic

essay. Key to visual communication was understanding how her visual perception affected what

and how she photographed and the relationships she had with the people and objects she

photographed. She explored the differences between reality and her perspective of things as well

as becoming conscious of her own feelings while she photographed She pursued the expression

of entertainment, persuasion, and solutions central to advocacy journalism.

VISUAL PERCEPTION

One of the aspects that attracted Marty to Ecuador and the cloud forest was the sheer

excitement of discovery, visual discovery.   At first she wandered through the cloud forest alone.

Then she started asking others to go with her so she could benefit from their perspective. In her

journal she wrote, "Each time I went into the forest with a scientist it morphed into what the

scientist focused on. Sometimes the forest revealed frogs and insects, sometimes orchids and

bees, and at other times mysteries of long ago Yumbo culture. In this way my appreciation of

the forest expanded to include the wonders exposed to me by others." Marty hoped to do for her

viewers what the scientists had done for her. Most people have not been to Ecuador and, hence,

have not seen the wonders she had seen. Susan Sontag describes Edward Weston's view of it,

"Photographers claimed to be performing the Blakean task of cleansing the senses, 'revealing to others the living world around them,' as Weston described his own work, 'showing to them what their own unseeing eyes had missed'" (Sontag, 1977: 96).

The night, where our visual sense is of little use, was especially intriguing for Marty. What waited in the night for our unseeing eyes? Again, in her journal, Marty writes, "Walking with Scott, [a graduate student doing research in herpetology], at night in the forest is very different from walking during the day. With headlamps and flashlights turned off the forest is pitch black. You cannot see your own hands and fingers. The smells and sounds of the forest are accentuated. You can hear the gurgling of the streams that feed into the Cumachaca River. Insects buzz, occasionally a frog calls. Even with the light beams piercing the dark you can only see directly where the light hits. This is a world of friendly and not so friendly creatures. You do not put your hand down without knowing what it is touching. You never know when there will be a spider or snake camouflaged against the bark of a tree. It is exciting and a little exhilarating to anticipate what treasures might be found around the next corner." Rational intelligence seems of little use here. You rely on your senses. You flash a light and hope to see …a cicada molting. (See Figure 4.5.)

Figure 4.5 Cicada coming out at night in the cloudforest.

Susan Sontag takes issue with Weston's claim. "Contrary to what Weston asserts, the habit of photographic seeing—of looking at reality as an array of potential photographs—creates estrangement from, rather than union with, nature" (Sontag, 1977: 97). I am not sure I agree with Sontag on this point. It is true that the act of making a photograph requires one to select what will be included and what will not. This act is one of objectification, which requires a certain distance from the scene. However, the overriding connection is an emotional one; if we are lucky it speaks to us in our core.

"Ultimately, and perhaps most importantly, visual intelligence suggests the ability to think in different, more abstract, and more perceptually oriented ways as our linear logic fails us in the presence of overpoweringly beautiful, violent, or political images," (Barry, 1997: 7) proclaims Ann Barry. Marty experienced this sense of overpowering beauty when she went to Santa Lucia. Santa Lucia is an eco-tourist lodge situated at about 6000 feet. The only way to get there from the Maquipucuna lodge is to hike 2500 feet up the mountain. After Marty arrived at

Santa Lucia she wrote, "I was awed by the beauty at the top. The lodge sits on a small flat parcel

of land at the top surrounded on all sides by mountain ranges—Santa Lucia to the East,

Maquipucuna to the south. Way below one can see the Maquipucuna lodge and the towns of

Nanegalito, Nanegal, and Marianitas." She tried to capture her awe in the pictures in Figure 4.6.
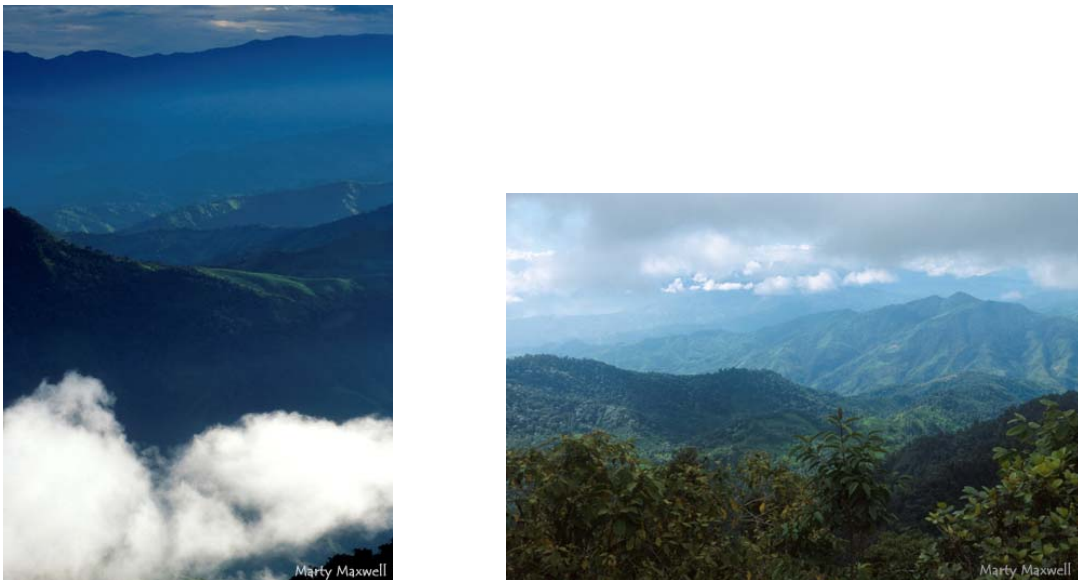
Figure 4.6 Views of cloudforest, villages, and surrounding Andes.

One of the principles Marty brought with her was to "use the particular to express the

universal." So much of the forest and people's lives have symbolic meaning. We are able to

identify with others because we sense a piece of our own humanity or our own world in them.

Marty listened to the stirrings inside that spoke to her intuitive self and filtered them through her

rational self. Barry believes all images "are stories, always implying more than their parts,

always in process and actively seeking meaning. Because vision developed before verbal

language, images are a natural part of our primal sense of being and represent the deepest recesses of ourselves" (Barry, 1997: 69).

One scene that spoke to Marty was an area in the forest where a small tributary of the Cumachaca River flowed into a deep pool. The ground was an uncharacteristic gold. It is believed that the Incan Indians had used this area to extract salt. The salt in the soil turns the ground gold. After excavation, carriers would transport the salt on their backs following old Yumbo Indian trails across the Andes to deliver the salt to communities. She made several photos there. The one that spoke to her most was Figure 4.7.

Figure 4.7 Salt in the soil makes the river water appear bright orange.

Even if one does not understand about the history of the Incas and the salt extraction the picture stands on its own. It only shows a small part of the scene. But from this picture we can tell there is shoreline, that the water is calm but moving, that there is vegetation nearby. We are

struck by the unusual color of the soil and want to know why. Water itself is a symbol of life

and renewal. Rocks symbolize permanence and solidity. They anchor the photo in the lower left

hand corner, while the eye is allowed to flow upward along the angle of the rock with the water.

The eye does not flow out of the picture because the debris and bubbles pull it back to shore and

the safety of the rocks. The debris from plants indicates life and the passing of time, which is

balanced by the sense of renewal from the water. So, the picture tells an historical and a

universal story of days gone by and continuing life. We may not consciously think about these

things while we look at the picture but the indications are stirred within us.

Marty tried to turn one of her handicaps into an asset. Although, she was learning,

Marty's Spanish was rudimentary. She could not understand Spanish conversations. During

meetings this forced her to rely on her visual perception to capture what was important. She

wrote, "During the five days that the meetings with the World Bank were going on, I felt outside

of it all. Not that the people weren't friendly or inclusive, they were. But I could not speak the

language well enough to understand anything that was going on. What that allowed me to do

was observe what was happening visually. This was also true of the meeting of C.A.N.E. at the

Martin Luther King Fedarpom near San Lorenzo. I looked for anger, excitement, group mood."

In Figure 4.8 the people in Marianitas and Yungilla were anxious to explain what they had

accomplished to World Bank representatives. Figure 4.9 shows how the people near San

Lorenzo were excited, on edge. They would stand up and gesticulate broadly.

Figure 4.8 Villagers participate in a meeting in Marianitas.

Figure 4.9 People interact excitedly at a C.A.N.E. meeting.

REALITY

As a photographer Marty tries to represent what she sees as accurately as possible. No one can represent all of reality. By the nature of photography Marty must select what goes in the frame and what remains outside of it. She strives to be true to the essence of what she is photographing. Newton expresses it well, "Visual reportage acknowledges that reality is constructed, but applies well-considered methods to record and interpret real occurrences in people's lives in as authentic a manner as possible for others to see" (Newton, 2001: 185).

Photography captures a moment in time. (See Figure 4.10.) As soon as that moment is over it is gone.

Figure 4.10 Two girls on the street in Nanegal.

Two girls on the street share a moment of camaraderie in Figure 4.10. We do not know what they are looking at, but that is unimportant to appreciate the fundamental importance of the picture. Marty has accurately, honestly and respectfully captured a shared moment between two people. She has followed the principles of: "Respect human beings" and "Present the situation as I perceive it."

What Marty saw may not be what someone else would see. They might take the photo form a different angle , focus on the faces, pick a different moment or not take the photo at all. All photos are a creation, in part, of the photographer's perspective. "Photographic realism can be—is more and more—defined not as what is 'really' there but as what I 'really' perceive,"

declares Susan Sontag (Sontag, 1977: 120). An incident that happened to Marty illustrates this well. She writes, "Two nights ago as I was walking alone down the quarter mile path from the lodge to the research station I heard a rustling in the grass. A long snake slithered into the path in front of me. I was quite startled.   It had been raining heavily. The snake's skin was creased like an alligator purse. Its skin glistened wet in the light. I was able to see all 6 feet of it in the broad beam of my halogen headlamp. On its back yellow lines traced diamonds that glowed neon against the dark of the skin and the night. The head attached to the body in a smooth line. I feared it was poisonous so I stepped back and stood still to let it pass. It moved slowly until it filled the path and then stopped. It looked me dead in the eye. Its eye was yellow and glowed. For a few tense moments we stared at each other. Finally it moved on about six more inches leaving a space a little over a foot to the right of its tail. I quickly moved past and went to my room." A few days later a snake was killed just off the main trail. Marty was able to identify it as the same species as the snake she had seen. It was a caruncha or fer-de-lance, one of the two deadliest snakes in South America.   She took out her camera to capture the dead snake on film. (See Figure 4.11.) "As I photographed its eye looking at me through the macro lens I had the same eerie feeling I had had a few nights ago."

Figure 4.11 Head of a dead fer-de-lance, one of the two deadliest snakes in South America.

In making this photograph not only did Marty present the situation as she perceived it, but she followed another principle: "Understand the impact an image holds for me as I am taking it." Even though the snake was dead it was as though it had come alive. It looked menacing and dangerous, evoking the feelings Marty had had the night before.

We are human beings with 5 senses not one. Even when photographing it is difficult to separate the visual sense from the others. Marty had some success doing that when she was photographing meetings and could not speak Spanish, but this is an exceptional case. Photographers bring their own opinions, experiences and other senses to the making of a photograph. Marty had to translate her feelings, as she did with the snake image, and her other senses into a visual medium to be effective. An example is the image of the Umachaca River in Figure 4.12. In her journal we find, "Whenever I am at the reserve the constant sound of the Cumachaca River is with me. It is a wonderful river: 3 car lengths wide but shallow, powerfully churning up the water as it passes over innumerable rocks. None of the rocks are huge; they range from penny-size to bed-size. On all the trails you can hear and sometimes see it. You cross over many little streams that hurry towards it. It lulls me to sleep at night. It is Mozart's

'Eine Kleine Nachtmusik' while I eat." The challenge is to transmit the sound of the river in a visual way.

Figure 4.12 The Umachaca River runs through the Maquipucuna cloudforest reserve.

Besides experiences, opinions, perception, and senses, there is yet another element to consider when making a photograph. The photographer is always conscious of what constitutes a good photograph. As Susan Sontag writes, "Even when photographers are most concerned with mirroring reality, they are still haunted by tacit imperatives of taste and conscience" (Sontag 6). This is true of Marty's image of a butterfly in the cloud forest. She was always conscious of light and how it would affect her photos. In her log she wrote: "Ecuador is touted as the rose growing capital of the world. The delicate rose petals and sturdy stems flourish under a sun placed directly overhead due to Ecuador's position straddling the equator. The same sun position tends to make unflattering photographs. It causes deep shadow in the eyes and harsh

outlines. Early on I followed my usual pattern of photographing early in the morning and late in the afternoon on sunny days, avoiding the harsh midday sun. While this worked some of the time, I soon found in the forest the early and late light was flat and dark. I had to push my film to get anything at all. But the midday forest sun was softened by the reflection of the dense foliage as it cascaded down layers upon layers of vegetation often giving a pleasing luminescent quality to my photos." Within the forest during the midday sun she took this photograph, Figure 4.13, of a butterfly.

Figure 4.13 Nymphalidae *Ithomiid*, or glasswing, butterfly.

She watched the insect, waiting until it was in the small pool of light. She carefully blurred the background and exposed for the butterfly. She placed it off center to add tension to the picture. The creature only stayed a few seconds. She quickly focused on the butterfly and the leaf and tripped the shutter.

PHOTOGRAPHER / SUBJECT RELATIONSHIP

There is a relationship that develops between a photographer and its subjects, human or animal. In so far as the subject has an awareness of the camera or the photographer he/it will have a reaction. Whatever that reaction is, positive or negative, will be reflected in the camera. Most of the people Marty met in Ecuador were not only willing, but excited to have their picture taken. She writes about one incident at a coffee research station, Orongo. "I was at Orongo again while women planted coffee plants. I started taking photos of the broader landscape gradually moving in closer to the women. I eventually was practically on top of them. Suddenly one of the women stopped, smoothed her hair, and went back to planting. They giggled while they planted and I made their portraits." (See Figure 4.14.)

Figure 4.14 Woman planting young coffee plants while being photographed.

In the first image showing the expression of the woman she is clearly self-conscious. She has just smoothed her hair and is aware of the camera. She enjoyed having her picture taken and became more comfortable later. The second picture is the one Marty chose to use, not because it excludes the face, but because it focuses on the essence of the message. As in the image of the rocks and the water, the part stands for a bigger story, a story of human effort, of connection to the soil, and of conservation.

ENTERTAINMENT

If we want people to listen to our message of conservation, we must also spark their interest. Teya Ryan learned this from experience at CNN, "As the senior producer of "Network Earth," I know that in order to reach a broad, mainstream audience, our first responsibility is to entertain; our audience might listen if this particular program on the environment doesn't seem to be a bitter pill" (Ryan, 1991: 83). Marty looked for opportunities to entertain with her images.

Figure 4.15 "Pigtalk" on the farm.

As Marty was photographing pigs on an organic farm, she caught this defining moment, shown in Figure 4.15, when two pigs appeared to be gossiping together. She zoomed in on the fleeting moment and seized it.

SOCIAL RESPONSIBILITY

At the heart of advocacy journalism is a sense of social responsibility. We need to inform and educate people about the issues. One way to educate is through images that illustrate the important facts. Text can appeal to the rational intelligence of the public, but images can have a deeper more visceral impact. Barry declares, "The heart of photojournalism is reporting human experience accurately, honestly, and with an overriding sense of social responsibility" (Barry, 1997: x). As Marty photographed she always kept in mind the need to document the situation in Ecuador.
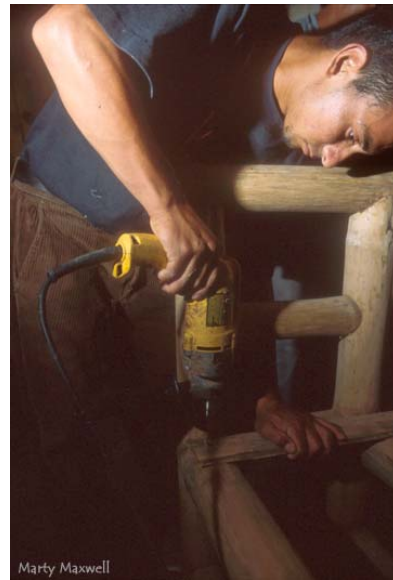

Figure 4.16 Laying oil pipeline and making furniture from bamboo.

The first photo in Figure 4.16 shows men laying pipeline for the OCP oil company. Pipelines travel from the Amazon across the Andes to the coast. This pipeline was being laid through protected forest. The result was new roads giving greater access to squatters. People started cutting down trees to make charcoal, an illegal activity. That along with clearing a path through the forest for the pipeline increased deforestation. The second image shows the ingenuity of villagers who grow a specific kind of bamboo, guadua, as a sustainable resource. It grows quickly and is strong. It can slow deforestation when used as a replacement for timber in creating crafts, furniture and buildings.

SOLUTIONS

To empower people to use the knowledge we give them, advocacy journalism must do more than inform and educate, it must also provide guidance. One way to do that is to talk about solutions, actions that can be taken that make a difference. One advocacy journalists put it this way, "I suggest taking out a journalistic insurance policy—information with a message, a message with a solution" (Ryan, 1991: 89). Marty was cognizant of the need to show solutions. By focusing on solutions we empower people to go beyond talk to action.

Figure 4.17 Making crafts for sale to tourists and educating children are two of the solutions for living with nature.

The first photo in Figure 4.17 shows a woman making crafts and jewelry by drilling tagua nuts, a natural resource found in the local cloudforest. The new cottage industry is an alternative to agriculture which often leads to more deforestation. It also provides opportunities for women to work and pursue careers. The second photo shows the importance of environmental education for children. They are the future of conservation. It is easier to change their attitudes than those of adults. They often can influence the parents as well. In the United States it is the children, who having been taught to stop running water while they brushed their teeth, in turn convinced their parents and consequently have saved millions of gallons of water. Here a boy is learning how to catch underwater organisms so he can identify whether those present are healthy for the water or contaminate it.

CHALLENGES

During the course of the case study Marty faced several challenges. Some of these challenges were a result of a lack of proficiency in Spanish. This was intensified by her status as a foreign visitor. Other challenges were ethical concerning the nature of truth or the costs of getting a photo.

Not knowing Spanish made Marty dependent on her hosts for access to others. She had hoped to have one-on-one interviews with a list of people to obtain a broad based understanding of attitudes and perspectives. To do so she would need access to each of the people and an interpreter. Her sponsors, while sympathetic, had jobs to do and were not always at the reserve to set things up. Lack of an introduction made it inappropriate for her to approach people in their homes. So one principle she failed to execute as she wanted to, is "Seek the perspective of all relevant sides." She was, however, giving some access to numerous people representing multiple roles, including people from the World Bank, international media, and civic leaders who spoke English.

At the one-on-one interviews with villagers she had also hoped to get some intimate photos of the people, their families and their homes. According to Emory Kristoff, National Geographic Photographer in Residence, viewers and readers are most persuaded when they can relate to that which is presented. A candid unselfconscious photo of a person is often the best way to make that kind of connection (Martha Maxwell, 2003). Being with them where they are comfortable until they are comfortable is conducive to such a photograph.

