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THE VALUE ORIENTATION OF MUTUALITY
AND ITS ROLE IN
ENVIRONMENTAL STUDIES AND ENVIRONMENTAL EDUCATION

A Dissertation Presented

By

RALPH H. LUTTS

Submitted to the Graduate School of the
University of Massachusetts in partial fulfillment
of the requirements for the degree of

DOCTOR OF EDUCATION

December 1977

Education

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RALPH H. LUTTS

Approved as to style and content by:

Horace Reed, Chairperson of Committee

Linda G. Lockwood, Member

David Smith

David Smith, Member

Mario Fantini, Dean
School of Education

This dissertation is dedicated to my parents, who fostered the environment in which this person and these ideas began to grow.

PREFACE

This work is intended to be a contribution to the philosophical foundations of environmental studies and environmental education, particularly in the areas of environmental ethics and values education. It employs a broadly integrative approach, drawing from the natural and social sciences, humanities, and religion. The value of its contribution lies as much in the breadth of its scholarship as in the depth of its analysis.

Since the results of this study are likely to be of interest to people based in a number of different disciplines and educational movements, I have taken pains to write it for a non-specialist. I have assumed that the reader is interested in the topic, intelligent, and has a basic understanding of ecology. The last chapter is an exception, in that I assume that the reader has a general familiarity with educational jargon. The footnotes have been designed to both document sources used in the text and serve as an educational tool. They contain asides and elaborations relevant to points raised in the text, consolidate much of the relevant literature, and provide the interested reader an introduction to this literature.

Another unconventional facet of this dissertation lies in my use of the first person. There are two reasons for so doing. The first is related to some of the central themes of the work: we should act in ways which avoid dogma, are not alienating, and in which means and ends are joined. Use of the third person, although it gives the appearance of objectivity, can help to blind the reader to whether or not the study is in fact objective. Also, it is a voice that alienates the author from his or her work. The first person introduces the voice of the author and rather than masking the question of objectivity, forces it. Given the conclusions of the dissertation, it is inappropriate to use the conventional style.

In addition, the convention seems to confuse the mode of inquiry necessary to conduct objective scholarship with the manner of writing necessary to effectively communicate the results of that scholarship. In the case of this dissertation, it is important that I be able to evoke different views of the world and value conflicts in the minds of my readers. I have attempted to do this, in part, through a number of anecdotal vignettes. The third person is inappropriate to this stylistic device.

My use of the first person has been approved by my dissertation committee, the Assistant Dean for Graduate Affairs in the School of Education, and the Associate Dean of the Graduate School.

Many people have assisted me in preparing this volume, and I extend my heartfelt appreciation to them all. I am particularly grateful for the contributions made by the members of my committee: Horace Reed, Professor of Education; Linda Lockwood, Associate Professor of Environmental Sciences and of Education; and

David Smith, Professor of Literature and American Studies at Hampshire College. Their faith in, and support of my sometimes unconventional and often ambiguous explorations has been invaluable. Their probing questions and critical comments have played a major role in helping me to focus my thoughts and bring clarity to my words. Special thanks go to my chairperson, Horace Reed, who helped to create a mutualistic learning experience.

The following people have read and commented upon two or more of my chapters: Gene Frankel, Assistant Professor of Technology Studies at Hampshire College; Allan Krass, Associate Professor of Physics and Science Policy Assessment at Hampshire; Stephen Guild, Associate Director of Education in the University's Office of Energy Research and Education; and Carl Swanson, Professor of Botany. They have played an important role in the development of my thoughts and these chapters. I have also profited from my discussions with, and the support of Ty Minton, Director of the environmental education program at Antioch-New England.

Teaching plays an important role in the way I learn and a number of my students have taught me a great deal. I thank my students at Hampshire College, in the University's Global Survival Freshman Year Program, and in the environmental education program at Antioch-New England for their patience with me, and my ideas and experiments.

Janice Dagilus has done an outstanding job of typing these pages under difficult deadlines. She has put as much care and nervous energy into the final stages of this dissertation as have I. Thanks also go to her husband and children for putting up with the inconveniences created by "the typewriter man."

ABSTRACT

The Value Orientation of Mutuality and its Role in
Environmental Studies and Environmental Education

February 1978

Ralph H. Lutts, B.A., Trinity University

Ed.D., University of Massachusetts

Directed by: Professor Horace Reed

This dissertation represents an attempt to identify a value orientation, or ethos, that is compatible with our emerging ecological view of the world, and to explore the role that education can play in fostering its development.