Figure 4.18 Portraits of Ecuadoran people.

Individuals can relate to Marty's photograph in Figure 4.18 of a woman pouring water over a boy. It appears to be a candid intimate moment between a mother and her son. One does not have the same impression from the picture of a man weaving baskets in the same figure. He is grinning in an obviously self-conscious way. Spending time with a person until they are comfortable with your presence and feel a connection with you takes away the self-consciousness and allows the inner person to shine through. Sebastao Selgado, perhaps the most famous photojournalist of our time, never pulls out his camera when he first meets someone (Ritchin, 1990). He spends maybe two weeks talking to them, getting to know them. Only then does he take out his camera. He is known as a master of portraiture, someone who can bring you to tears or laughter with his photographs.

Marty did not have the luxury of time. To cope with this problem she took pictures of local people wherever she could – at the Nanegal festival, sitting on the grass in front of a store,

weaving baskets on the porch. Several photos, such as the woman pouring water on the boy, were unselfconscious and successful.

Marty's sponsors wanted photographs and included her in all activities that were important to them. Although she did not understand what was being said in meetings, her hosts were happy to summarize for her. She was able to focus on the visual and capture expressions and gestures of others.

Marty became interested in a group of women who started a cottage industry called Colibris which made crafts for eco-tourism. As a result of conservation the social structure of the village they were in, Marianitas, has changed. Before the men worked in the field or garden and the women took care of the children. As part of the conservation program, a childcare facility was started. Women, having the option to put their children in capable childcare, were freed up to pursue other income related activities. Marty wanted to talk to these women about their experience. She wanted photographs of them working and again at home with their children. She was able to get the former but failed to get the interviews or the more intimate home pictures.

No matter how magnanimous people are about giving one opportunities they often do not understand the photographic process. Often times Marty was rushed or could not get a good vantage point or it was high noon and the light was bad. A great photo in good light often becomes a bad photo in poor light no matter what one does. But Marty worked with shadows and angles and captured what she could. Oft times she was able to be in the right place at the right time and capture a moment.   One such brief moment can be seen in the previous figure, Figure 4.18, where a mother is pouring water over her little boys head.   Another was as

everyone was leaving and she felt rushed after a demonstration on making marmalade. The

resulting photographs are shown in Figure 4.19.

Figure 4.19 Sometimes a photographer is in the right place at the right time and captures
the moment.

But many of the dilemmas Marty faced were of an ethical nature. The following is an

excerpt out of her log book. "Last night after dinner one of the guards spotted two armadillos

fighting in the brush next to the lodge. … We watched them by flashlight. The fight quickly

broke up and the guard cornered one of the armadillos, picked him (yes, it was male) up by the

tail and brought him over to us. … It was clearly (my opinion) frightened and struggled to get

away. By this time the guard had a firm grip on his back. A few Dutch tourists brought out their

cameras and brightly strobed the animal. Finally, after about 10 minutes the animal was allowed

to flee."   One of the primary unwritten rules of nature photography is to do no harm to an other,

be it plant or animal. By capturing it the guide implicitly told the tourists it was ok to handle an

animal this way. Such abuses are perpetuated as the tourists go home and excitedly tell all their friends what happened. Marty chose to live without a much needed photograph to spare the animal one more humiliation.

Similar situations occur with people. Marty decided not to take a photograph of someone if they requested she not do so. More ambiguous is the case of someone who is not asked, especially if the photographer suspects they would not agree to it if asked. This is a difficult question and depends on the context. In crowded public places it is generally acceptable to take the picture. Although Marty did take candid shots she generally did not take one if she felt the person would object. In Figure 4.20, the people taking their pig home from the animal market in the luggage compartment of the bus did not know I took this picture. Had I stopped to ask them if I could, I would have lost the candid moment necessary to pull off the photo. In the same figure, the young men who had just climbed the mountain waterfall were excited to have their picture taken. It is a posed picture but does not suffer for it.

Figure 4.20 Both candid and posed shots can add value.

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Then there is the question of truth. If reality is truth then it is impossible to obtain.

Photography is by nature selective. It can never show all of reality. It picks out a portion of

reality and tries to express its true nature. It will never look exactly like what the eye has seen,

because a camera does not record visually the same way a human eye does. What is important is

to portray the scene in such a way as to not misrepresent. In any case the photograph represents

the vision of the photographer and how she sees the truth. Julianne Newton supports this

premise, "Successful and reasonably truthful communication through visual images is possible—

but we must frame the production and use of reality images as "mediated communication," rather

than as "objective truth." … The future of visual truth depends on the integrity of the

photojournalist and everyone else—subjects, editors, viewers—involved in the process of

making and consuming visual reportage" (Newton, 2001: 4).

What photography does with selection is cause the viewer to see things in a way they

might not have seen it otherwise. Take the picture of bamboo in Figure 4.21.
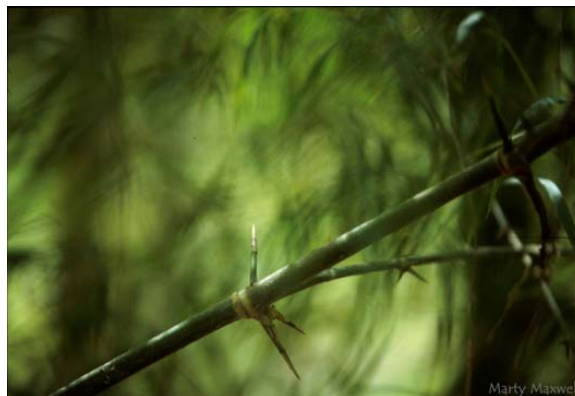

Figure 4.21 Photographic selection focuses the viewer on the object and presents it in a
new way.

Marty used selection to give a close-up of a bamboo stem. There is a whole bamboo grove that is not seen. There are no trees in this picture, no hill, no sky, no photographer. But if all these things were included in the picture the detail of the bamboo would be lost. Marty wanted foremost for the viewer to have a connection with the bamboo stem, to be aware of its spirit. She gives a hint of the bamboo leaves in the background so we receive context without being distracted.

If there were an urban highrise next to the bamboo would it be unethical or misleading to leave it out? It depends on the message and the context within which the picture is presented.

Photographers, like everyone, focus on what is important to them. So, it is easy to ignore something next to what is important. It is easy to subliminally not even see a scene that does not support one's ideas. But sometimes the truth can be a misrepresentation too. Marty's diary tells of one such situation. "I wanted to get some pictures of shade grown coffee harvesting, both for myself and for Maquipucuna. There were no shade grown farms at the time that had harvestable beans. So, we went to a place that had some shade, but was not technically a shade grown plantation. It was a small plot surrounding the home of a coffee farmer. I took pictures that highlighted the shade grown aspects of the grove, but at the same time implied a greater presence of shade trees than were in fact there. Are the pictures a lie? They do not fully depict the objective reality at that instant. They do, however, tell a true story about shade grown coffee in that region of Ecuador. If one looks at the particulars one could say they are disingenuous. If one looks at the general they represent truth. In fact, the more accurate presentation of reality at that time and place would surely be misleading." Only showing coffee that is not shade grown

would imply that there is no shade grown coffee. Saying that that specific farm is shade grown would also be a deception. (See Figure 4.22.)

Figure 4.22 Small farms in Ecuador are finding profit in organic and shade grown coffee.

Product / Outcome

After Marty left Ecuador and went back to the United States, she had her film developed. She poured over 4000 images selecting some rejecting others. Finally she started compiling them into a photojournalistic essay on the sustainable development efforts she witnessed in the cloudforest of Andean Ecuador. As the work progressed she continued to learn about visual communication, advocacy and truth.

Through discovery Marty chronicled many conservation aspects of Andean Ecuador. But, photojournalism is more than the act of observing and recording. The essay Marty created performs a function for others not able to go to Ecuador and see it first hand. This aspect of photojournalism, according to Newton, is connected to its very origins. "During the 20th century, we created a practice, photojournalism, to do the scanning that was no longer possible for us to

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do individually due to the ever-growing expanse and density of the area that had to be watched" (Newton, 2001: 28). No one can see and experience everything in the world. Photojournalists record, present and interpret the world for others. Marty's essay is an interpretation of one group's efforts to preserve nature by enhancing the lives of the people surrounding it.

VISUAL COMMUNICATION

Visual Intelligence

As Marty started putting her essay together she had to decide the relative roles of text and visual imagery within the essay. She decided to focus primarily on the presentation of images for several reasons:

> ➢ Barry asserts that, "Perception is our chief means of knowing and understanding the world; images are the mental pictures produced by this understanding" (Barry, 1997: 70). If this is true then visual representations of nature and people in the cloud forest will help us relate more effectively to them than words would.

> ➢ Newton adds, "Yet research indicates that readers and viewers not only are drawn to pictures more than words, but also remember pictures better" (Newton, 2001: 98). Marty wanted her message to be heard, understood and remembered. Then pictures become a more viable vehicle than words for creating a lasting impression.

> ➢ Part of the reason pictures are remembered better is because they have a more visceral impact. Barry explains that, "In developmental experience, words not only come later than images, but they are also often inadequate in communicating it, precisely because they are removed from experience and therefore lack the immediacy and power of the real world's change and relativity" (Barry, 1997: 74).

➤ Many people believe that we can distance ourselves from our emotions and understand them rationally. Barry has looked at studies on our physiological response and concludes, "We would like to think that we always judge things in a relatively unbiased fashion or that emotion is only an "additive" to rational thought, exactly the reverse may be true" (Barry, 1997: 25). Barry indicates that the actual condition is "the likelihood that much of cognition is merely rationalization to make unconscious emotional response acceptable to the conscious mind" (Barry, 1997: 18). This means we respond to images before we process them emotionally and, suggests Barry, "that visual processes, not rational, are the primary motivators of behavior" (Williams, Part I, 1999: 20). An emotional response will cause us to care more about what we see than about what we read, whether positively or negatively.

All pictures then follow the principle: "Capture in photographs what cannot be described in words" to some extent and "Invite participation through emotional appeal."

Relationship to Audience

The camera operates differently than our eyes. As we move through space we can move our bodies to take in the entirety of a scene. Our eyes see three-dimensionality. The act of putting an image on paper reduces it to two dimensions. In studies Barry found that people often have trouble understanding a photograph, especially if they have never seen one before. "This is why two-dimensional information such as occurs in a photograph may be impossible for a person blind from birth to even imagine, and it may even be difficult for sighted people to read, because we cannot move about in it both to observe invariant shapes, textures, and patterns, and to filter out irrelevant information" (Barry, 1997: 33).

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The camera treats everything equally. For a photographer to get her point across she must weed out the irrelevant information for the viewer. In the image of rocks and water discussed in the Discovery section of this chapter this is done through selective framing and composition. By focusing the gaze on what is important the viewer can better understand the photograph. It may be easier to understand if one compares the two photographs in Figure 4.23, both of the forest.

Figure 4.23 Clarity of content is achieved through control of composition, exposure, and depth of field.

In the first photograph everything is a jumble; it all runs together. There is no separation between foreground and background. It is not clear where a tree begins or ends. We have no idea why the picture was taken or what it is trying to say. This is why we are often bored by carelessly taken vacation snapshots. The person behind the camera may have had an emotional

response to something in the scene, but they did not understand how to represent that something in two dimensions so others could experience it as they did.

The second photograph has a clear foreground, mid-ground and background, giving the image the illusion of three-dimensionality. Objects are clearly separated from each other. A sense of scale is evident through the juxtaposition of the tourist to the tree next by which she is standing. Although the viewer may not understand the exact intent of the photographer, Marty, it seems evident we are looking at a tourist hiking in and enjoying the forest.

In carefully crafting pictures through composition, depth of field, selective focus and other means, Marty is following the principle "Present the situation as I perceive it."

In the picture of rocks and water at a salt extraction site discussed earlier, we looked at the primal feelings of life, renewal, and safety that the picture stirs up within us. It is not just the picture reaching out to us. We bring our own personal experiences of water and rock and nature to our viewing of the photo. If we knew of someone who fell while walking over slippery rocks in the water and was hurt or even drowned we surely would have a different relationship to the picture. As viewers we also create meaning within the photograph. Julianne Newton believes, "The key to whether the photograph violates or sanctifies or both is in the act of beholding –in the hearts, minds, eyes of the witnesses—be they voyeurs or beholders" (Newton, 2001: 121). This is perhaps easier to see in a photograph shown in Figure 4.24 of guinea pigs being roasted on a spit in Ecuador.

Figure 4.24 Guinea pig is a popular food in Ecuador.

In the United States we think of guinea pigs as cute little pets for our children. In Ecuador it is a common item on the menu. Live guinea pigs are sold in the market to be taken home and fattened up for the slaughter much the way a farmer here would fatten up a chicken. Newton affirms, "The ambiguity of the image has been well established by audience reception studies indicating that viewers actively participate in constructing meaning from what they see" (Newton, 2001: 87). What is abhorrent to many Americans is taken as a matter of course for Ecuadorians. In our minds we can relate a guinea pig to a chicken; in our hearts we cannot.

The photographer does not have final control over how her photography will be understood or received. All participants— including but not limited to photographer, subject, and viewer-- contribute to the meaning.

Language

Marty did include text in her essay. As seen from the discussion above, observers bring their own memory, experience, values, and beliefs to the viewing of an image. Barry explains, "What we see is at least partially what we expect to see and is as much the product of inner-derived meaning as it is a reflection of what's 'out there'" (Barry, 1997: 65). Therefore, it is not

only easy but likely that viewers will sometimes tend toward misinterpretation of the

photographs they are looking at. Providing a textual context for those photographs can reduce

misunderstandings, help people see them in a new light, and make the intentions of the author

clearer. By combining text and images Marty followed the principle: Principle: "Give clear

unambiguous messages through my images" and "Do not use photographs to mislead or

misrepresent."

This does not mean that all misunderstanding will be averted. After all, according to

Barry, "images are a means of communication that runs deeper and is ultimately more powerful

than words in its ability to condition attitudes and to form thoughts" (Barry, 1997: 338).

Manipulation

There is some controversy in the academic world over the effect of the intentional use of

images to manipulate audiences. On the one side, proponents of Visual Intelligence claim that

we, as a society, are intuitively illiterate. That is, our education and business systems focus

almost exclusively on rational intelligence leaving us vulnerable to manipulation by those who

understand how to tap into our subliminal processes. On the other side, Reality Mediation and

Communication Pleasure propose viewers have choices and they can participate in the creation

of media; they are beyond manipulation. If anything, the audience manipulates the media for its

own ends. Both sides have a point.

Media Manipulation of Audience

Rick Williams explains how media have the power to manipulate. "Media messages,

produced by symbolic prose or visual craft, have the power to communicate instantaneously and

profoundly to both the conscious and the unconscious, the Rational and Intuitive Intelligences.

Thus, they leave lasting impressions that shape our lives on levels and to depths of which we are not always consciously aware" (Williams, Part I, 1999: 4). As discussed above, we respond to images emotionally before we have time to think about them. If the message is manufactured, yet presented as real and we are too naive to perceive the manipulation, then we will assimilate it and believe it. Barry explains, "Visual media, however, presents a view of reality that simply seems to be there. The world of visual media announces itself to our senses as reality, so that before we are capable of understanding that it is a manipulated and artificially constructed world, before we become experientially sophisticated enough to judge the nuances of manufactured visual "realities," we accept these self-contained visual worlds as true" (Barry, 1997: 329).

One of the ways media sets up this false reality is to juxtapose two disparate things as though they belonged together. Sontag expounds, "We make of photography a means by which, precisely, anything can be said, any purpose served. What in reality is discrete, images join. In the form of a photograph the explosion of an A-bomb can be used to advertise a safe" (Sontag, 1977: 175). As evidence of the power of media manipulation, Barry cites Hitler's WWII propaganda. "The Third Reich showed how attitudes and behavior can be controlled at every level of personal, social, and political existence through the manufacture of visual images that bypass linear logic and convince by association" (Barry, 1997: 300). Hitler put together outwardly innocuous pictures of idealistic, proud, hard working, Aryan Germans. These were images the German citizens, who had been blamed and punished for the devastation of WWI, wanted to believe. Yet behind this message was one of being stabbed in the back by the Jews and proposed justification for their slaughter.

Audience Manipulation of Media

Other scholars believe that audiences are not so gullible. Deep seated beliefs are hard to change, even with propaganda. Studies as early as the 50's by Hovland and Lazarsfeld found only limited effects of propaganda on audiences. In 1960 Schramm studied the effects of messages on children using a multi-media source – TV. He found children used TV not vice versa.

Amidst these manipulated messages are other non-manipulated ones. Viewers have a choice what to believe. Zillman asserts, "Media entertainment, because it avails itself to everyone, may be considered entertainment for the masses, but it is not mass entertainment. The media users' freedom to choose their heart's content from among the wealth of offerings ensures that democratization does not lead to massification, as some have feared… Viewers can and will follow their own needs, taste, and preferences" (Zillmann, 2000: 17).

There are also those who do not believe that we are puppets to our own emotional and visceral responses. Newton, for one, believes "As a species, we have moved beyond the dependence on initial physiological responses to stimuli, such that the powers of reason and intuition enable us to challenge things that appear to be true" (Newton, 2001: 91).

Finally, because viewers participate in the creation of meaning by bringing their own experiences and biases to bear on a medium, they participate in the message rather than being victims of it. Newton writes, "We can frame media as part of us, not things external to us that operate on us, but originating *out* of us, both in our creation of them and in our responses to them" (Newton, 2001: 115). Stephenson concurs, "In my view mass communication is better understood, instead, as being manipulated subjectively by its audiences, who thoroughly enjoy

what they are being offered for the first time in man's history. The media are not oppressing or manipulating their audiences" (Stephenson, 1988: 203).

The controversy is far from over. It is not yet clear who is right. There is probably truth in both positions. As journalists we must err on the side of caution. If we want to advocate for a moral cause, the conservation of nature, (and remember according to Teya Ryan the environment may be the one area that is so important we must offer guidance), then we too must be moral. We must use only ethical means of presenting our cause.

ADVOCACY

Persuasion

Advocacy for the environment is about persuading others to act on its behalf. Persuasion is, however, different than manipulation. Persuasion does not connect disparate things in an attempt to build a false association in the minds of viewers. Persuasion does not hide or suppress the truth when it does not agree with it.

This does not mean that persuasive environmentalists do not know how to manipulate. As Williams puts it, "It is imperative that future mass communicators learn not only how to push the buttons and make the words and images work together for the effective delivery of information. They must also understand how the construction and delivery of that information affects the reader/viewer/user" (Williams, PIII p. 26). And in that knowledge they need to show restraint and respect for the viewer.

Environmental journalists persuade through the use of authentic images, images that reflect the truth as they see it, that inform, educate, and entertain. To advocate means to offer images that represent a point of view and are presented as just that, a point of view not the absolute truth.

Education

Friedman explains one of the roles of advocacy like this, "But while any good reporter can provide the facts, it will be the environmental reporter's job to provide the context and background that readers and viewers need to understand the issues" (Friedman, 1991: 27-28). While Marty was in Ecuador she tried to capture images that would educate the public. In her essay she carefully selected images and combined them with text to deliver as complete, accurate, and applicable information as she could. She presented the issue, the problems, and offered solutions. Christopher Larsch, an environmentalist, declares, "What people need is not simply *more* information, but *usable* information that allows them to engage one another as citizens" (Ryan, 1991: 82). With her essay Marty follows yet another of her principles: "Educate."

It is not just readers who need to be educated, but the people participating in the regional projects as well. Dedication and commitment are not born overnight. Through success, guidance, and knowledge the actions of villagers become more informed and beneficial to the environment. Through essays like Marty's and other environmental education they will become more engaged and involved. In the Discovery section of this chapter there was a discussion of a guard who captured and handled an armadillo. It is important that in essays such as Marty's potentially harmful actions are not rewarded through praise or photos that highlight them positively.

Point of View

Advocacy journalism proposes that reporters "should say what they know and that their doing so will have a public benefit" (LaMay, 1991: 112). Objective truth cannot be found, but authentic reporting can. Ryan put forth, "But I wonder if it isn't time in the 1990s for a different

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kind of reporting, a different kind of presentation to the public, one that says simply: "This is what I saw as a reporter. This is who I talked to. This is my perspective, and here are my suggestions for change. If you want another point of view, find it from another broadcaster or newspaper" (Ryan, 1991: 81-2).

Within advocacy journalism documenting the situation is not enough one must also inform others of solutions. Solutions empower others to take action. Teya Ryan when referring to her program "Network Earth" for Turner Broadcasting wrote, "We let our audience know there are answers, that there are ways they can influence the destiny of life on the Earth" (Ryan, 1991: 83).

What Marty tried to do in her essay is give the facts, provide context, document solutions and do so as honestly as she could. She researched the issues, tried to grasp the complexity, and studied multiple viewpoints. The principle: "Explore depth and complexity," "Nail the facts and put them in context," and "Learn the science" are applied here.

She has used photographs to represent what she feels is an important moral issue. As Susan Sontag writes, "Photographs cannot create a moral position, but they can reinforce one—and can help build a nascent one" (Sontag, 1977: 17). Marty wants to bolster the moral issue of support for the environment through improvement of the lives of others by showing her photographs to people in the form of an essay. In doing so she feels she has followed another principle, "Use images fairly."

Entertainment

Peter Vorderer believes "the audience will accept and even seek out new forms of media use if they can receive entertainment in the process" (Vorderer, 1988: 22). In the Discovery section of this chapter we saw how Marty sought out humorous moments to photograph such as

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two pigs nose to nose. She increases the entertainment appeal of her essay through anecdotes from her experience in Ecuador.   She has tried to fulfill the principle "Make it interesting."

TRUTH

Advocacy which is dependent upon a point of view and a mission begs the question of truth. This is not an ethical discussion; that has been covered already. But I will briefly touch on five concepts of imagery and journalism as they relate to truth. They are perception, reality, representation, beauty, and subjectivity.

Truth vs. Perception

As we discussed in the picture of the two girls on the street, even though we cannot represent reality in pictures the way our physical eye sees it, it is important to strive for authenticity. Newton confirms, "I am convinced that a core of photojournalists and editors dedicated to producing the most truthful images possible—and that means the least manipulated, most accurate, fairest images they can make and publish—with awareness of their potential to mislead and misinform readers and viewers through the manipulation of those images, are the standard bearers for visual truth" (Newton, 2001: 11-12).

Reality vs. Representation

If we are not representing reality, we are presenting a semblance of truth, hopefully the most authentic one we can. It is our perception of the truth—a stripped down, context bounded truth. The picture of rocks and water discussed in the Discovery Section of this chapter shows how we select elements to present a symbolic representation of the truth that carries meaning for us. Stephenson expresses it this way, "I do not communicate truth or reality but only a

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semblance of it …reality is so complex that its symbolical representation is essential to give it meanings that ordinary people can appreciate" (Stephenson, 1988: 195).

Society has become used to these stripped down two-dimensional versions of reality. Susan Sontag believes, "Needing to have reality confirmed and experience enhanced by photographs is an aesthetic consumerism to which everyone is now addicted" (Sontag, 1977: 24). As images become ubiquitous, "reality has come to seem more and more like what we are shown by cameras … people in industrialized countries seek to have their photographs taken—feel that they are images, and are made real by photographs," (Sontag, 1977: 161) asserts the author in explanation of her statement that "The primitive notion of the efficacy of images presumes that images possess the qualities of real things, but our inclination is to attribute to real things the qualities of an image" (Sontag, 1977: 158). We have become confused. We do not know what the truth is. We cannot always distinguish what is real from its representation.

Truth vs. Beauty

In this confused state we sometimes prefer the photograph to the real object. As Marty was walking one day at dawn, she noticed one lone small naranjilla plant next to a path in the middle of an unkempt field. The light illuminated it in an interesting way. She photographed the plant in such a way as to highlight the plant and make the bleak background insignificant. (See Figure 4.25.)

Figure 4.25 Naranjilla plant.

This photo is an example of Sontag's statement, "Photography is the reality; the real object is often experienced as a letdown" (Sontag, 1977: 147). By transforming the scene into something more beautiful, the truth of the landscape is lost. Susan Sontag claims "The camera's ability to transform reality into something beautiful derives from its relative weakness as a means of conveying the truth" (Sontag, 1977: 112). At the same time, however, it is in the photographer's presentation of the plant separate from its surroundings that another stripped down truth, that of a statement about the plant itself, is shown.

Fresh Reality

The photographer attempts to arrest the viewer's eyes, to have him see an object in a new way. If one were in the field and then saw the picture of the naranjilla plant he might agree it is a fresh way of looking at the plant. "The proper moment is when one can see things (especially what everyone has already seen) in a fresh way. The quest became the photographer's trademark in the popular imagination" concludes Sontag (Sontag, 1977: 90).

There are other ways as well that a photographer can shock the senses and make an object appear fresh. An image can change the scale of an object--large items appear small; small items

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appear large-- so that we perceive it as intimate or exotic, familiar or alien. We can show the
whole by means of a part. (See Figure 4.26.)

Figure 4.26 The camera can make a tiny beetle appear large or represent an entire snake
with just the head.

Such exaggerated realism "creates a confusion about the real which is (in the long run)
analgesic morally as well as (both in the long and in the short run) sensorially stimulating.
Hence, it clears our eyes. This is the fresh vision everyone is talking about," writes Susan
Sontag (Sontag, 1977: 110).   In Figure 4.26 a tiny beetle is suddenly bigger than life, especially
if printed on a large sheet of paper. The head of a snake is all we need to imply the rest. The
head focuses our attention on the tongue that protrudes and licks the air. We wonder what the
snake sees and where it is going.

<u>Truth vs. Subjectivity</u>

Photojournalists are humans. As humans we can never attain the real truth. "A fine photojournalist plants one foot firmly within the visual pursuit of objective reality as we now know it … But a great photojournalist also plants the other foot firmly within subjective experience, with its passion, dedication, artistry, and drive to document people at their best and worst—and often with a clear point of view and at great sacrifice" (Newton, 2001: 50). We strive for truth and hope we attain authenticity.

As a photojournalist, Marty is an instrument of communication. Her legacy does not depend upon her alone. She is just one segment of the whole along with the cloud forest, the people of Ecuador, the collaborators, the developers, the printers, the readers, the viewers, and others that is required to make conservation successful.. "Insofar as photography is (or should be) about the world, the photographer counts for little, but insofar as it is the instrument of intrepid, questing subjectivity, the photographer is all" (Sontag, 1977: 122).

<u>Understanding</u>

In this section I want to take a step back and analyze the observations I made during the case study. The analysis will be within the context of the major themes of this study – truth/reality, visual communication, and advocacy. It will become the foundation for the learnings from this study and the advice to others, which will be discussed in the next chapter.

In the Discovery section of this chapter I related individual instances to my research themes. But to fully interpret the case, one must go beyond individual instances. Stake explains, "Two strategic ways that researchers reach new meanings about cases are through direct interpretation of the individual instance and through aggregation of instances until something can be said about them as a class" (Stake, 1995: 74). Patterns start to develop around types of issues

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or behaviors encountered. From these generalizations can be drawn. These generalizations are most likely not new revelations. "Seldom is an entirely new understanding reached but refinement of understanding is" (Stake, 1995: 7). They are also bounded by scale, "That is, the conclusions of ethnographic analysis are seen to be generalizable in the context of a particular theoretical debate rather than being primarily concerned to extend them to a larger collectivity" (Davies, 1999: 91). In this section then, I am looking across the case study as a whole, generalizing from groups of instances, drawing conclusions and making interpretations based upon the context of the main themes of the case study with support from the critical literature.

Individualized reality

One thing that came up repeatedly in the critical literature and the case study is that perception is one way to know the world. As we experience our lives we do not normally separate out the visual from the other senses. But when we are deprived of the visual, for example in the forest at night, or we are only able to communicate using visual cues, such as when Marty was at meetings, we start to understand how much we depend upon our visual sense for understanding. Barry believes images confirm our sense of what is real, "We must, we believe, be able to believe our eyes, for if we cannot, our very survival seems in jeopardy" (Barry, 1997: 26).

The sense of visual perception is, then, a powerful force.   We respond emotionally to what we see before we can process it rationally. And much of what we think is the rationalization of what we see. Therefore, images are more powerful than words in determining how we respond to the world around us.

It should not be surprising that reality for each person is different. Visually we do not all see the same thing even when we are in the same place. For example, each person that

accompanied Marty into the cloud forest focused on different aspects. When she was with Alex Reynolds, a graduate student studying euglossine bee pollination of orchids, he pointed out orchids, many of which she could have missed. Along the trails with birders she saw and heard birds she never could have found on her own. When she went with Ron Carroll, a professor at UGA, she became aware of successional forest and Yumbo salt extraction sites. What one guide revealed the other might not. Yet, from the individual truths of each person her own truth grew broader and more complex. Marty did what Julianne Newton believes all visual reporters should do. That is, "leading viewers to the best 'visual truth' he or she can find and convey" (Newton, 2001: 91) albeit mediated and incomplete.

<div align="center">Reality function of photography</div>

There is a common foundation to our perceptions of reality. Otherwise there would be no basis for conversation with one another. Yet, one of the patterns that emerged from the case study was the individuality of our perceptions of reality. From these two aspects of reality perception we can generalize one of the functions of photography.

As part of our own survival we are constantly observing the world around us and trying to make sense of it. When individuals were more isolated, when communication was limited, this may have been sufficient. But in our modern world of almost instant worldwide communication, our world has become too complex and encompassing to perform this task by ourselves. We turn to the eyes of photojournalists to see and record for us what we cannot record ourselves. It allows us to include in our sense of reality those things we cannot directly experience ourselves. (Newton, 2001)

Photography also enriches our sense of reality for things we have seen. "The proper moment is when one can see things (especially what everyone has already seen) in a fresh way.

The quest became the photographer's trademark in the popular imagination," asserts Susan

Sontag (Sontag, 1977: 90). By showing us things in a fresh way--either a new way to see a

familiar object or relating something new to what we already know—photography makes us stop

and think. It forces us to relate to the world in a new way. We develop a refined sense of truth.

So, perhaps photography's goal is to provide us with a new subjective sense of truth that enriches

our old sense and connects us to the world at large. Most of us do not paddle our way home

from work in a dugout canoe, but we can relate to the picture of a man in Figure 4.27 who does.

We have seen boats and houses; we go to work. It is a fresh way to look at coming home.

Figure 4.27 We develop empathy with others when we can relate to their lives.

Authenticity and reality in images

For us to believe the reality presented to us by someone else, their perception of reality, it

must ring true to us. Images cannot help us connect to the world at large if what we see does not

ring true to us. We know that absolute reality cannot be shown, that reality in images is

constructed. But, we must believe that what is reported is an accurate, honest expression of human experience.

Figure 4.28 Staged photographs often lack a full sense of authenticity.

We can be fooled. Reality can be staged, such as when the Discovery Channel film crew asked the Collibris workshop members to act as though they were coming to work. (See Figure 4.28.) This staging is not totally inauthentic, since it is something they do everyday, yet it is a little too perfect without the same spontaneity of greeting or gesture that might occur naturally. One can also lose some sense of authenticity even when photographing a real occurrence. If the subject is aware of the camera spontaneity may suffer; the subject may be self-conscious. In each case the viewer may accept the picture as real, but would probably have a stronger reaction to a truly candid authentic moment.

Holistic Expression

Visual communication is a good vehicle for talking about the environment and how humans can interact with it effectively. Ecological systems are so complex that man still

understands very little about them and how they really work. And yet we depend upon the health of the world environment for our very survival. Complex systems require complex understanding; complex understanding requires holistic not linear logical thought processes. According to Newton, "Thinking ecologically is thinking visually, a means for considering an amorphous, unmanageable entity as a complex whole" (Newton, 2001: 109). Richard Nisbett, author of *The Geography of Thought*, emphasizes the deficiency of language in dealing with holistic thought, "Analytic thought, which dissects the world into a limited number of discrete objects having particular attributes that can be categorized in clear ways, lends itself to being captured in language. Holistic thought, which responds to a much wider array of objects and their relations, and which makes fewer sharp distinctions among attributes or categories, is less well suited to linguistic representation" (Nisbett, 2003: 211).

We Westerners in particular are used to looking at objects as discrete entities devoid of context. We analyze, categorize, and compartmentalize objects so we can better understand them. Nisbett believes, "In the Western tradition, objects have essences composed of mix-and-match abstract qualities. These essences allow for confident predictions about behavior independent of context" (Nisbett, 2003: 153). Western scientific inquiry focuses on isolating a few factors by controlling external variables and proving a hypothesis within that setting. In the 50's we believed we could conquer nature through science. Due to a lack of holistic knowledge and a time lag of effects the relationship between our actions and their impact on our lives was not evident. Scientific inquiry in any given discipline was not able to predict the outcome of factors that existed in the world and interacted in a complex web that crossed multiple and various other disciplines. There has been a recent disillusionment with science and its failed promise.

Nisbett continues, "In the Eastern tradition, objects have concrete properties that interact with environmental circumstances to produce behavior" (Nisbett, 2003: 153). The Eastern tradition looks at context and contradiction. Solutions are correlative and holistic. People are more and more turning from prescriptive curative science to preventive, natural, and holistic means of solving problems in the world and their lives. "Medicine in the West retains the analytic object-oriented, and interventionist approaches that were common thousands of years ago: Find the offending part or humour and remove or alter it. Medicine in the East is far more holistic and has never until modern times been in the least inclined toward surgery or other heroic interventions. Health is the result of a balance of favorable forces in the body; illness is due to a complex interaction of forces that must be met by equally complex, usually natural, mostly herbalist remedies and preventives," writes Nisbett (Nisbett, 2003: 193). This attitude is true for many areas, including nature. Instead of pesticides and chemical fertilizers which lead to mono crops and vulnerability to disease, people are embracing organic farming and more natural mixed use areas such as those used for shade grown coffee.

The Eastern perspective closely resembles a visual perspective. Barry corroborates, "The educational system champions a linguistic intelligence that habituates us to look for and to accept a "right" answer according to linguistic or mathematical processing, to think vertically in terms of logic, and to overestimate the value of linear logical thinking. What perceptual logic reflects, however, is real-world, apparently alogical phenomena—filled with inconsistency, change and contradiction, and operating nonlinearly and holistically" (Barry, 1997: 70). According to her, a "perceptual ability to holistically organize is, in fact, critical to the simplest perceptions" (Barry, 1997: 27). She writes, "The power of the image is rarely linear and categorical, but rather derives from experiential logic, which is cultural, holistic, and associationistic" (Barry, 1997:

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139).   When we view an image we bring cultural biases and values and personal experiences and associations to our perception of the image.

Ecology is complex. The interaction between humans and environment is complex. Visual imagery can convey complexity of problem and solution more effectively than can linguistics due to its holistic contextual tendency.   Experiments have shown that when we visually perceive something, if we do not understand it or if it is visually incomplete we will fill-in the blanks. "We see in whole images only because we literally see things that are not there. … Images formed consciously and unconsciously provide the perceptual borders, and as we then automatically assume the characteristics implied within the whole image, we average out the rough edges and fill in with what isn't really there" (Barry, 1997: 26). We may fill-in the blanks from experience, expectation, and values. Sometimes we draw from cultural or universal symbols which help us relate our everyday experience to the world.

An example is the picture of rocks and water in Figure 4.29 located in an area of the forest by the river where the Incan Indians extracted salt:

Figure 4.29 Salt in the soil makes the river water appear bright orange.

Even if one does not understand about the history of the Incas and the salt extraction the picture has meaning. It only shows a small part of the scene. But from this picture we can tell there is shoreline, that the water is calm but moving, that there is vegetation nearby. We are struck by the unusual color of the soil and want to know why. Water itself is a symbol of life and renewal. Rocks symbolize permanence and solidity. They anchor the photo in the lower left hand corner, while the eye is allowed to flow upward along the angle of the rock with the water. The eye does not flow out of the picture because the debris and bubbles pull it back to shore and the safety of the rocks. The debris from plants indicates life and the passing of time, which is balanced by the sense of renewal from the water. So, the picture tells a historical and a universal story of days gone by and continuing life. We may not consciously think about these things while we look at the picture but the indications are stirred within us. Even though only a part of the scene is shown we do not perceive it as fractured. It stands on its own as a whole. We associate it with the cloud forest today, Incan history yesterday, and continuance of life. It also

has associations with personal experiences—perhaps a fall day at home, or collecting leaves as a child. The universal becomes personal and the personal becomes universal. We internalize and identify with the image in a way that would not be possible with a textual categorization of the scene.

Reality Distortion

In order to represent reality with authenticity we need to also distort it. The very act of selecting what is represented, framing the picture, i.e., placing objects within the spatial dimensions of the photograph, determining what is in focus and what is highlighted distort reality as we experience it in person. The very nature of trying to represent a 3-dimensional universe through 2-dimensional images demands distortion to be even possible.

By taking an object out of its concrete context we put focus upon it. But through perception we are able to also put it into another broader more holistic context rather than categorizing it and isolating it from all other objects. It is partly through a distortion of reality that the image can take on a higher meaning, one that might get lost in the clutter of equally weighted detail in the 3-dimensional world. In an image we can use a piece to express the universal, a part to symbolize the whole.

Figure 4.30 The universal story of aggression is shown in the particular story of ants attacking a caterpillar.

Within its natural context the image in Figure 4.30 shows ants attacking a caterpillar. But it also tells the age old story of aggression between species, of survival of the fittest, and of the struggle for life. Social processes cross boundaries of space, time, and species. We relate to them because we see ourselves in them.