A value orientation is a fundamental valuing style; a predilection to choose certain kinds of values and, thus, actions. There are three orientations that influence the ways in which we interact with both people and nature. Under Submission, one senses oneself as being powerless before other forces. Domination emphasizes the welfare of oneself at the expense of others; a view which is predominant in our culture. Mutuality involves a concern for the welfare of all parties in a situation. Mutuality is proposed as the value orientation that should underly our interactions with our social and non-human environments.

Much of the literature of environmental ethics has advocated that we should regard ourselves as members of a larger group or community, which includes our entire ecosystem. People who view

their world in this way are likely to consider non-humans to be of intrinsic value and not simply as means to an end. This does not mean that we must not use the resources in our environment; there is no way in which we can avoid this. It does, though, shift the burden of proof from those who wish to preserve their environment to those who wish to exploit it.

Although the literature of environmental Mutuality is sparse, there is a large body of literature dealing with mutualistic relationships between people. An examination of the philosophies and actions of Edwin Burtt, Martin Buber, Mohandas Gandhi, and Paulo Freire reveals three characteristic elements of social Mutuality. After carefully examining the differences between relationships among humans, and those between humans and their non-human ecological environment, we can also accept these elements as being characteristic of environmental Mutuality.

Element One: Mutuality occurs within a meaningful whole. Those who are engaged in mutualistic interactions are viewed as members of the same group or community. As such, each is of intrinsic value and each occupies a meaningful position within the whole. Mutualistic acts promote meaningfulness and wholeness, rather than alienation and fragmentation. Means and ends are not alienated from each other, but are joined and of equal importance.

Element Two: Mutuality requires openmindedness. This means that we must strive to be free of dogma, which requires that we have the humility to recognize our limitations. It is also necessary that we try to be aware of our presuppositions and try to be free of self-interests that might distort our understanding of others.

Element Three: Mutuality promotes the welfare of others. We should act not just to promote our own welfare, but the welfare of others as well. The basic psychological motive that promotes these acts is love.

This value orientation is ideally suited for adoption as the values content, or agenda, of values education. Although few contemporary teachers are willing to impose a set of values upon their students, Mutuality is compatible with this desire.

One of the fundamental objectives of environmental education and environmental studies is that of preparing people who will be able to work toward the solution of our environmental problems. Fostering Mutuality is central to the solution of these problems. These approaches to education should embrace education for Mutuality as one of their objectives. Much of their existing teaching methods and materials can readily be adapted to this end.

This dissertation contributes to the philosophical foundations of environmental education and environmental studies; particularly in the area of environmental ethics and values education. It provides the most thorough examination of environmental Mutuality to date; a specific values content for values education; a rationale for including the natural and social sciences, humanities, arts, and religion in environmental education programs; and a conceptual structure within which this can be done.

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CHAPTER I

THE NATURE OF RELATEDNESS

I once met a woman who found a petrified potato and regained her sight. She sat nervously in a worn chair in a corner of my office. Beside her sat a friend who had come to provide transportation and moral support. They looked around at the trappings of the office--glass cases of rocks, fossils and mounted birds, the shelves of books, the microscope to one side of a cluttered desk--and half-heartedly asked a few questions about the specimens. How old were they; when did they die; where did they come from? Eventually they turned to the object she had mentioned on the phone. She drew the stone from her purse, removed its protective wrapping of tissues, and placed it hesitantly in my hand.

It was a very special stone. Several years earlier, as the result of an accident, she had become blind. But, she explained, her faith had been strong and she had prayed to Saint Peter for a miracle. She had been praying on that day when, while working in the darkness of her kitchen, she reached into a sack of potatoes and grasped the rock. Her vision returned a couple of weeks later. She wanted me to tell her whether the rock was a petrified potato and whether her discovery was unique. If it was, the miracle of her sight would be compounded by the nature of the object that had mediated between her and the saint.

She revealed her story slowly and hesitantly. I was young, less than half her age, and of a generation that might ridicule her faith. But I also represented a large museum and science. The sightless forms of the extinct birds staring at us from their shelves represented something to which she responded with a mixture of awe and apprehension. She came seeking the truth; sure of what it was, yet afraid to ask for fear that I would not understand and see simply a pebble.

It was not a petrified potato. It was a rounded lump of quartz, the size and shape of a potato, which had been stained brown by the soil in which it had lain until found by the mechanical diggers. I had seen similar rocks, which machines and work-weary sorters had mistaken for potatoes and bagged, and were later found by puzzled cooks. One of them was locked away in one of the storage cabinets outside of my office. It was neatly marked with a catalog number and labeled, "Pseudofossil--Petrified Potato."

Pseudofossils are oddly shaped and textured stones, which look as if they were once part of something alive. The life, though, originates in the mind of the observer, not in the history of the stone. Some people have a tremendous ability to give life to a piece of clay or quartz. The more that they want it to have been alive, the more lifelike it becomes. It is very difficult to shake their belief in what they have found. Often I had to produce before their eyes an actual specimen of what they thought their find to be. In the face of the distinct outlines of a real dinosaur footprint, for example, it became difficult for them to cling to the belief that the vague depression in their rock was one also. It was generally disheartening for them to discover that their find was not special. Often, too, they felt foolish in the face of their mistake. I would then take them to the pseudofossil collection and show them specimens similar to their own; specimens which bore witness to the fact that they were not alone in their mistake. They were not fools, just mistaken, and they shared their mistake with many others.

This woman's petrified potato, though, was special. It was associated with a miracle. To her it was part of a divine event which fell outside of the laws of nature. That rock was part of a pattern which linked her with a universe which cared about her fate, which heard and answered her prayers. She was not alone in an uncaring world. The divine plan, of which the creation, fall, and redemption were a part, included her. She was not powerless in an impersonal nature, because she had prayer.

I too, recognized a miracle. But it was one of a different sort. Richard Jefferies once wrote, "I can see nothing astonishing in what are called miracles. Only those who are mesmerized by matter can find a difficulty in such events."[1] I was mesmerized by matter, and saw the miracle as a wonderful and unexpected turn of events in the material world. Was it an unexpected coincidence of rock and recovery? Did the rock trigger her recovery from a psychosomatic blindness? In either case, I viewed the miracle as an event of deep psychological meaning to her, and there lay its real significance.

In honesty I had to tell her what her stone was to the geological eye. Yet, it would have been cruel to undermine her faith in the event. My route of escape lay in emphasizing my qualifications to speak to the geological problem, and my inability to address the theological one. It certainly seemed possible for the saint to use a natural object as a part of his miracle, I told her, but she should consult an expert on such matters. I could be of no help. I passed the buck.

A year later she reappeared, requesting a letter for the church file. She had begun the long, difficult process of obtaining official certification of her miracle. I placed in writing the description I had told her the year before, being careful to note the limits of my qualifications. She felt much more comfortable with what I had to say than she had previously. She told me that if it really was not a petrified potato, then perhaps it was not really a part of the miracle. In that event, Saint Peter must have acted directly, without the stone as an intermediary. She seemed to be happier with it this way.

The woman and her stone have been alive in my mind for many years now. There is a tension in the memory, which I have found difficult to quiet. Part of the reason may lie in the fact that I did not just dismiss her as a superstitious old woman. I listened to her story and I believe, felt something of its significance to her. I realized that her view of the world, of the way in which it is structured and operates, was very different from mine. Although we sat chatting with each other we lived in very different worlds, which operated according to very different sets of rules. Hers was a world of good and evil, saints and sinners, heaven and hell, Christ and forgiveness. The power she had to change the world rested in faith and prayer. Mine was a world of matter and energy, cause and effect, ecology and evolution. Power lay in knowledge and technology. She listened to my words and placed their meaning into a framework of miracles and divine love. I listened, and placed her words into a framework of physical processes, glacial geology, and human psychology.

Which world was more real? Hers did not help her to understand and deal directly with the chemical pollutants which filled the air she was breathing, the missiles poised a finger away from holocaust, or the insatiable hunger for food and resources of the pressing population of the world. But she had been a lonely old woman living in darkness. When science and medicine failed, she placed her faith in prayers to Peter, the Lord's Rock, and in an oddly shaped stone. And in some way they were associated with the return of her sight. In what sense it was, or was not, a miracle is not particularly important. What is important is that the reality in which she lived was different from mine. She played a purposeful, significant and meaningful role in a cosmos that cared for, and was influenced by, her.

This belief that we are a pivotal point in the universe and that what we do affects it is what Joseph Wood Krutch has called the Tragic Fallacy.