Stories are nothing more than the selection and ordering of details across time. Images do it by selecting and ordering details across space and time. What they capture represents the past moment when the image was taken, yet also makes a connection to the present within which they are being viewed. We bring our own associations and experiences to the viewing of the image. These create a connection with a more distant personal past. So, the image represents layers of time.

Ethics and truth in photography

As long as people are engaged in social processes of mutual exchange and cooperation the question of ethics is usually not an issue. When there is conflict or competition, whether internal or external, needs and desires often clash; choices must be made. For example, the guard that captured the armadillo and subjected it to blinding flashes and restraint did not set out

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to harm the creature. He was most likely conflicted between desire to conserve the animals and forest, to please tourists, and possibly to increase his income through tips. Any choice he made could be interpreted as harmful depending on one's perspective. The tourists would have been disappointed if they had not been able to photograph the armadillo, the guard would have been disappointed had he not gotten tips, and the armadillo was surely disappointed he did not get away.

The hard ethics choices are not black and white. They are complex and full of gray areas. They require tradeoffs. This can be illustrated by the situation where a photographer wants to make a photograph of a stranger in public.

She must decide whether photographing the person will harm him. The presentation of the photograph may tell a truth. The omission of truth can also be harmful. One is not obligated to ask permission before photographing someone on the street. If she asks permission first it will change the nature of the photograph and the truth may slip away. What does she do? Susan Sontag describes how Walker Evans took photographs of strangers on a subway:

> There is something on people's faces when they don't know they are being observed that never appears when they do. If we did not know how Walker Evans took his subway photographs (riding the New York subways for hundreds of hours, standing, with the lens of his camera peering between two buttons of his topcoat), it would be obvious from the pictures themselves that the seated passengers, although photographed close and frontally, didn't know they were being photographed; their expressions are private ones, not those they would offer to the camera (Sontag, 1977: 37).

The pictures of the people on the subway show them as they really are without artifice at a given place and time. A posed picture represented as candid would present an affectation. Some people may be offended by the way the photographs were obtained; others might be offended if the photographs were staged, thus misrepresenting the truth.

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To take a picture of someone under any circumstances can be considered harmful. Susan Sontag believes, "To photograph people is to violate them, by seeing them as they never see themselves, by having knowledge of them they can never have, it turns people into objects that can be symbolically possessed" (Sontag, 1977: 14). Julianne Newton took a wonderful photograph of a woman without her knowledge. When Newton proudly presented the photograph to the woman, the latter was upset because it did not show her as she saw herself. Newton then agreed to take another, this time posed, photograph in the woman's home. The two photographs are different, but it is impossible to say which one is better (Newton, 2001: 126-132).

Whenever one photographs, there is a potential conflict inherent in the differences between the needs of the subject, the photographer, and the future viewer. Each act of photography is connected to each other act by this social and ethical tension. Generally it is our intuitive selves not our rational selves which must make this decision. We sense when we are stepping over the line. While in Ecuador Marty made each decision individually based upon her intuition. Most people in the cloud forest and on the coast were eager to have their picture taken. Some people outside the regions, especially indigenous people, were not. On the same day in an outdoor market, Marty paid money to take a picture of a woman and child, took a candid shot of an older woman, was refused by some and encouraged or not even acknowledged by others. The full gamut of human reactions all existed in this small village and its market. One of the photos she took that day is shown in Figure 4.31.

Figure 4.31 Candid photo of an Amerindian

Advocacy

The goal of advocacy is to inform, educate, and empower people to act on behalf of the

environment. It believes that the environment is vital to the survival of the society and the world

as a whole and people as individuals. It uses techniques of persuasion, informed information,

point of view, entertainment, and the offering of solutions to move people to action. It uses

emotional and rational response to visual processes as motivators of behavior. It is

distinguishable from manipulation in that it seeks the perspective of all sides, represents the facts

as authentically as it can, and does not hide important pertinent information that is counter to its

views. It provides guidance through a point of view without demanding prescription. It

encourages the viewer to seek other points of view. Marty has tried to follow this recipe

throughout the creation of her essay on sustainable development.

CHAPTER 5 -- LESSONS LEARNED

In this chapter I draw some conclusions about the main themes of the thesis, i.e. "Is visual communication an appropriate vehicle for advocacy?" and "Can visual communication convey the truth?" I reflect on how successful I was in managing the dual roles of researcher and object of research or photojournalist. I describe what went well in my research and what I would have done differently. Finally I try to draw on my own learning to share advice with others who may be thinking about pursuing a similar type of study.

Conclusions

Visual Communication

Visual communication is in many ways more powerful than textual communication. Not only do we develop visual skills before language skills, but even as adults we respond emotionally before we can think through what we have seen. And there is some evidence that we do not override emotional visual response with rational response but rather rationalize what we already feel based on our emotional response.

Visual communication then is multi-dimensional. We have a primal or visceral response based upon deep seated beliefs, an emotional response, and an associative response based upon prior experience. Then we layer a rational response on top of the rest.

For the same reasons that visual communication is multi-dimensional it can be mis-understood. The meaning of a photographic image is dependent upon the inputs of many players – the subject of the photograph, the photographer, the printer, the medium or context within

which the picture is seen, the juxtaposition to other pictures, and the viewer. Even if the photographer could have control over all the other factors, she does not have control over the values and experiences that an audience brings to a viewing. All the photographer can do is put out a statement as authentically as she can and try to reduce misinterpretations through selection, framing, composition, and context. She can further elucidate an image through the use of text as explanation.

Truth

Absolute truth is unattainable. It is too encompassing and complex for anyone to fully grasp. Yet we must try to get as close to the truth as we can. One way to do this is to pursue as many perspectives as possible in order to explore the depth and breadth of a topic. In this way perhaps we can achieve a balance and form our own point of view. In our presentation it is important we are fair, we do not deceive, and we are true to our own selves.

For a photographer, telling the truth is especially problematic. In capturing reality as we perceive it, we are also manipulating reality so that we can focus the audience on specific aspects of reality that embody our message. Through selection, framing, composition, selective focus, depth of field, and scale we clarify reality, but also change it. Since all photography is about these techniques, whether intended or mechanical, the change is unavoidable. In our attempt to tell the truth about a part we misrepresent the whole. We must accept this dichotomy since absolute or whole truth is unattainable.

Advocacy

Advocacy for the environment is a valid use of media. To be valid, what one presents to audiences must be represented as a personal point of view. It should be an informed point of

view, but none the less it is a point of view. This viewpoint may be no less valid than an "objective" viewpoint. Journalism is considered "objective" if all sides of a question are presented equally. Unfortunately, this can be misleading as there is not always equal support or expertise for all sides. This can leave an audience confused, not knowing what to think.

Advocacy journalism has the advantage of providing guidance. Its goal is to inform, educate, entertain, persuade, and empower others to action. Through good science it is able to inform and educate. It uses entertainment to attract and maintain interest. It persuades through argument. Ethical advocacy journalists do not manipulate. That is, they do not hide or misrepresent the facts as they see them. They do not appeal to groundless emotion through association. They empower people to action in the service of the environment though example. They provide solutions others have used so people can follow in their stead. These are the ideals of advocacy journalism. In practice we are all human and attain ideals as best we can.

Dual Role as Researcher and Photojournalist

Autoethnography is becoming more and more accepted as a rigorous form of research. According to Reed-Danahay, "For the most part, autoethnography has been assumed to be more 'authentic' than straight ethnography. The voice of the insider to be more true than that of the outsider in much current debate" (Reed-Danahay, 1997: 3-4). It is true that in many ways we understand ourselves better than we could ever understand someone else. We have access to thoughts and feelings that would never surface from an outsider. As early as 1988 R. K. Merton "argued that autobiographers who utilize theoretical concepts and analytical procedures of social research in constructing their personal history in a broader context are engaging in a form of participant observation where they have privileged access to their own experience" (Davies, 1999: 184).

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The problem most of us struggle with is how to remain objective in relation to ourselves. Although we need to be able to analyze our experiences in the light of larger sociological and cultural dimensions, perhaps objectivity is not always the answer. Davies writes, "In order to incorporate such insights into research proactively, individual ethnographers in the field and out of it must seek to develop forms of research that fully acknowledge and utilize subjective experience as an intrinsic part of research" (Davies, 199: 5). Autoethnography seems suited to this end.

I have tried to deal with the dual role of researcher and photojournalist, or object of research in several ways. I have tried to define who I am in sociological terms. I have tried to define separately my two identities. I have developed a few techniques for maintaining a level of distance and objectivity. And I have used my experiences in the field to illustrate and extrapolate on issues of larger relevance.

Goodall writes, "Reflexivity begins with asking yourself the same questions that guide your analysis and interpretation of others. … 1. *Who are you? …* 2. *Where do you come from? …* 3. *What makes you tick?* (Goodall, 2000: 141-142). In the Discovery section of this chapter I analyzed myself from this perspective. I looked at my personal attributes, biases, values, and expectations. I examined those attributes that are a product of my birth or that I could not control. I also looked at the life experiences I had that shaped me and brought me inevitably to Ecuador. I am a feminist and a career woman with a passion for photographing wild places. I believe in the coexistence of people and nature and have traveled widely in third world countries. After years of corporate desk jobs I wanted to make a difference suppportig something I cared about.

As part of finding out 'who I am' I kept a daily journal in Ecuador. I wrote in it the experiences, feeling and reflections I had while here.

Once I analyzed who I was, I needed to be able to separate Marty the researcher from Marty the photojournalist. Davies describes this process, "Thus even in situations where the identity of self and other are as fully overlapping as possible, where ethnographers as autobiographers become in Merton's phrase 'the ultimate participants in a dual participant-observer role', even here we find tensions between insider and outsider. Murphy, the ethnographer, is not fully and unproblematically the same as Murphy, the quadriplegic, and like Panourgia, he sometimes uses one role to stave off the other" (Davies, 1999: 186).

As a researcher I was already biased toward community-based conservation projects when I arrived in Ecuador. It is why I wanted to be a part of the project. But I was open-minded and wanted to see for myself if it was really working. I am very analytical. In my research of critical literature I am persistent and thorough. I am a passionate photographer. There are few other things in life I would rather be doing. In my photography I am curious, creative, and driven. I care about wild creatures, the environment, and the legacy of the earth for humans. My research self is serious. My photojournalistic self is serious also, but has a distinctively lighter side as well.

I tried to keep my alter egos from colliding by using journal entries for insight, writing about my photojournalistic self in the third person, and analyzing my actions as a photojournalist in light of the critical literature.

Merton believes we should analyze our own subjective experience "for its broader sociological significance and interpret in terms of the relationship between individual actions and beliefs and macro-level social and cultural structures and processes" (Davies, 1999: 184). I

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looked at over 20 experiences I had in Ecuador and interpreted how they illustrated or suggested larger photojournalistic issues relating to visual communication, advocacy, and truth. The themes and issues included among others:

➢ Response to visual stimuli

➢ The beauty of a scene as it relates to objectification of nature

➢ The beautification of an object in opposition to expression of truth and reality

➢ Use of composition and selection to omit parts of reality in order to revel an element of reality

➢ Emotional response and composition as it relates to symbolism and universalism

➢ The impact of photographic subjects on an image and their relationship to the camera and the photographer

➢ Candid photography as it relates to authenticity and real occurrences

➢ Staged photography as it relates to ethics and truth

➢ The use of point of view and persuasion in the service of conservation

In the end having a dual role gave me insight into myself and allowed me access to the depths of a person I would not have gotten any other way. However, it was more difficult to understand my weaknesses and personal constraints. I am not as clear about what I missed.

Learnings

In the end I will not be the judge of whether the case study described in this thesis is successful of not. The real judge is the audience. The reader and viewer of my essay will know if I effectively advocated for sustainable development in the cloud forest of Ecuador. The critical reader will judge if my research into visual communication, truth, and advocacy is convincing, whether I have anything important or interesting to say. According to Goodall,

A reader also evaluates whether the thoughts, passions, observations, and actions of the narrator in the story lead up to warranted and interesting conclusions. …In summary, character is, from the *reader's* point of view, about how similarly life-positioned, experienced, trustworthy, intellectually and emotionally evolved the persona, or narrator, is. Character is how a reader constructs the personal, moral, professional, and ethical dimensions of your narrator's active presence and actions in the world. These dimensions include your character's relationship to— and with—the reader, the credibility of the story you are telling, and your personal and professional contributions to the reader's learning (Goodall, 2000: 135).

So, the ultimate success of my endeavor is still unknown. Nonetheless, I have grown and developed professionally as a result of working on this case study.

What went well

As a photojournalist I was very lucky in many ways. I was able to photograph every day. I had open access to all the trails in the cloud forest. I could roam through the forest to my heart's content when I was not off photographing somewhere else. I had the opportunity to witness or be a part of a wide variety of activities and places. I saw multiple nature areas, which included primary forest, secondary forest, successional forest and a variety of wildlife, including a rare Cock of the Rock lek. I was exposed to history and culture. I saw an archeological dig, Yumbo trials and an ancient salt extraction site. I learned about sustainable development projects such as making furniture out of guadua and crafts from forest products. I followed all aspects of organic and shade grown coffee from seedling production to processing the harvested coffee beans. I ate from organic gardens and farms and visited three eco-lodges. I observed environmental education for both adults and children. I even was able to witness unsustainable development projects such as building an oil pipeline, making charcoal, and harvesting timber from the forest.

As a journalist I had the pleasure to work along side professional media teams—local Quito TV, National Geographic, and Discovery Channel—as each reported on environmental topics. A variety of researchers and scientists stayed at the Maquipucuna Reserve as did I. They helped me make discoveries and taught me many things. I am grateful to them for the science they taught me and the experiences they provided me.

Overall, my research was successful. I gained a great deal of insight into visual communication, how people come to embrace conservation, and the kind of ethical dilemmas one faces in the field.

What I would do differently

As I look back on my research and experience during my two month stay in Ecuador there are several things I would change if I had the opportunity and I could do it over again. I would:

- ➢ Capture more of the culture
- ➢ Capture more aspects of the cloud forest over time
- ➢ Stay longer and/or make multiple visits
- ➢ Get a broader perspective
- ➢ Take more time to learn the language
- ➢ Do all necessary translation into Spanish before arriving in Ecuador

I did not get to know the people in the local villages. In order to understand how they feel about conservation and how their lives relate to conservation projects, it is important to understand what is in their hearts and minds. I needed to know how their culture is different from mine. If family and church are most important that has different implications for their participation in conservation efforts than if health and learning or social interaction and

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entertainment are most important. I sensed that family and church were most important, but there was no way for me to confirm that conjecture. And even if I were correct, I did not understand how that shaped their attitudes or what other factors might contribute to their attitudes about conservation. I wanted to hear their opinions in their own words. Such testimony would also add validity to my photojournalistic essay.

I would like to have captured aspects of the cloud forest over a wider range of time. To represent sustainable development in the cloud forest of Ecuador, it is important to represent what is being protected, not just at one point in time, but across a range of permutations. The cloud forest is organic. Its character changes with the seasons, wet and dry. The atmosphere and light are not always the same. Different plants seed, fruit, and bloom in response to changing climate conditions. Animals follow different life cycles at different times. Being able to capture these changes would have lent my essay richer detail and greater import.

It would have been easier to learn the culture and capture a broader spectrum of the cloud forest had I been able to stay longer or make multiple trips to Ecuador. As one starts to truly settle in she starts to fall into the rhythm of the place. She moves with the flow of daily activity. When I stay in New York I feel a need to be industrious. I walk everywhere or take public transit. Convenience becomes of great importance, but, as a result, spontaneity is encouraged. In Atlanta I have to plan my outings and I drive everywhere because nothing is close together. The structure and climate of a place affects how we live.   Once we give in to the rhythm of the place we start to identify with it. As a researcher, I do not want to identify to the point that I go "native" and lose objectivity, but without some degree of identification it is difficult to truly understand the fundamental nature of a place. And it is not until one starts to identify at some

level that a deeper understanding of the issues and complexities of the place and people is experienced.

I would have benefited from a broader local perspective than I was able to obtain while I was in Ecuador. The information I was able to get was primarily from people within the Maquipucuna Foundation. I spoke several times with the founders and a few key employees who spoke English well. In talking to the rest of the employees, the language barrier made it difficult to get into detailed conversations. I did get a fresh perspective and some insight into cultural values from Pancho Molina, one of the co-owners of the Santa Lucia lodge. This alone, however, was not enough to give my understanding completeness.

There were several people I wanted to talk to or interview to achieve a balanced perspective. I wanted to talk to city officials of such villages as Marianitas and Yungilla where the community based projects were centered. I wanted to poll random inhabitants of these villagers, some who were involved in conservation efforts, some who were not. I wanted to talk to ranchers who worked lands adjacent to the reserve to understand how they felt about the forest and its conservation, if the forest had any impact on their livelihood. More specifically I wanted to talk to women in Marianitas and Yungilla who were working outside the home for the first time in their lives as a result of sustainable development efforts. I wanted to know how the work affected their roles within the family, their relationships to their husbands, their sense of self esteem, and their attitudes toward the future as well as conservation. I wanted to talk to people who had one foot in tradition and one in sustainable processes. There was a woman from Marianitas who was an eco-tourism guide at the Maquipucuna lodge. She was also part owner of a newly cleared naranjilla plot in the forest. Naranjilla often represents the first step in deforestation of an area. It does not grow well in previously cultivated land. But 4-5 years after

clearing the forest and planting naranjilla the plant becomes susceptible to disease and the plot's yield diminishes. I wanted to understand how she reconciled her dual roles as conservationist and deforester. I wondered if she even saw herself from these perspectives.

Access to these people would have been easier to obtain had I had more time to learn Spanish. I found out about the project and my ability to participate in December of 2001. I immediately signed up for a Spanish class, but practicing Spanish for five months a couple of times a week does not make one conversant. This was one of the greatest handicaps I experienced in Ecuador. I was not able to approach people on my own, travel on my own, or do interviews by myself. I was reliant on my sponsors or other interpreters to help me. They accommodated me as much as they could, but they were busy and had their own responsibilities.

In order to interview people in Ecuador I needed to get Human Subjects approval from the university. As part of that process I submitted a form for people to sign giving me their permission to interview them and use the results. By the time I got approval for my research and the form, there was no time to have the consent form translated into Spanish. I could not, with any conscience, ask a Spanish-speaking-only person to sign a form in English. I tried to get it translated while I was in Ecuador. I received the translation the day I was leaving Ecuador. Had I had the opportunity to remain in Ecuador or return for another trip, I might have been able to hire an interpreter from a local university and set up permission for interviews with selected people ahead of time. This was not possible during my initial visit as I needed to be in Ecuador and understand the issues before I could determine what personal exchange I needed.

Advice to Others

Through trial and error, as well as some planning, I have discovered many of the factors that helped the case study succeed and some of the things that would have improved it. I would

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like to share what I have learned and pass on my suggestions for success to those who might try to undertake a similar type of case study or play a role in one.

Advocacy Journalists

➢ Do research before going. Learn the science. Get as much background, scientific data, and critical data as you can before you leave. This will help you clarify your goal and what you need to accomplish. Understand the problems; look for solutions. To take action people need solutions, not just questions.