> . . . the Tragic Fallacy depends ultimately upon the assumption which man so readily makes that something outside his own being, some 'spirit not himself'--be it God, Nature, or

> that still vaguer thing called Moral Order--joins him in the emphasis which he places upon this or that and confirms him in his feeling that his passions and his opinions are important.[2]

The tragic character is a person who has done something which is not permitted, which violates the moral order[3] of the universe, or is contrary to the will of God or nature. This act shakes the very fiber of the universe, and he is struck down. The blow, however, reaffirms his stature, because he was struck by a god or a universe which directed its attention to him. His acts were of cosmic consequence. In the face of extreme adversity, the tragic character triumphs by asserting his confidence in the dignity and worth of himself and humanity. Thus, "tragedy is essentially an expression, not of despair, but of the triumph over despair and of confidence in the value of human life."[4]

The Tragic Fallacy, Krutch pointed out, is the result of an act of faith, rather than of intellect. Upon it is built our sense of the spirit of humanity. Without it our lives seem pointless and we are without dignity. It supports not only tragedy, but the religious view behind it. Without it exultation turns to despair.

It is not necessary to believe in the importance of man. It is interesting to note the decline and death of tragic literature in the modern world. No longer focusing on great people and powerful emotions, the literature of our day tends to emphasize people and feelings which are small and common. This, Krutch believed, "is not because we have become interested in commonplace souls and their unglamorous adventures but because we have come, willy-nilly, to see the soul of man as commonplace and its emotions as mean."[5]

Compare, as extremes, the Greek tragedy, *Oedipus Rex*, and Samuel Beckett's, *Waiting for Godot*. Oedipus solved the riddle of the Sphinx and became a great king. Unknowingly, though, he committed the unforgivable acts of patricide and incest. When the truth is discovered his mother hangs herself, and an anguished and horrified Oedipus tears at his eyes with her brooch pin.

> OEDIPUS: Apollo it was, Apollo, friends
> Who brought to pass these evil, evil woes of mine.
> The hand of no one struck my eyes but wretched me.
> For why should I see,
> When nothing sweet there is to see with sight?
>
> . . .
>
> What more is there for me to see,
> My friends, what to love,
> What joy to hear a greeting?
> Lead me away, friends, wretched as I am,
> Accursed, and hated most
> Of mortals to the gods.
>
> . . .
>
> I would not have come to murder my father,
> Nor have been called among men
> The bridegroom of her from whom I was born.
> But as it is I am godlesss, child of unholiness,
> Wretched sire in common with my father.
> And if there is any evil older than evil left,
> It is the lot of Oedipus.[6]

The clarity of Oedipus's position in the moral order of the universe, and the significance and magnitude of his acts stand in the stark contrast to the amorphous, meaningless world in which Beckett's characters find themselves. Wandering on a plain which is barren except for a gaunt, dead tree, they wait without knowing why, for someone whom they neither have met, nor are sure will arrive. It is a life without significance: "They give birth astride of a grave, the light gleams an instant, then it's night once more."[7] At the end, weary of waiting, Valdamir and Estragon contemplate suicide, but lack a rope long enough, or strong enough for the job; so they go on. They will return tomorrow, perhaps with a proper rope.

In contrast to Oedipus, Beckett's characters live in a world which is indifferent to their existence. Tragedy is impossible in such a universe, because it lacks an inherent moral order which would meaningfully bond them to each other and to their world. Instead, they live alienated, meaningless lives. Their lives symbolize those of millions of people living in modern Western society.

The woman with the petrified potato lives in a world which is shaped by the Christian understanding of its nature. It is a world in which there can be tragedy. However, with the weakening of the Christian view of the world, in association with the rise of empiricism, materialism, and individualism, many people have lost their sense of connectedness with a larger moral order. The world seems to be burning around us, and we can not find our way out of the conflagration. The old formulas do not work. We find ourselves on our own; small children with delusions of grandeur in a large and frightening universe. There seems to be no place outside of ourselves to which we can turn for guidance.

We are beginning to realize, however, that we are a part of a larger order in which our lives are embedded, and upon which our lives depend. This is the ecological and evolutionary order which is the very substance of our biological identities. If we wish to live, then we must take care not to disrupt the fabric of the ecological and evolutionary systems which support our lives. This order is indifferent to our hopes and aspirations, but it is strongly influenced by our actions. Since we are an integral part of this order, our influence upon it is likely to lead to an impact upon ourselves. In this view of the world, we once again have significance, and we can suffer grave consequences if we grossly violate its order.