➢ Learn as much as you can about the area – people, culture, and customs. It will better prepare you for what to expect once you arrive.

➢ Be very clear on your goal(s). Know what you want to accomplish. Without that clarity it is easy to become distracted by the many interesting events, issues, and people. Such distraction can lead to a mass of miscellaneous data, without getting all the information you need to complete your mission.

➢ Learn the language. Knowing the language will enable you to converse with natives, travel independently, read materials, and understand what is said between others. You will get more information and differing perspectives than you could otherwise.

➢ Use natives to help you navigate the waters. Natives understand the customs and can steer you away from dangerous situations. They can suggest activities of interest to you or people that may be able to help you.

➢ Have an idea of who will use your end product. Understand the needs of your target audience. Look for ways to satisfy them If your target audience is scientists, make sure you include scientific details, if it is curious neophytes make sure you have a lot of interesting and general tidbits.

- Be observant; capture the common, the universal, and the unusual. Variety flushes out a story and keeps people's interest. The common connects them with something familiar. The unusual teaches them something they did not know. The universal connects the image or story to something higher.

- Learn from others – locals, researchers, sponsors, challengers. You cannot know everything. Take advantage of the knowledge and wisdom of others.

- Be open to all perspectives. Do not get locked into one way of looking at issues. It is easy to identify with those that have sponsored you or that you are working with every day. To understand the complexity of issues you must understand as many perspectives as possible. Only after you have explored multiple sides should you develop a point of view. Your point-of-view will then seem more authentic and convincing.

- Spend as much time as you can. It takes time to build relationships and to get people to trust you enough to open up their lives and thoughts to you. Whenever possible, get to know subjects before asking pointed questions or taking photos.

Photographers

- Follow advocacy journalist guidelines. You are a visual journalist.

- Photograph everything. Explore everywhere. Expect the unexpected. Capture the moment. Look for the humorous as well as the grave. The broader your coverage the more you will have to choose from when you get back. You cannot anticipate everything you need to shoot. Sometimes you end up building a story around a picture, not the other way around.

- ➤ Look for images that do not fit the model or preconceptions with which you came. Make a list of the must-have photos before you arrive, but do not focus too narrowly on them. Look for events or objects that go contrary to what you expect or understand. Photograph them. Your understanding may evolve over time and you will be happy to have the shots. In any case you need to deal with the exceptions not ignore them.

- ➤ Do not become distracted by words, sounds, tastes, and smells. The final product must stand on its own visually. Use light, context, scale, and perspective to intuit the senses and verbiage that are missing.

- ➤ Capture the newness, the difference from your own experience. What is wondrous for you will be wondrous for others as well. Capture it before it becomes familiar and ordinary. Capture it again and again once it is familiar until it feels intimate. Viewers will feel the intimacy and connect with it.

- ➤ Photograph the same scene/object in varying weather conditions, at multiple times of day, from different angles, including more or less with each exposure. You may not know whether it is best to show a butterfly atop a flower on a bright, sunny day surrounded by a meadow or in a gloomy dark forest highlighted by a shaft of light until you start to put together the final work. If you vary your photos, you will end up with what you need.

- ➤ Look for stories that unveil over time. They make great visual and verbal anecdotes, add depth to your work, and increase your understanding. Photos taken over time will set your work apart from the photographer who comes, stays a day or an hour or two, and leaves.

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➢ Keep it simple. Complicated photos are confusing, and thus can be misleading. The message is not clear and straightforward. Less is more. An effective photo focuses on what is most important and removes extraneous detail.

➢ Translate model releases before leaving. Be sure to get them signed during or directly after a photographic session. As time passes excitement and camaraderie tend to fade and fear and greed settle in. In the excitement of the moment people are often willing to sign a release, but may become apprehensive about the unknown later on.

➢ Be true to yourself. Photograph what moves you. Do not try to force a photo into a preconceived notion of what you would like it to become. Be open to what it is and find a way to relate to it. Express that relation.

Scientists and Researchers

➢ Share your knowledge and passion with everyone. Explain and demonstrate what you are doing. Through familiarity comes greater understanding. Through understanding comes greater empathy and possibly commitment. With commitment comes support – support for more research and support for conservation. Become a part of the solution. Do research that can solve real conservation problems, that can be applied. The world often needs the benefit of scientific research before scientists have all the answers and feel comfortable giving definitive answers. Try to find a way to apply your research while you are still working. Involve local people and set up experiments.

➢ Be able to explain what you are doing and its importance in layman's terms. Share with journalists. They can generally reach more people than scientists. And they know how to present the details so the public can understand them.

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➢ Help others experience your world. Take other scientists, educators, media people into your world. Walk through the cloud forest at night and let them feel the blackness, hear the frogs, and see the creatures of the night. Spend time teaching children. They are the future guardians of nature and the next scientists.   Direct contact with scientists, especially in the field, can have a greater impact than hours of classroom time.

Autoethnographers

➢ Try to look at yourself objectively. Analyze your postitionings, what you bring with you from your biological, cultural, and environmental background. Understand how these predisposition or bias you.

➢ Try to look at yourself objectively. Question and analyze the motives of your actions.

➢ Keep detailed notes about experiences. Physically separate research notes written from your perspective as researcher from experiential notes written by you as object of your research.

➢ Get to know the culture and what drives it. Do research before leaving. Talk to people inside and outside the circle connected to the project. Get an outsiders view.

➢ Make sure you have enough time. It takes time to build relationships and to get people to trust you enough to open up their lives and thoughts to you.

➢ Compare your perspective to that of others, especially natives. Where there are differences try to understand the underlying source of them.

➢ Maintain a level of independence as a researcher. Try not to identify too heavily with any one group or person. Keep an open mind. Document observations so you can go

back later and see if your conclusion still ring true when you have more distance in time and place.

Conservation sponsors

➢ Expose researchers and journalists to as much as possible, good and bad, expedient and inexpedient. The more they experience the more they will understand and can put it all in perspective. Also, the more they see the more they will be convinced (or not) of your cause.

➢ Help journalists get access to people; it is in both intimate and broad contact that the real story is revealed. Personal testimony, verbal or visual, is often the most compelling for audiences. Multiple perspectives more effectively build to a convincing story.

➢ Make sure there is enough time in the schedule for photographs. People often see photographs as a nice to have, but a visual message can be a powerful sales vehicle. It takes time and access to get images that are capable of touching others.

➢ Try to schedule sessions where there is a photographer when there is good light, usually early morning or late afternoon. Although this is not always possible, sometimes it is. Good light can make the difference between a passable photo and a persuasive or poignant photo.

➢ Take photographers with you everywhere. The best pictures are often the unexpected ones. Photographers need broad access to be in the right place to take advantage of unexpected moments.

➢ Negotiate upfront with the photographer for use of photos. Clear written understanding of the obligations of photographer and sponsor are helpful to avoid

misunderstandings later. Never ask for the copyright. It is the incentive for the photographer to work with you and to be generous with gifts of images.

Viewers

➢ Be an informed viewer. Understand how visual manipulation works. Know what your personal emotional triggers are. Pay attention to them. Learn the facts behind the issues or causes depicted.

➢ Find out as much as possible about an image to which you react strongly. Try to learn the source of the image, something about the background of the photographer, whether there are hidden agendas or facts not illustrated. Look to see if the publisher or gallery is reputable. This can help you determine if the image is genuinely depicted.

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APPENDIX: SURVIVING WHOLE – MAN AND NATURE IN ECUADOR'S

CLOUDFOREST

Surviving Whole

Man and Nature in Ecuador's Cloudforest

by Marty Maxwell

Cover photo: The church at Marianitas lies
at the edge of town and the cloudforest.

Surviving Whole

Man and Nature in Ecuador's Cloudforest

Nature is where humans belong, because it is the only place where humanness can survive whole and remain un-tainted and undiluted.
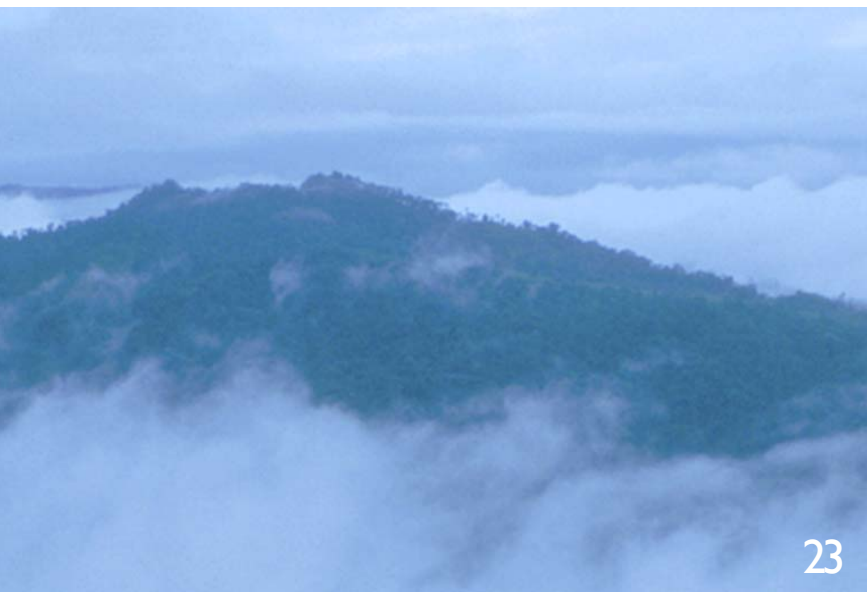
Roy F. Fox, *Images in Language, Media, and Mind*, 1994

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Introduction

We do not know how many species live in this world. Scientists have only named about 1.5 million of the 3.6 to 100 million that are out there waiting to be discovered. 20% of all species are believed to live in a few "hotspots" that cover only 1.4% of the Earth's surface. Ecuador is one of those hotspots.

Every year 36,500 species disappear. We are losing species at a rate of somewhere between one thousand and ten thousand times that of ancient extinctions, due to loss of habitat, pollution, invasive species, hunting, and global warming. Ecuador's rate of deforestation alone is about 2% per year, the highest percent in the tropics.

Everything is connected. When one species in the food chain dies it has a ripple effect throughout the entire food chain. Overfishing in the Pacific Northwest caused Orca whales to switch from fish to sea otters. Sea otters had kept the population of sea urchins under control. With fewer sea otters, sea urchins ate more kelp forest, the prime habitat of the fish. Under heavy fishing pressure and dwindling kelp forests, fish populations plummeted.

Wherever man has settled, species have soon started to die out. Extinct species are lost forever. Species extermination usually starts with the large, slow, and easily captured animals. As they become scarce humans move on to smaller, harder to catch animals and finally to the elusive, nocturnal ones. We are now seeing extinctions of fish, amphibians, and insects.

As natural services, such as water filtration, air purification, climate regulation, and pest control, disappear with the loss of habitats and animals we must replace them with other means. Economists and scientists have estimated the value of ecosystem services at $33 trillion dollars per year. In the late 1990's New

York City, faced with failing clean water supplies, had to choose between spending $1 billion to clean up the Catskill watershed or $6-8 billion in capital alone to build a water filtration plant. The watershed had been the source of New York's water for years, but it was no longer viable due to habitat conversion and increased pollution discharge. They chose to clean up the watershed - an economic success for environment and a win-win for everyone. Because natural resource services are viewed as "free" we do not realize their true cost until they are lost and we have to replace them.

Already today man uses 40% of all plant matter on earth. About 40% of all medicines prescribed in the U.S. use substances extracted from plants, animals, or microorganisms. We depend on the Earth's finite supplies of water, land, oil, and iron for our shelter, transportation, and comfort. It is estimated that we surpassed the planet's ability to sustain itself in 1978. The population continues to grow and developing countries are in a race to catch up to the per capita consumption of the United States, the highest in the world. Where will we be if all our wildlife and wildlands disappear because our consumption continues to outpace our production? How far do we have to go before the trend is irreversible?

In the cloudforests of Ecuador the Maquipucuna Foundation is working with a group of villages – Marianitas, Yungilla, and Nanegal – to find non-agricultural and sustainable agricultural alternatives to deforestation of a cloud forest 1.5 hours north of the capital, Quito. These initiatives provide employment and extra income for the inhabitants of the villages and protect natural resources at the same time. I went there in the summer of 2002 to learn for myself how man and nature could coexist, to understand the meaning of surviving whole. For surviving whole means to participate in the biological and social fullness of life. To participate as fully as possible in the interconnectedness of nature, of which we are a part, without giving up the inventions that set us apart as a species. This book is about the process of surviving whole.
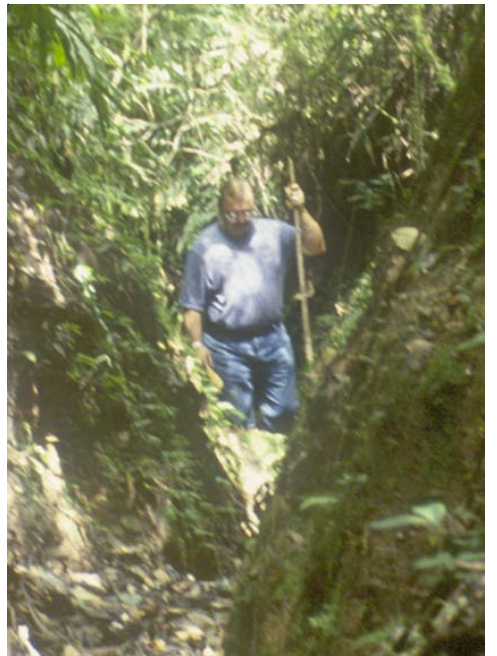
The Challenge

The principal defect of the industrial way of life with its
ethos of expansion is that it is not sustainable.
Edward Goslsmith, et. al., "A Blueprint for Survival,"
The Ecologist, January 1972

Biodiversity

Biodiversity is the tool with which you play the game of promoting global stability. But it also consists of the organisms that give wonder and beauty and joy to the world, and that provide the context in which we evolved.

Peter H. Raven, quoted in New York Times, 18 December 1990

I was walking along a cloudforest trail just a few days after my arrival at the Maquipucuna Reserve in Ecuador. As I looked down I saw a drama unfolding. Ants had attacked a caterpillar. The segmented creature was trying its best to escape, but it gradually tired, worn down by the painful and persistent biting attacks by the ants. In a few minutes it was over.

Such tragedies repeat themselves daily in the cloudforest. For every failure there is a success; for every loss a gain. Everything is connected and dependent upon everything else.

We like to think of the cloudforest as something "out there." But the cloudforest air is connected to the air we breathe. The water in the Andean streams eventually flows into the oceans that surround our land. The chemicals in the land make it into the food that is produced, exported around the world, and ends up in our stomachs.

If we deplete nature, we deplete ourselves. The more biodiversity in an ecosystem, the more productive and stable it is, the more biodiversity that results. The healthier our ecosystems are, the healthier we are.

Left: Many of Ecuador's watersheds have their headwaters in the Andes.

Above: Ants prey on other insects and small animals.

Top: Spiders eat a lot of pest insects.

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Previous pages: Nearby villages and Maquipucuna reserve seen from Santa Lucia lodge.

Above: Cloudforests aboundin insects. Over a million species of insects can be found in Ecuador..

Right: Many plants in the cloudforest are specialized to their habitat and found nowhere else in theworld. This makes them more vulnerable to extinction.

Below: Butterflies are a common sight in the cloudforest.

Bottom: Cat-eyed snake.

Above: A female Euphoria peeks out from behind plantains. Among tropical birds usually only the male is colorful. The female's drab coloration serves to hide nest location from predators.

People

Man's unique reward, however, is that while animals survive by adjusting themselves to their background, man survives by adjusting his background to himself.
Ayn Rand, *For the New Intellectual*, 1961

The people living in the cloud forests of Ecuador have had a close relationship with the land. Their use of the land for forestry and agriculture has evolved over centuries. They learned how to use the many plants and animals of the forest to meet their many sustenance, medicinal, and practical needs. True, they did not always conserve that which seemed plentiful. The sound of the once numerous monkeys and parrots is

Right: Yumbo indians developed trails through the cloudforests that allowed them to transport goods and information between Quito and the coast via a series of messengers. These trails can still be found in the cloudforest. Centuries of use have worn down the earth and raised up the sides of the trails. They are 10 feet or more deep in some places.

Above: Nangelito, Ecuador

no longer heard in the Maquipucuna reserve. But they do have an identification with the cloudforest and a feeling of belonging to it.

The small farmers of modern day Andean Ecuador, are increasingly dependent on national and international economic and political forces. Ecuador is a poor country with heavy foreign debt. Over 70% of the people live below the poverty line. Displaced farmers migrate to the highlands and deforest land to start a farm and make a living. Struggling farmers give up ownership of their failing farms to work for large commercial concerns with less than desirable impact on the surrounding environment. Local subsistence is important. The health of the world's ecosystem is dependent upon the combined health of all the local ecosystems that make it up. Until people can provide the basics for their families they cannot begin to think about biodiversity conservation.

Right: It is believed the Andean cloud forests northwest of Quito were the last area in Ecuador to be conquered by the Incans prior to the Spanish invasion. An Incan fortress, or pucara, has been excavated at the top of a hill in Palmitopamba, a village not far from the Maquipucuna reserve. At this site Yumbo pottery as well as Spanish influenced Incan wares has been found.

History

The first people to settle Ecuador probably came from Asia or Polynesia around 10,000 B.C. At some later point, perhaps around 1,500 B.C., the Yumbo tribe settled in the forests surrounding the current Maquipucuna reserve. The Yumbos flourished here until the 15th century when the Incans invaded. The Yumbos resisted fiercely but were eventually overcome.

The Spanish arrived in 1534 and took over the city of Quito. They spread quickly throughout Ecuador. It is believed that the cloudforests were intact when the Spanish arrived here.

The Yumbos as a separate tribe are gone. They were killed, succumbed to European diseases, or were assimilated into the general mestizo population.

Ecuador won independence from Spain in 1822. Thereafter there was a century-long period of political and economic instability.

Opposite Bottom Left: Archeology graduate students excavate artifacts from the pucara in Palmitopamba.

Opposite Bottom Right: Stones from the ruins of the pucara's walls.

Opposite Left: Stones excavated form the pucara were probably used as slingshots to defend the site.

Left and Below: The Incans may have found an important source of salt in the earth in the middle of what is today the Maquipucuna cloudforest reserve. It is believed they excavated the salt and transported it to settlements via the Yumbo trails. The salt deposits can still be recognized today by the yellow color stained in the soil.

Right: A man and his son relax outside a store in Yungilla.

Below: A residence in Marianitas

Below: Marianitas is located about 2/3 of a mile from the Maquipucuna reserve lodge. Most of the residents are farmers. Several work as eco-guides at the lodge. Still others make sustainable products for resale from forest products. Many villages, like this one, have a soccer field or town square that promotes social interaction in its center.

Above: The town of Palmitopamba lies where there was once only cloudforest.

Culture

Today Ecuador is a Spanish-speaking democratic republic. It is highly de pendent on oil, which accounts for over 40% of its exports. Much of the rest of the economy is agrarian. Other major exports are bananas, cocoa, and coffee. It has struggled with high inflation, sometimes exceeding 60%. In an effort to curb inflation it adopted the U.S. dollar as its currency in 2001. In 2002 the inflation rate was down to 12.5%.

Although Ecuador is about the size of the state of Colorado, it has over 3 times the population. 70% of the population is below the poverty line, although over 92% of people over the age of 15 are literate. About 55% are mestizo, 25% indigenous, and only 10% Spanish or other Caucasian. The country is overwhelmingly Roman Catholic.

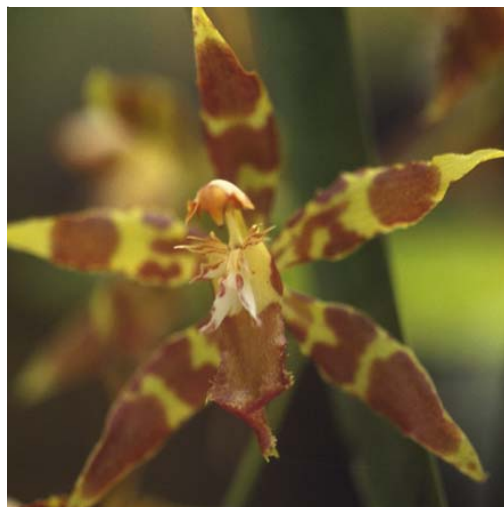Right: Ecuadorians love to eat sugarcane off the stalk.

The Forest

What scientists know about tropical rainforests serves
above all to convince them that they are deeply ignorant
about them.

Catherine Caulfield, *In the Rainforest, 1984*

Trees and Plants

Of all man's works of art, a cathedral is greatest. A vast
and majestic tree is greater than that.
Henry Ward Beecher, *Proverbs from Plymouth Pulpit, 1870*

Cloudforests get their name because they are consistently shrouded in mist or clouds. Warm, moisture laden air from lowland rainforests rises and condenses as it hits the cooler air of the cloudforest highlands forming clouds. The mist provides life-giving moisture to the cloudforest plants. In Ecuador there is a gradual transition from lowland forest to cloudforest starting around 3700 feet with cloudforests ending by 11,000 feet on the eastern slopes of the Andes. Only about 3% of the world's tropical forests are cloudforest.

Although it rains frequently, much of the moisture comes from mist. Cloudforests generally have greater humidity than lowland forests, but tree growth is not as rapid due to cooler temperatures. Unlike temperate forests, cloudforests have a great variety of plants. This variety along with the high moisture ensures the forest stays green all year round even through the dry season. One of the striking visual characteristics of a cloud forest is the preponderance of orchids, bromeliads, ferns and mosses covering or hanging from trees.

Unlike in temperate forests where most of the nutrients are found in the soil, the nutrients of the tropical forests are primarily stored in trees and other plants. At lower elevations, the cloudforest floor is covered by a thin layer of nutrient-poor soil. Tree roots are wide and shallow. As leaves, flowers, and fruits fall and organisms die they rapidly decompose in the warm, dark, moist climate. At the higher elevations the cloudforest is cooler and the soil more moisture laden. The soil is primarily volcanic in origin and richer in minerals. Decomposition rates slow, the soil becomes waterlogged and more acidic, often forming peat.

Right: Cloud forest in Andean Ecudaor.

Above: Oncidium serratum orchid

Most mornings when I awoke in the cloudforest, mist lay all around me. Often times as the sun rose the mist burned off and the sun shone until mid- or late-afternoon when the mist gradually took over again. The mist almost seems alive. It lifts and swirls, dissolves and materializes, beckons and engulfs. It reveals and then conceals, constantly moving, changing form. The mist seems to move in layers. The first layer is mostly clear and contains bright colors—the green of grass and leaves, the pink of a flower. The second layer is grey, but objects are distinct and exhibit detail. Only shapes, dark and less dark are visible in the third layer. The last layer is all misty grey almost white as though nothing could possibly exist beyond—that is, until the clouds shift again and reveal the objects within.

Ecuador is touted as the rose growing capital of the world. The delicate rose petals and sturdy stems flourish under a full sun placed

Trees

directly overhead due to Ecuador's position straddling the equator. The same sun when placed directly over a dense cloudforest has a very different effect. In what is normally beautiful early morning or late afternoon light, little sun reaches the forest floor and it appears flat and dark. But the otherwise harsh midday sun is, in the forest, softened as it cascades down and bounces off layers upon layers of vegetation diffusing into a pleasant luminescence.

Above: In young plants unpalatable tannins turn leaf undersides red to protect them from being eaten. Sometimes the red is used for protection from UV rays.

Opposite top: Looking down on the cloud forest of the Llyabamba area from Santa Lucia, Ecuador

Left: Afternoon fog

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Epiphytes

On the ground under the dense canopy of the cloudforest there is little light. Epiphytes have developed a survival strategy that allows them to live up in the branches and on the trunks of trees where they are closer to the sunlight. Unlike parasites which live off the nutrients and/or tissue of the tree, epiphytes merely sit on their hosts. Here they live off of dust, debris, and rainwater. There is a great variety in the size and appearance of epiphytes. Included among them are orchids and bromeliads. It is the abundance and lushness of epiphytes and vines that primarily give the cloudforest its feeling of luxuriance. A tree can bear so many epiphytes that they weigh more than the tree's own foliage. This forces the tree to invest more energy into structural support and less into its own nourishment and reproduction than it might otherwise do.

Top: Some epiphytes are very large, almost hiding the host tree from view.

Bottom and Below: Most orchids in cloudforests are epiphytes.

Orchids

In the Ecuadorian cloudforest orchids are primarily epiphytic. They offer no nectar, yet male iridescent green bees (*Euglossinae*) pollinate them. They are attracted by the orchid's scent. During the visit the males collect pollen from the flowers and store them in special pouches on their hind legs. They hope in turn to attract reproductive females with the fragrance they carry.

Opposite and above: Orchids are very versiatile and come in many different shapes and sizes. They have developed innovations for surviving in their environement. The flowers on the orchid above grow out of the base of the leaf, not the stem.

Below right: This euglossine bee is being released back near its capture site after study by a researcher.

Left: Researcher examining an epiphytic orchid in a cloud forest.

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Other Plants

Above: Bromeliads like other epiphytes live on trees. They generally have long, sharp, pointed leaves. Flowers grow on a strong central stalk. The flowers and leaves of many bromeliads, like this ginger plant, are cupped and grow in a spiral or overlapping pattern. This allows the leaves to trap water and debris, which nourish the plant. For at least part of their lives, other animals, such as frogs, mosquitoes, snails, and salamanders, often make their homes in bromeliads.

Above: Although many cloudforest plants are small some, like this Elephan Ear (Xanthasoma) plant, resemble the larger plants of the lowland forest.

Right: Cloud forest plants often have large unlobed leaves that come to a point at the end. These tips are often called drip tips, because they provide a path for rainwater to runoff. If the water remained on the leaves moss and lichen could grow and the plant's ability to photosynthesize could be compromised.

Opposite bottom: Heliconia are common flowering bromeliadsin tropical forests. They are often seen in damaged or recovering areas, called successional forest. The bracts around Heliconia flowers are usually bright red, orange, or yellow and attract birds which pollinate the plants. The leaves are large paddle-shaped and elongated.

Above: Columnea plant is used to soothe female aches.

Traditionally, many plants in the cloudforest have been used for medicinal, food, or decorative purposes. The sap of the Dragon's Blood (*Croton lecleri*) tree provides a protective coating that is used to treat cuts, stomachaches, headaches, and tooth- aches. The red-tipped columnea plant is used to ease menstrual cramps. The red seeds of the achiote plant are used to decoratively paint the skin and dye paper, butter, and cheese. It is also used in cooking as an additive to rice, chocolate, and sauces. It has a weak perfumed odor and an earthy flavor. The fruit is covered with short stiff hairs and turns a bright red when the seeds are ripe.

Plant Use

Above Left: Achiote dye is prepared by stirring the seeds with a little water. It can be painted on with a small brush or reed.

Below: Fruit of the achiote plant.

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he cloudforest floor is covered with fungi (Lycoperdaceae) that clean up the dead and dying. Fungi are not plants and ingest food much the way animals do. They do not photosynthesize. They contain hairlike filaments that invade dead plant matter. They decompose the organic matter of plants and present nitrogen and phosphorus to living plants that can take them up as nutrients. In turn the fungi receive vitamins, simple proteins and sugars which allow them to grow. Fungi also help support the ecology of the forest as food for a variety of animals such as snails, slugs, and insects. Some fungi, called *Mycorrhiza*, attach to living tree roots and epiphytes in a mutualistic arrangement. In addition to providing nutrition for the tree, they also help prevent disease and parasites from getting to the tree.

Fungi

The portion of a fungus that we see is really the fruiting body of the fungus. There is a wide variety of shapes, sizes and colors of fruits. Their primary purpose is to enable reproduction through the release of spores into the air and soil.


Above: Brackett fungi (Ganoderma) grow directly out of dead fallen wood as a series of semi-circular overlapping rings. Their texture is hard or leathery, which gives them resilience and durability. They store their spores in gill-like structures on their underside.

Left: Puffballs hold their spores in a thin ball-shaped membrane. Normally the spores are released after the spores mature and the ball collapses. However, a slight pressure on the ball will also cause them to emit a puff of spores that resembles smoke in appearance. Once released the spores are dispersed with the wind.
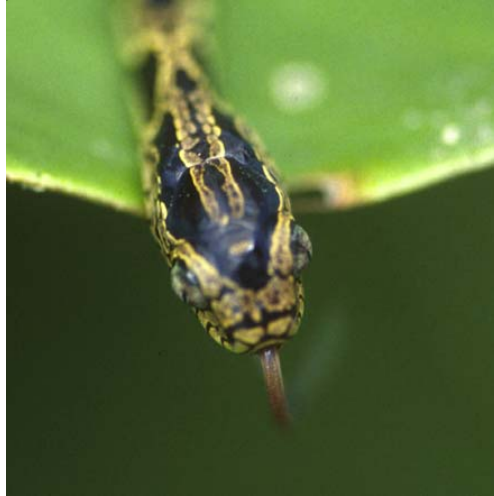
Wildlife

What is man without beasts? If all the beasts were gone,
men would die from great loneliness of spirit, for whatever
happens to the beasts also happens to man.
All things are connected. Whatever befalls the earth
befalls the sons of the earth.
Chief Seattle, letter to U.S. President Franklin Pierce, 1855.

I was talking with Pancho around the fire at Santa Lucia one night. He described cloudforest life to me in days gone by. People from nearby Nanegal would go out hunting in the forest and bring back 100 parrots and some monkeys each week. Many other birds were targets as well. Spectacled bear were shot because they invaded cornfields. Today there are no monkeys and no parrots. Until recently there were no spectacled bears.

The Maquipucuna Foundation is working with the government, the villages, and other agencies to try to reintroduce or entice missing species into the area. They have brought in one male spectacled bear and are trying to get a female. They are also looking at the possibilities of getting some monkeys. It is much harder to rebuild an ecosystem than to maintain an existing one. But any progress is an improvement.

Ecuador is known for its great diversity of species. There are 45 species of mammals and 330 species of birds in the Maquipucuna reserve. Hummingbirds, frogs, butterflies and other insects are plentiful and presented here. Many others could be as well.

Top: Cat-eyed snake.
Left: The larva of the cicada spends years underground sucking juices from plant roots. When the larva emerges, it sheds its skin, and in about an hour metamorphoses into an adult.

This happens at night because there are fewer predators. During and right after molting the cicada is vulnerable. It takes some time for the skin of the cicada to harden and its wings to dry enough to fly.

Below: There are so many ants in the world, that if they were all put on one side of a balance scale across from all the mammals in the world, the ants would tip the scale. One of the most conspicuous of the ant species is the leaf cutter ant (*Atta*). They can be seen in a long line carrying small circular bits of leaves they have cut out. Each ant can carry up to 50 times its weight. The ants do not eat the leaf fragments, but rather use them to cultivate underground fungal gardens. It is the fungus they eat. The ants are abundant in tropical forests because they are not restricted to one plant species like many insects, but rather can use a large variety of plants for their fungal gardens. Leaf cutter ant nests are large. They can be up to 8 feet deep and 4,500 square feet and house millions of ants.

Above: Insects, especially caterpillars and leaf cutter ants feed on the leaves of the forest. Their legacy is easy to spot in the holes and ragged edges of leaves. Sometimes a leaf is so decimated all that is left is a delicate lacework of veins.

Opposite Top: Camouflage is a common tactic used by insects in the cloudforest to prevent detection by predators. In the forest this katydid (*Tettigonioidea*) is virtually invisible, easily mistaken for a leaf. It even displays the small white spots and deformities commonly found on a leaf in the forest.

Below: In a cloudforest the bulk of the organic matter which provides food for beetles (*Coleoptera*) and other insects is in the canopy. So, it is not surprising that most beetles live in the canopy and are rarely seen on the forest floor. However, they may be found along with fungi around fallen decomposing trees.

Above: One typical defense insects have against predators is to show off bold or contrasting colors. This sends the message, "Don't mess with me." Such insects usually taste bad or carry venom as does this caterpillar. The long hairs make you want to stroke it, but beware. The hairs will pierce the skin when touched and insert the venom.

Insects

Only 1.4 million species of animals, plants, and microbes, over half of which are insects, have been catalogued. And yet it is estimated that Ecuador alone has over a million insect species. Most of these species are little known and much in need of research.

Below: These tiny stingless bees (*Meliponinae*) are ferocious defenders of their homes. A tube-like entrance is all that can be seen of the large hidden ant nest. A stingless bee nest can contain up to 80,000 workers and bees. Workers guard the entrance and can even fend off army ants with a caustic gummy secretion from their mandibles. Such nests can be maintained for years.

Left: A butterfly emerges from its chrysalis. A butterfly starts as an egg and hatches into a caterpiller. The caterpillar wraps silklike threads from its salivary glands around itself to form a chrysalis within which it metamorphizes into an adult butterfly.

Above: Two butterflies mate to produce the next generation.

Butterflies

While butterflies (*Lepidoptera*) are really insects, they are so abundant in the tropics and so beautiful that they warrant their own mention. Ecuador has over 4,500 species of butterflies. Most only live 3-4 weeks. Insects, reptiles, birds and monkeys feed on butterflies.

Above and : Many blossoms are bright red or orange to entice butterflies to pollinate them.

Opposite Bottom Right and Left: Swallowtail butterflies looking for food.

Below: Moths, unlike butterflies, tend to rest with their wings open, have feathery antennae and bodies, and more muted coloring. Moths are usually nocturnal while butterflies are active during the day.

Above: Glass wing (**Nymphalidae** *Ithomiid*) butterflies have beautiful translucent wings. The wings act as camouflage for the butterflies. Predators look through the wings and see only the surroundings.

Left: Each hummingbird species has a beak that fits the form of only a few specific flower species. Bright red or orange nectar flowers are tubular in shape and hang out from branches so hummingbirds can feed while hovering in the air. They sip on the nectar with their long tongues. They sometimes supplement their diet with tiny bugs.

Hummingbirds

Over 1,300 species of birds, almost 18% of the world's total are represented in Ecuador. In the Maquipucuna reserve alone there are over 330 species of birds, many of them hummingbirds.

When one walks in the cloudforest one hears birds everywhere. They are harder to see as they spend most of their time up in the canopy. Finding a nest is rare, because the birds conceal them from predators in tree cavities or other hidden places.

Above: Hummingbirds need a high energy diet. They consume up to one-and-one-half times their body weight in nectar each day.

Left: Hummingbirds are usually seen flying or perching. That is because they are almost helpless on the ground. Their feet are too small to use for walking.

Above: Hummingbirds are very active: their wings beat an incredible 55 to 75 times per second and their heart beats 1,260 times per minute while flying. They live about 3 years.

Opposite Top: Hummingbirds are territorial and will chase other hummingbirds off nectar feeders when they can.

Opposite Bottom: Hummingbirds are small, ranging from the size of a bee to about three-quarters of an ounce.

Left: Frogs will eat almost anything, including insects, centipedes, and other frogs. Their long sticky tongue is attached to the back of the mouth and shoots out to attack prey. They have no teeth, so when they swallow their eyes sink into their sockets to help push the prey down their throat. This gives the illusion of blinking.

Below: Many frogs have dull brown or green colors that help them avoid predators by blending in with their surroundings.

Below: Frogs are well adapted to the cloudforest because they love warm, wet nights. They have lots of temporary pools within which they can lay their eggs. Tadpoles, which hatch from the eggs, require water until they have legs and their lungs develop. Then their gills disappear and they digest their tails.

Frogs

Frogs are versatile and can be found worldwide except in Antarctica, Greenland, and the ocean. Yet they are one of the first species to show the signs of a stressed environment. Because they absorb oxygen and water through their porous skin, they are susceptible to pollution, acid rain, and ultraviolet rays from the sun. Frog populations worldwide are declining. In addition to the above problems they are subject to declining habitats, global warming, and the introduction of fish predators

Above: A student from Quito proudly displays a large toad he found in the Umachaca River. Toads, like frogs, are amphibians. But toads have dry, bumpy instead of moist, smooth skin. Toads walk whereas frogs can leap, some up to 20 times their body length.

Below: Tree frogs have small sticky round pads at the end of their toes. These allow them to climb trees and leaves.

Above: Frogs vary greatly in size from 3/8 of an inch to over 2 feet with legs extended. Many of the frogs in the Maquipucuna cloudforest are small. This frog can comfortably sit on the top of a finger. The bright color is probably a warning to predators that the frog is poisonous, although some non-poisonous frogs mimic poisonous ones in an attempt to fool would-be predators.

The Problems

We haven't too much time left to ensure that the
government of the earth, by the earth, for the earth,
shall not perish from the people.
C. P. Snow and Philip Snow, *Reader's Digest*, March 1992

Deforestation

Thank God, they cannot cut down the clouds!
Henry David Thoreau (1817-1862)

One of the biggest threats to the cloud forest is deforestation. Ecuador was ranked fifth among all tropical countries in total forest area lost from 1980 to 1985 by World Resources Institute, Hartshorn (1992). Although Ecuador is only about 3% the size of Brazil, deforestation in Ecuador is greater in actual acres. At a deforestation rate of 2.3% per year Ecuador is losing its total forest 5.75 times faster than Brazil.

Cloud forest trees are lost for many of the same reasons that lowland trees are, including more land for a growing human population, commercial logging, agriculture, and pasture. With 70% of its population below the poverty line, Ecuador is a poor country. This creates social and economic pressures to use the forest to meet short-term economic or market needs. Property rights in Ecuador are weak and rarely enforced. Once a road is cut into the forest it is easier for others to gain access to the forest. Natural areas become vulnerable to squatters who clear land in order to lay claim to it. The door is opened to poachers and harvesters of timber and non-timber products.