William Holtz has suggested that once the ecological view of the world becomes integrated into our culture, a new sense of tragedy may emerge.

> What we are on the verge of realizing in our own time . . . is that the whole order is one life, all parts mutually interdependent within which we, from our privileged position, can offend and offend and offend.
>
> In such a universe--now a fact, rather than a metaphysical conception--our own modern version of tragedy becomes possible.[8]

This dissertation represents an attempt to clarify this emerging world-view, to identify some of its moral implications, and to explore the role that education can play in fostering its development.

The Domination Ethos

A distinction must be made between two elements, ethos and world-view, which have been interwoven in the prior comments. Clifford Geertz has cogently stated these concepts as follows:

> In recent anthropological discussion, the moral (and aesthetic) aspects of a given culture, the evaluative

> elements, have commonly been summed up in the term "ethos," while the cognitive, existential aspects have been designated by the term "world-view." A people's ethos is the tone, character and quality of their life, its moral and aesthetic style and mood; it is the underlying attitude toward themselves and their world that life reflects. Their world view is their picture of the way things in sheer actuality are, their concept of nature, of self, of society. It contains their most comprehensive ideas of order. Religious belief and ritual confront and mutually confirm one another; the ethos is made intellectually reasonable by being shown to represent a way of life implied by the actual state of affairs which the world-view describes, and the world-view is made emotionally acceptable by being presented as an image of an actual state of affairs of which such a way of life in an authentic expression.[9]

In other words, it is the reciprocal relationship between ethos and world-view which makes life meaningful. A breakdown in this relationship leads to alienation; there is no longer a connection between our moral and aesthetic lives and our understanding of our place in the universe. It is this kind of a relational disintegration which leads to the decline of tragic literature.

In order to understand the impact that a particular world-view and ethos can have upon an environment, we must include an additional element, technology. It is through our technology that we are able to act to change our environment and the nature of our actions is partially shaped by the nature of the technology which is available to us.

The role of technology in relation to ethos and world-view has been at the focus of the debate about the impact of the Judeo-Christian tradition upon our environment. Lynn White, Jr., placed the blame for our environmental crisis squarely in the lap of that tradition.

He was not the first to make this suggestion,[10] but he fleshed it out and popularized it in his widely read and highly influential article, "The Historical Roots of Our Ecologic Crisis."[11]

White noted that in the world-view of ancient cultures each place, tree, or animal was imbued with a spirit, or under the protection of a deity which resided in that place. The ethos of these cultures required that one placate the spirit of each tree before it could be cut, and of each animal before it could be killed. A similar approach to the world is found in contemporary traditional cultures. The connection between people and their environment was a spiritual one, and the relationship was reciprocal. Their fate depended upon the manner in which they interacted with the spirit in nature (see figure 1).[12]

The Judeo-Christian world-view is quite different. God exists outside of the world in a supernatural realm. Spirit, or soul, is found on earth only in human beings. At the creation we were given "dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth over the earth."[13] To White, this meant that we no longer had any reciprocal responsibility to the objects in nature. With the removal of spirit from nature to supernature, the creatures of the earth lost their protection from unbridled acts of man. Reciprocity lay only between humanity and God, as symbolized in Michelangelo's painting, The Creation of Adam, by the hands of Adam and God reaching toward each other (see figure 2).