Loss of lowland forest also negatively affects the viability of the cloud forest. Cloudforest mist is a result of warm moisture laden air from lowland rainforests rising and condensing as it hits the cooler air of the cloudforest highlands. As lowland forests are cleared there is less moisture present for the air to absorb. Consequently, as the air travels up to the higher cooler elevations there is less moisture available to form clouds. Without moisture the cloud forest diminishes.

Left: The hills an hour outside Quito have been deforested and mined for gravel to build new homes.

Above: Wwood is extracted from the forest using a pulley

A cloudforest, even more so than a temperate forest, is built upon a complex interaction of climate, trees, other plants, insects, animals, and fungi. If trees disappear from the equation everything else changes. Trees increase precipitation in the cloud forest beyond rainfall by intercepting moisture from the clouds and converting it to water. This then becomes available to all vegetation and animals. This precipitation is added to watersheds which provide water not only to the forest, but also industry and villages downstream. When forests are clear-cut the additional water is no longer delivered. Plants lose their hosts or are no longer protected from the hot, direct sun and they die.

Cloudforest soils are thin and nutrient poor. Unlike in a temperate forest the majority of the nutrients reside in the plant matter. In order to grow in poor soil, plants and trees enlist the help of mycorrhizal fungi. These hair-like fungi help the plants take up food and water from decaying matter. But the fungi need a lot of water. After the trees are harvested and the canopy lost, the fungi are exposed to the sun, dry out, and die. This leaves a thin layer of nutrient poor soil that is not suitable for farming and marginally suitable for grazing. What little nutrients are left after the trees are felled are easily washed away by heavy rains since there are no longer root systems in place to hold the soil. Under these conditions the forest may take hundreds of years to regenerate if it ever does.

Land reform enacted in Ecuador in the 1960s and 1970s actually encourages people to deforest the land. It declared uncultivated forest land as unclaimed. People who clear a patch of forest and settled it can claim the land as their property
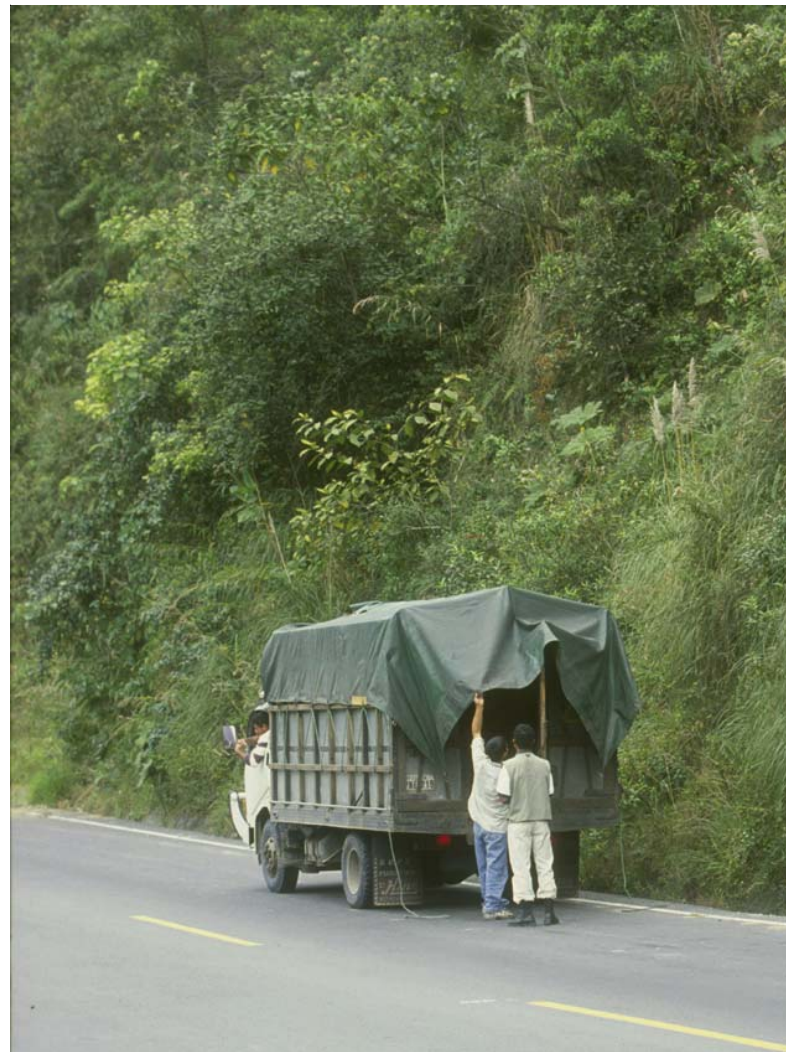
Timber

Opposite: Extracting timber from the forest using a pulley

Above: Trucks lodaed with large timber are not an uncommon sight.

Right: Guards investigate a truck that may be illegally carrying timber on the Pan American Highway leading to Quito.

In a developing country one of the ways people cook food and heat their homes is with charcoal. To make charcoal they gather wood, often by cutting down trees, dig a pit, thrown in the wood, light it, and cover it with earth. The earth over the wood causes it to smolder rather than burn. The wood carbonizes into charcoal in abut 20-30 days. Every pound of wood yields about 2.5 ounces of charcoal. This method of making charcoal is often chosen in the cloudforest because there is no capital investment and it works well even in moist climates.

Charcoal

Commercial activities such as timber and oil build roads which give entrée to previously inaccessible land. Squatters sometimes come in, cut down trees, and make charcoal for personal use and/or commercial sale.

Carbon dioxide, or CO_2, in the air prohibits heat from escaping into the atmosphere. Thus it contributes to global warming. Reduction of CO_2 occurs as it is absorbed out of the atmosphere by live trees in the forest. If the trees are cut down they no longer take in CO_2. If the wood is burned it releases any CO_2 it had previously absorbed back into the air.

Left: Despite discontinued use over 30 years ago, this honey grass pasture is successfully fending off regenerating cloud forest.

Below: Much of the forest in Andean Ecuador has been converted to pasture and cropland.

Opposite: I saw this illegal charcoal kiln on the side of the road in protected forest. It was probalby started by squatters who got access to the forest as a result of new roads.

Pasture

Some businessmen in Quito find the area around the Maquipucuna Reserve close enough to be convenient for use as grazing land. Forest is cut down and replaced by an African grass called pasto miel (*Setaria sthaceolata*) or honey grass. The grass attracts absentee land owners because it is low maintenance. However, soil planted with pasto miel is susceptible to erosion. Heavy rains drive sediment into the streams where it eventually reaches and damages mangrove forests on the coast. This grass is extremely recalcitrant once its roots take hold in the soil. Some pastures planted over 30 years ago still have not started regenerating back into cloud forest.
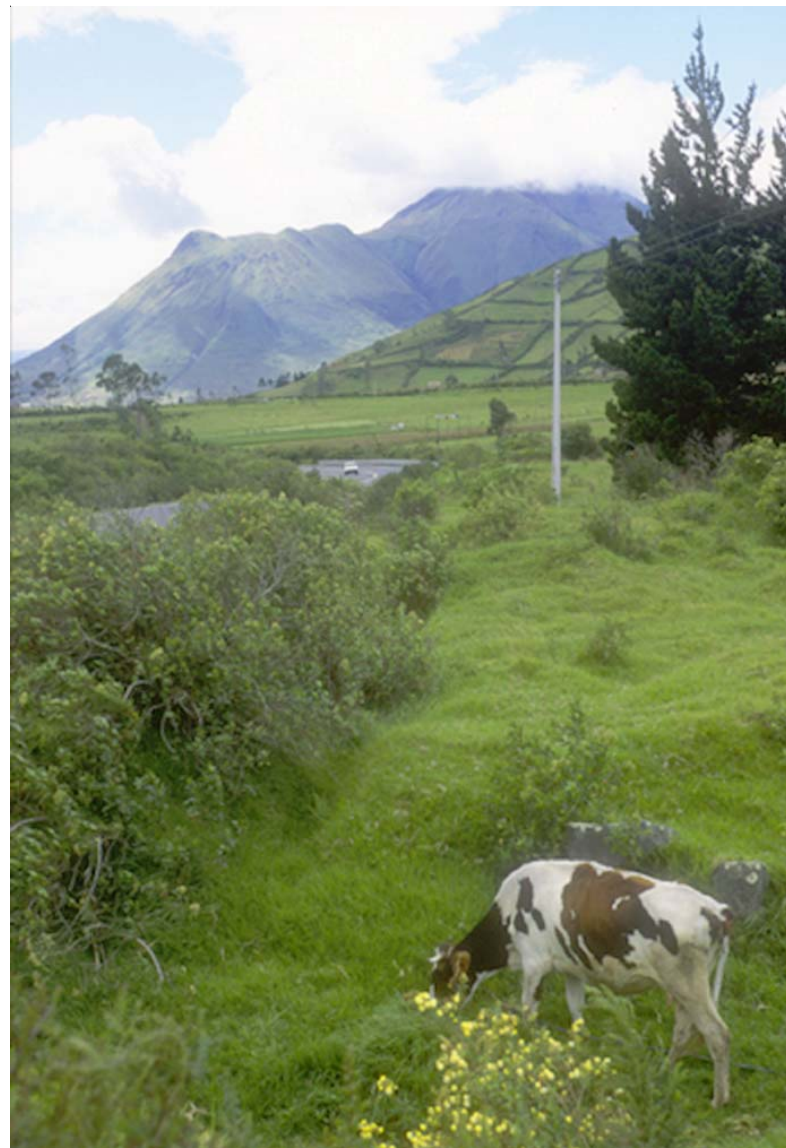
Every night while I was staying at a lodge in the cloudforest, I hoped they would serve my favorite dessert. It is an orangish-red peeled fuit served with a sugary sauce. The sweet sauce is a perfect balance with the tangy yet delectible taste of the fruit. The fruit is a tree tomato or naranjilla. It, unfortuantely, is also often the first step in the deforestation of the forest.

People farm naranjilla (*Magnoliophyta*) because it tastes good and it brings a high market price. The plant is limited to a narrow geographic range because it requires a cool, moist environment. People clear forest to plant Naranjilla because if they plant it in already cultivated land they must use expensive pesticides or it will succumb to disease. In the forest it grows well. That is, at least for a few years and then parasitic worms, called nematodes, infect the plant. The farmer then clears a new plot and abandons the old one. The old plot, having been cleared, now becomes economical for other agricultural uses and is not likely reforested.

Naranjilla

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Opposite Top/Bottom: Naranjilla fruit/ flowers on the vine.

Above: The naranjilla plot here, although it is only one year old already shows signs of disease.

Below: A plot of forest near a village has been cleared to plant naranjilla (See white rectangle).

Oil

Oil accounts for 40% of export earnings for Ecuador. Like many developing countries Ecuador has an enormous foreign debt, which it plans to pay off with oil revenues.

While the oil itself resides in the lowland Amazon rainforests to the east of the Andes, oil production holds many hazards for cloudforests. To export the oil, pipelines run from the Amazon across the Andes to the coast. Ecuador has two pipelines. The most recent one is 95-miles long and transects protected forest. OCP, the multi-national consortium that built the pipeline, worked with environmental groups, including the Maquipuna Foundation, to do the work with as little environmental impact as possible.

Yet, even before work began clearing protected forest for the pipeline, trespassers were illegally cutting wood for timber and charcoal using survey roads. Based on accidents on the first pipeline, there is fear that mudslides and earthquakes will damage pipelines and cause spills that pollute the land and watersheds. Tourist companies fear a reduction in birders who flock to the protected area to take advantage of one of the highest levels of bird diversity in the world. Despite the issues many, including the Ecuadorian government, feel the pipeline is critical to an economy in crisis.

Above and Left: Men building an oil pipeline through protected forest.

Above: The oil pipeline runs from the Amazon across the Andes to the coast.

Opposite Top and Opposite Left: A swath is cut for the pipeline that will run from the rainforests of the Amazon Basin across the Andes through protected cloud forest and down to the coast.

Water

Filthy water cannot be washed.
West African Proverb

Water is vital to life yet it is also a finite resource. Only 40% of the world's population has enough water. Already 1.2 billion people live without clean water and over 5 million die of waterborne diseases each year, mostly in developing countries.

To protect its Andean watersheds, Ecuador must guard against pollution and soil loss. Luckily, most small farmers in Andean Ecuador do not use pesticides and commercial fertilizers, mainly because they cannot afford them. These compounds can cause algal blooms that produce toxins and/or use up oxygen in the water so it is not available to other organisms. Pesticides and chemical fertilizers are being used by large commercial agribusiness.

Cloudforests help reduce both water pollution and erosion. Forests stabilize the soil and reduce erosion. Toxins and bacteria tend to cling to soil particles. Where forests have been cut down, sediments are washed into the water and carry any pollution they contain with them. They also reduce light penetration, gradually fill in water with land, and smother aquatic organisms vital to the health of the river.

By keeping forest intact especially along the water's edge, avoiding the use of pesticides and chemical fertilizers, and managing human waste villages can not only enjoy cleaner water but pass it down to those below them. Locals in the villages surrounding the Maquipucuna reserve have been trained to monitor the quality of their water and make adjustments to improve quality where needed.

Left: The Umachaca River runs through the Maquipucuna Foundation's cloud forest reserve.

Above: Birds like this white capped dipper frequent fast flowing streams in the forest.
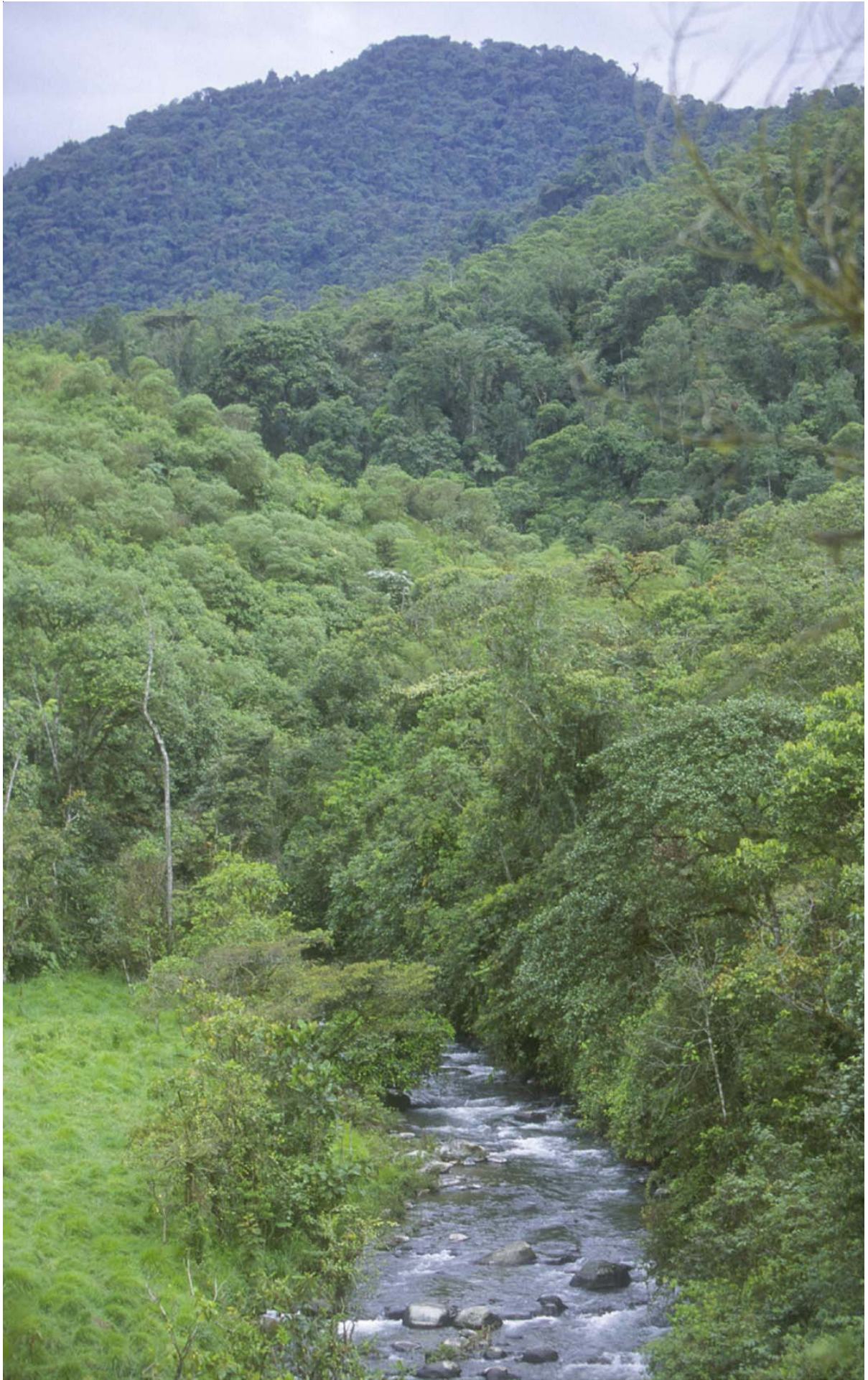
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Above: As sediment runs into rivers they become cloudy and earn the name "whitewater."

Right: Villagers learn how to monitor the quality of water in local streams.

Opposite: The headwaters of many watersheds are in the Andes.

The Solutions

Human life cannot be nurtured, nursed, and sustained
unless we nurse and sustain the ecological habitat
within the womb of which we all reside.
Henryk Skolimowski, *EcoPhilosophy*, 1981

Eco-tourism

In seeking the unspoiled, you inevitably spoil it.
George Packer, *Boston Review*, August 1988

Community involvement and ownership are important if any solution to the problems facing cloud forests is to succeed. We take care of that in which we have a vested interest. In the villages around the Maquipucuna reserve inhabitants are participating in and initiating sustainable programs. They receive support in the form of information, training, and jobs from the Maquipucuna Foundation. The goal is to raise the standard of living for the village inhabitants while at the same time preserving and enhancing the natural world around them.

Many of these programs provide alternatives to monoculture or timber, take pressure off the land, and provide much needed income. Eco-tourism provides an alternative to agriculture and timber. It provides income and at the same time preserves the forest and the creatures that live in it. It can be done on a small scale, it stimulates long-term economic employment and gain, and it distributes income broadly. The Maquipucuna Foundation has started an eco-tourism lodge and hired locals to work in it and manage it. Two local villages have now started their own lodges as well.

The villagers have a new appreciation and pride in the forest and the wild creatures that inhabit it. They want to please tourists so they will come back again and tell all their friends about their experiences. Sometimes eco-guides struggle with the tension between showing off the forest and protecting it. Should you capture a frightened armadillo in the bush and bring it over for everyone to see or do you leave it undisturbed? We all want to experience pristine nature, but in the process we leave it just a little less pristine.

Nonetheless, eco-tourism successes have convinced governments at all levels to preserve some portion of nature. Perhaps our grandchildren will still be able to trek prime cloudforest trails.

Left: Tourist have a choice of several different trails to hike in the Maquipucuna cloudforest reserve.

Above: Breakfast is ready at the eco-lodge in Yungilla.

Right: The lodge at Santa Lucia, located at the top of a summit at about 25,000 feet, is surrounded by mourtina ranges.

Below: Tourists are receiving information from Arsenio, an eco-tourism guide, at the Maquipucuna reserve.

Above: Looking for birds in the cloudforest at Maquipucuna.

Left: Staff prepare delicious meals at the eco-lodge in Yungilla.

Below: Beds are simple but comfortable. Buildings are often made of native wood or bamboo. The blanket on this bed was hand woven in Ecudaor.

Forest Products

The fun of being alive is realizing that you have a talent and you can use it every day, so it grows stronger
Lou Centlivre

Eco-tourism is a viable means of income for communities. But to hedge against economic downturns, seasonality, climate variations, political turmoil, and new competition communities need to diversify their enterprises. Using products from the forest sustainably increases the value of the forest to the community while providing extra income for its residents. The cumulative income of multiple ventures helps communities stave off the encroachment of companies or individuals who would like to convert the land to less sustainable uses such as grazing, timber, and oil.

Top: Necklace made from tagua nut, gathered from the cloud forest.

Right: Handcrafted paper envelopes.

Opposite: Woman making crafts at the Colibris workshop.

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Crafts

Below: One of the craftswomen at the Colibris workshop is making handcrafted paper envelopes with natrual imprints from leaves. Here dye from achiote, a natural seed, is added to recycled paper pulp and water to give it a red cast. Leaves from the forest provide texture and a pleasing pattern. After the paper has dried the leaf is removed to reveal its imprint. Dried flowers are also used to provide color to stationary.

Opposite Top Left: Tourists and locals alike love marmalade made from local tropical fruits, such as naranjilla, pineapple, melon, or papaya. Here maramlade is made at the Yungilla lodge, where guests enjoy it with fresh bread at breakfast. It is also sealed in jars and sold to guests and locals.

Opposite Top Right: The Colibris workshop, which means Hummingbird in Spanish, is a craft workshop in Marianitas, a village just one kilometer from the Maquipucuna reserve. Here women are given the opportunity to work outside the home, develop new skills, and add to family income. The Maquipucuna Foundation helped the village start a daycare center for the children so women could devote time to new ventures. A small loan created the opportunity to buy a drill and other small tools and supplies. The workshop makes paper, jewelry, keychains, candlesticks, and other items from natural materials such as nuts, seeds, and shells. Other women in the village work as guides inthe Maquipucuna reserve. One women runs a lunch cafe for reserachers and volunteers at the lodge. Such opportunites have opened up new social roles for women in the village. The head of the Colibris workshop, a woman, is now Vice President of the Marianitas City Council.

Opposite Bottom: One of the Colibris workers drills tagua nut for a candlestick. Tagua nut (Phytelephas Macrocarpa Palmae), also known as poor man's ivory, is a walnut-size nut that grows in a palm-like tree. The nut itself is very hard. It has a rough brown outer layer and a smooth ivory-like texture and color inside. People have been carving tagua nuts for over 200 years.

Right: Jorge, a resident of Marianitis, and a lab technician, shows off a few orchids the lab is propagating for export and sale to tourists.

Opposite Top Left: A lab technician prepares orchid tissue for propagation in a contamination free room.

Opposite Top Right: Andean Ecuador alone boasts 1050 species of orchids, which is over 4% of the world's total.

Above: To increase orchid production, when natural pollinators are not available, orchids can be hand pollinated. Here pollen picked up from one orchid is transferred on the tip of a pen (see white square) to another orchid.

Tissue Culture

One way people can appreciate the beauty of the forest and not im pact it greatly is through the propagation of orchids using a small piece of plant tissue or seed placed in a sterile nutrient medium. This technique, called tissue culture, dates back only to 1965. The Atlanta Botanical Garden and the Maquipucuna Foundation have been working with residents of Marianitas to develop a tissue culture lab. They have set up a sterile lab in the Maquipucuna office in Marianitas. Lab technicians have been trained and are given expert guidance by The Atlanta Botanical Garden.

It takes up to four months after initial culture before a plant can continue to grow on its own under normal conditions. Once the plants are ready they are sold to tourists or exported.

Agriculture

The poisoned mouse eliminates the useful owl and vulture,
But the growing world economy insists on monoculture.
O! Science may be phony but the social system's phonier,
And so spread on, insecticide, and sulphate of ammonia.
Kenneth E. Boulding, "The Ballad of Ecological Awareness"
in *The Careless Technology*, 1972

Little is known about the pre-Spanish history of the Andean cloudforest region. There is some evidence that sedentary farmers lived in this region at least 2,000 years ago growing maize, quinoa, beans, potatoes, and squash. Today the only one of these crops that is grown in large quantities in northwest Andean Ecuador is maize. They others have been supplanted by coffee, sugarcane, and plantains. Still, the methods used to grow these crops have evolved over hundreds of years, often resulting in small sustainable farms that rely on traditional knowledge more than industrialization.

Agriculture has had a greater impact on biodiversity than any other human activity. It is responsible for deforesting land, polluting land and water, and making possible the extinction of native species. At the same time agriculture provides food for humans. Done responsibly, it can be sustainable.

As populations grow and societies move from agrarian to industrial, the emphasis turns to increasing productivity and yield. Small farms are consolidated. Native crops are replaced with higher yielding non-natives. Crops are homogenized and put in rows so mechanized means can be used to manage them. Such mono-crops become highly vulnerable to disease and tend to over time deplete the nutrient base of the soil which leads to the use of synthetic fertilizers and pesticides. These build

Left: Small farms line the bottom of Pululahua, a dormant volcanic crater in Ecuador.

Above: Corn is a common mono-crop in Andean Ecuador.

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up in the soil. The lack of hedgerows and riparian buffers lead to erosion, which washes silt and toxins into watersheds and adjacent land.

In nearby areas of Ecuador these changes are starting to happen. Traditional shade grown coffee farms are being consolidated into large sun grown coffee farms, as are palm plantations, roses, and sugarcane. Next to the Maquipucuna reserve the farms are still small. Farmers still plant native varieties, use natural compost, animal manure, and crop residue to replenish the soil nutrients. This helps preserve the genetic diversity of these crops. Native plants are better prepared to fight off regional pests and diseases. Natural additives discourage toxic pollution. Most households have gardens with a diversity of plants, or species, for home use.

Unfortunately, as populations have increased and more and more farms have co-located there is less and less natural habitat among them. This makes it more difficult for natural pollinators and pest predators to get to favorable farm areas. Migratory animals lose pathways to needed habitat. As the habitat around the farms becomes degraded it is more difficult for the farms, even when they are organic, to remain healthy. The Maquipucuna Foundation is working with farmers to provide economically feasible ways, especially with shade grown coffee, to provide alternate habitat and migratory pathways.

Below: Chickens at the organic farm on the Maquipucuna reserve.

Above: Organic garden at the Maquipucuna reserve.

Below: Organic garden at Santa Lucia.

Opposite Left: Jorge, the manager of the organic farm at the Maquipucuna reserve, with one of his chickens.

Below: Organic tomato from the organic garden at the eco-tourism lodge in Yungilla.

Organic Gardening

In the villages surrounding the Maquipucuna reserve many locals grow organic gardens. The diversity of species in those gardens helps preserve the soil and avoid the use of pesticides. Maquipucuna as well as the other two ecotourism lodges – Santa Lucia and Yungilla – grow large organic gardens. The goal is to feed tourists as much as possible with fresh organic produce and meat and to reduce the amount of food that must be purchased and hauled from Quito. Bringing in food is expensive and some of the bought produce is grown by large industrial farms using monocultures and synthetic fertilizers and pesticides.

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Sugarcane is compatible with the moist tropical climate as it requires a lot of water. If the plant residue is left on the field it does a good job of replenishing nutrients. Erosion is minimal. Fertilizer is not used extensively in this area, and unless there is a major pest outbreak, neither are pesticides. However, the per acre yield for sugarcane is low and it therefore requires large amounts of land, which is usually taken from the forest. Elsewhere sugarcane is grown for export in large commercial mono-crop plantations with synthetic pesticides and fertilizers.

Sugarcane

Right: Sugarcane is a popular crop for small farmers in Andean Ecuador.

Opposite: Sugarcane is distilled to make a popular local hard liquor. Local farmers use wood from the forest to create a hot fire.

Above: After the sugarcane is processed it is loaded on donkeys for transport to the distiller, for home use, or for sale.

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Right and Below Left: After 15 days coffee seedlings are planted in pots under greehouse shade. Plants must be 4 months old before tehy can be planted in the ground in shade fields.

Opposite Top: After thecoffee beans have dried they must be separated from the papery outer shell.

Above: Coffee beans are hand picked.

Right: The red outer coating of the freshly picked coffee beans is separated from the bean using special machinery and water.

At a consumption of over 3,300 cups a second, coffee is the second most traded legal commodity after petroleum. But most of the coffee we drink is grown on large intensely cultivated sun grown coffee farms. The traditional way of growing coffee is under the canopy of large tropical shade trees. These trees provide habitat for birds and beneficial insects, enrich the soil, reduce soil erosion, and minimize the need for chemical fertilizers and pesticides.

Coffee

Many of the birds we see in our bird feeders in spring and summer are among the 120 or so species of birds that migrate from North America to spend the winter in the tropics. As shade-grown farms have been converted to sun-grown plantations the bird diversity has declined as much as 97%. Shade-grown coffee provides alternative habitat for the birds. In return birds can be beneficial to the farmers because they eat many of the insects that can damage coffee crops. Plus they do not eat the coffee beans or fruit.

Small farmers, unable to compete with large sun grown concerns, have had to switch to other crops or work for sun grown coffee farms. Groups like the Maquipucuna Foundation are now working with small farmers to build cooperatives for the processing of the picked coffee, which requires the most investment and equipment. They also provide research and training in the most productive ways to produce shade grown coffee. In this way farmers can keep their farms by investing in shade grown coffee.

Shade-grown coffee appeals to the specialty coffee trade, which represents 13% of a $10 billion plus coffee trade. It costs a little more, about $1/pound, but specialty coffee drinkers seem more sensitive to taste than price.

Above: Coffee drying on the sidewalk in a small village square.

Right: Shade trees provide the farmer additional income from the sale of firewood, or fruits and flowers grown in the trees. Here, plantain trees grow side by side with coffee trees.

Opposite: Planting young coffee plants in the field.

Guadua

Learning and innovation go hand in hand.
The arrogance of success is to think that what you did
yesterday will be sufficient for tomorrow.
William Pollard

The trout farmer has suffered many losses. He planted pasture above his trout farm and grazed a few animals there. Then the rains came. They pounded the hill eroding the soil and carrying water and silt down to the trout ponds. The trout farm flooded, but the farmer was able to salvage it. The second time his trout farm was destroyed and he had to start over. Now he is planting a type of bamboo called guadua on the hill.

Guadua grows fast and holds the soil to prevent erosion. It provides an alternative to forest timber. Guadua is an Ecuadorian native bamboo that flourishes in the warm moist climate of the Andean cloudforest region. Though quite heavy, it is very strong, durable, and flexible. The diameter of its trunk does not vary greatly from bottom to top making it more suitable to building. It is used for building houses, furniture, and crafts.

Research is being conducted to determine how well guadua absorbs carbon dioxide. If results are favorable it could be used to gain environmental carbon credits for Ecuador and assist in getting government support for sustainable development of guadua groves. In the meantime the farmer's trout are safe from flooding and he is getting income from the guadua he sells.

Left: Craftsman making a chair out of guadua.

Above: Close-up of guadua timbers used in the construction of a building.

Above: Guadua grove

Left: Hauling guadua to processing area after harvesting.

Opposite Top: The office for the Maquipucuna Foundation was built with guadua.

Right: Guadua poles are soaked in water, the thorns are clipped, and the inside is cleaned with borax to prevent rotting and isects. The bamboo is allowed to dry a long time before using.

Below: Chair made from guadua.

Knowledge

In the end, we conserve only what we love.
We will love only what we understand.
We will understand only what we are taught.
Baba Dioum, Senegalese poet.

The Polynesians arrived in Shag River Mouth, New Zealand in the late thirteenth century. As these early hunters set foot on the shore they found large flightless birds called moas that had evolved across millions of years. With no natural predator other than an eagle the birds were easy to catch and kill. In a few short decades all the moas were gone, and so were the hunters.

The hunters treated the moas like an inexhaustible resource. They understood little about conservation or sustainable hunting. We have no way of knowing whether they would have acted differently if they had had that knowledge. But we do know that knowledge gives us choices that we may not have been aware of without it.

If we are going to conserve the natural world around us, we need to understand its importance to us and our dependence upon it. We need to understand what the problems are and how we can solve them. We need to feel like we personally can make a difference.

Two main ways of gaining knowledge are through education and research. Although adults respond well to training, especially if they are motivated, children are the long-term key. Children are sponges. They haven't yet let the daily grind of making a living push them into a focus on routine and responsibilities. The whole world is open to them. They want to be engaged. They learn about the environment by doing activities outside. The Maquipucuna Foundation provides interactive programs in their reserve for schoolkids all over Ecuador. In this outdoor lab they develop critical thinking and learn about ecological issues critical to their country. When they are adults we will

Left: A girl prepares tin cans for The festinval of the Environment in nearby Nanegal. The children will be walking to advertise the need to conserve the environment.

Above: An Euglossine bee is released after being captured for a study on the attraction of these iridescent bees to fragrance. **95**

not have to tell them it is bad to cut down the forest, they will know.

Scuientific research is responsible for many of the advances of the last century. But insight is best when it can be applied. The Maquipucuna reserve gives scientists the ability to develop a theory that will not simply be published in a peer journal and read by 3 or 4 interested colleagues. They provide real answers to real questions that help people in their daily lives and may eventually be responsible for saving cloudforests around the world. The scientists working with The Maquipucuna Foundation debunk the myth of the scientist in the lab coat living in an ivory tower. They work in the field in Ecuador, next to the residents, and provide vital information they can use.

The Maquipucuna Foundation is working with the villages of Marianitas and Yungilla to give residents that knowledge. They provide ideas on new ways to improve the standard of living without exploiting natural resources. They provide free training for eco-tourism guides. They help farmers get started in shade-grown coffee based on information learned in a research farm. They show villages how to test their water for suitability to use. They bring in researchers who investigate the problems villagers and conservationists there are facing. They help women get loans to support cottage industries. With this knowledge villages and individuals are becoming empowered. City councils govern what the village does and make choices. Yungilla and Mariantas have their own eco-lodges now. One villager went off on his own as an international bird guider. By applying their new knowledge residents help preserve the cloudforest for their children and their grandchildren.

Left: A student searches for aquatic organsms in the Cumachaca River.

Above: A sign during the Festival of the Environement in Nanegal touts the need to reduce, reuse, and recycle materials.

Left: Maria Elena Araujo of Ecuador and Carol Hoffman from UGA in the United States work together to develop experiments for childre. The experiments are designed to give kids a fun way to learn about the environment.

Opposite Top Left: An eco-guide talks to kids about wildlife in the underbrush. The children then see how many insects they can find.

Opposite Top Right: Researcher Scott Connelly teaches a student about amphibian ecology.

Environmental Education

Below: Children scour the bottom of a stream after receiving instruction on the difference between healthy and unhealthy stream organisms. They will compare what they find to the information they have been given.

Left: Alex Reynolds researches the attraction of Euglossine bees to different fragrances. Euglossine bees pollinate cloud forest orchids.

Research

Below: Mosquitos, which are not normally associated with the cloud forest, have been gradually spreading into higher altitudes. Researcher Ron Carroll is looking at the effects of global warming and heat generated by deforestation on the elevational migration of mosquitoes. Miniature bamboo mosquito habitats are attached to trees. They are regularly checked over a period of many months.

Above: Two archeology students unearth an Incan fort in Palmitopamba. Resaercher Ron Lippe hopes to unearth information about the relationship between pre-Incan Yumbo tribes and invading Incans.

Above: Shana Udvardy is researching the influence of building an oilpipeline through protected forest on the qulaity of water in the surrounding watershed. She works with children and adults to help them understand the importance of clean water and how to monitor their streams.

Below: Won Long is investigating the ability of an Ecuadorian cloud forest bamboo called guadua to sequester carbon. Guadua grows quickly and is used to make furniture and crafts and build buildings. If sequestration can be shown it may allow the Ecuadorian government to gain carbon credits it can trade with other countries for money and materials it needs.

Conclusion

Never doubt that a small group of thoughtful,
committed citizens can change the world;
indeed it's the only thing that ever has.
Margaret Mead

Ecuador is like most governments in developing countries that are faced with high international debt and the need for an influx of hard currency. Nature is on the auction block. Government stands with the gavel in the middle of a bidding war between developers and conservationists. The developers are promising cash now to extract natural resources thereby reducing long-term future potential. Conservationists are offering long-term sustainability albeit with lower upfront benefits.

Who wins has consequences not only for the local people of Ecuador, but the whole world. Less than 4% of the world's land is in protected areas. When it is gone mankind is in trouble. Our very survival depends on diverse, healthy ecosystems. Keeping the world safe for our grandchildren is too important to leave to politicians.

A connection has been made between poverty and environmental degradation. If we want to preserve nature we must help local people in economically depressed areas of developing countries improve their standard of living. If their standard of living is improved through eco-friendly sustainable activities they will actively work towards conservation.

The villages surrounding the Maquipucuna reserve are taking action at the community level by working cooperatively with the Maquipucuna Foundation to promote sustainable alternatives to deforestation. They hope

to generate income to manage the reserve, provide work and income to local residents, preserve the natural environment, and educate people. Each individual contributes. We do not know yet if the profitability of sustainable development in Maquipucuna and elsewhere is enough to compete with ostensibly high profit, even if short-lived, activities such as oil drilling, timber production, and cattle grazing. But at least for now it is working.

If we can be successful in Ecuador, perhaps we can learn from our experience, how to enrich the natural aspects of our own lives. It means that each of us must personally make a difference. There are many ways we can:

➢ Understand political candidates at all levels. Vote for those candidates that support the strongest environmental legislation.

➢ Work in you r own community to save the last few natural areas, be they parks, woodlands, or wetlands no matter what size.

➢ Buy from environmentally responsible corporations. Let small local merchants know you care about their environmental practices.

➢ Support a conservation group, whether it is local, national, or international.

➢ Learn as much as you can and share you knowledge with everyone you know. We assume those who harm the Earth understand the implications of their actions. In most cases they do not.

➢ Use alternative fuels. Walk more, bicycle, drive a hybrid car.

➢ Use non-chemical fertilizers on your lawn. Plant native flowers instead of grass. Encourage beneficial insects and animals in your backyard instead of pesticides.

➢ Recycle trash. Buy recycled materials. Reduce waste.

Left: A hummingbird perches at dusk on a tree of the protected cloudforest in the Maquipucuna Reserve, Ecuador.

About the Author
Marty Maxwell is a freelance photographer and journalist living in Atlanta, GA. She holds a Master's degree in Ecology and Journalism from the Univeristy of Georgia, Athens.

Photo courtesy of Cayenne Barnes