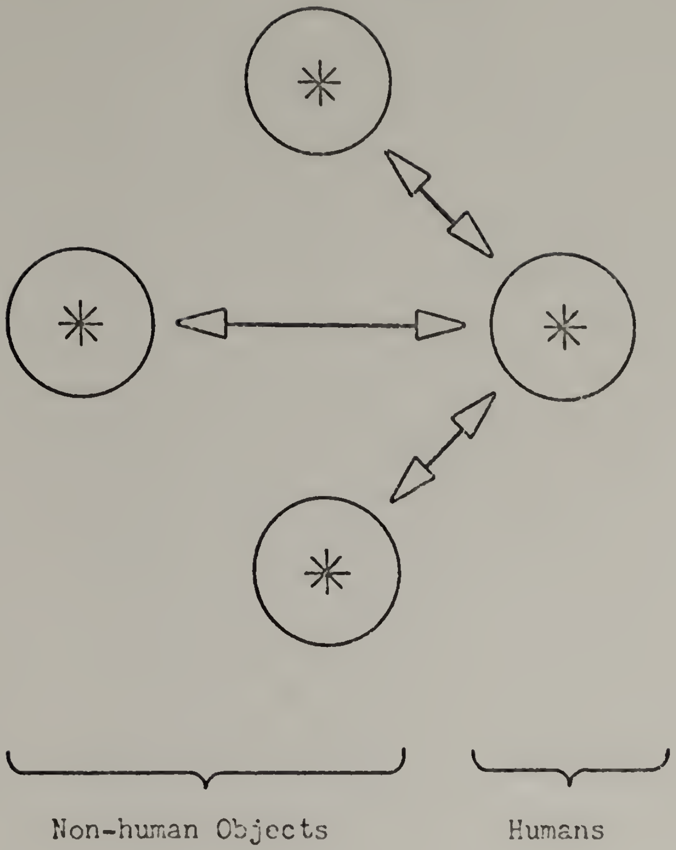


Figure 1. ANIMISTIC WORLD-VIEW. All objects are recognized to possess a soul or spirit. Both humans and non-humans are able to influence each other. (The asterisks indicate the presence of soul or spirit. The double headed arrows indicate reciprocal relationships.)

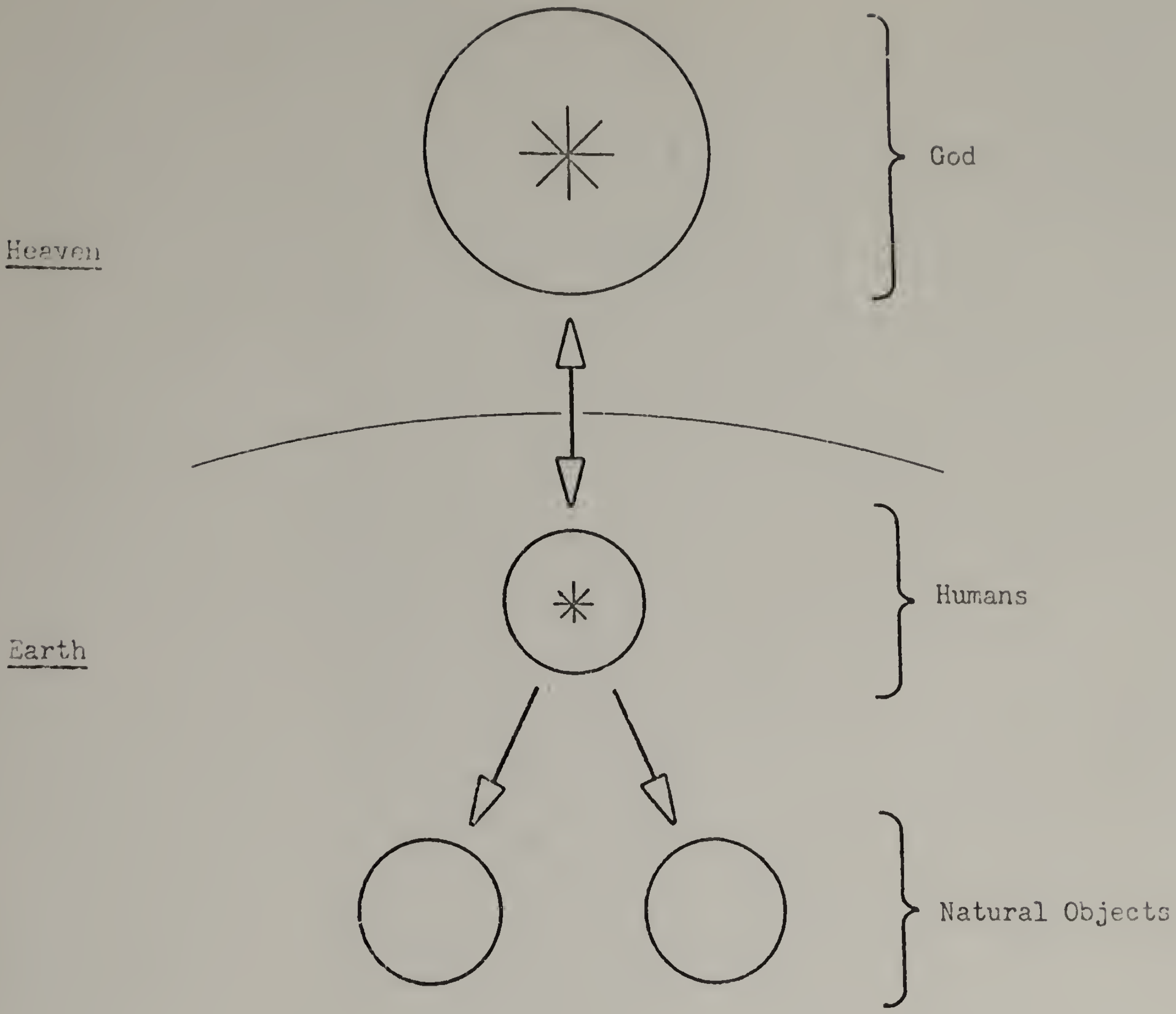


Figure 2. JUDEO-CHRISTIAN WORLD-VIEW. The universe is divided into the natural and the supernatural, earth and heaven. The source of soul or spirit is God, who rests outside of the natural world. Humans are set apart from nature and are spiritually connected with God. Natural objects are devoid of spirit or soul. (The asterisks indicate the presence of spirit or soul. The double-headed arrow indicates a reciprocal spiritual relationship. The single-headed arrow indicates a non-reciprocal relationship.)

Yet, in the thousands of years spanned by the Judeo-Christian tradition, not until the period of the fifteenth through the seventeenth century, A.D., did the idea that we are controllers of nature begin to crystallize.[14] This seems extraordinary in light of the argument that this view is an integral part of the tradition. Glacken notes that this crystallization appears to have been associated with three technological events.[15] One was the popularity of draining lakes and swamps, rerouting rivers, and other forms of land reclaimation projects. A second was the success in building large bridges and canals. Finally, the joining of science (traditionally an abstract and scholarly activity) with technology as a means of gaining power over nature. In other words, the idea of controlling nature did not become important until we had the power to make a visibly significant impact upon it.

White's thesis can be summarized as follows: 1) the Judeo-Christian tradition created a split between humanity and nature, and placed us in the role of masters over nature; 2) this led to the development of an increasingly powerful technological control over nature; and 3) has led to environmental degradation. But White added qualifications. He remarked, for example, that the idea of humanity as controller is particularly characteristic of the Western, Latin Church. It did not arise under Greek Christianity.[16]

In Genesis, 1:28, we read, ". . . and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it . . . ." There is an obvious concept of stewardship in the phrase, "replenish the earth." White suggests that for some reason Latin Christianity deemphasized this theme. It is, nevertheless, present. This is probably most obvious in the person of St. Francis of Assisi, whom White recommends as the patron saint of ecologists.

White provides a more subtle summary of his own thesis:

> Men commit their lives to what they consider good. Because Western Christianity developed strong moral approval of technological innovation, more men of talent in the West put more resources, energy and imagination into the advancement of technology than was the case among Greek Christians or indeed in any other society, including the Chinese. The result was an unprecendented technological dynamism of which our present technological movement (with its attendant consequences) is the unbroken extension. There may have been other factors contributing to this advance, but the novel Western medieval value structure is central and essential to our understanding of it.[17]

White's thesis was enthusiastically accepted by a great many people, and his article was (and continues to be) widely anthologized. Christopher Derrick, however, has pointed to the one-sided criticism that the Judeo-Christian tradition has received. If it is to be blamed for the negative impacts of technology, should it not also be praised for its positive benefits?[18] It is interesting to note the eagerness with which many people have placed blame upon their religious origins. Indeed, Genesis, 1:28, is often mistakenly quoted as, "Be fruitful, multiply, and subdue the earth," completely omitting the stewardship theme. The one-sided zeal of the popular attack would be a fruitful topic for psychological and sociological study.

A number of White's critics have pointed to positive elements in the tradition, which they feel he had underemphasized. Ian Barbour[19] points to the affirmative attitude toward nature that can be found in the Bible. One of these is the view that we are the stewards of God's creation. Another is that nature, as God's creation, is to be viewed in wonder and with praise. He believes that these are attitudes which we should strive to recover. Derrick, also, points to positive elements.

> The idea of man's dominion over Nature is certainly present in Christianity. But it does not exist there in isolation: it is modified and controlled by other ideas--the overlordship of God, his immanence in creation (which does not exclude his transcendence of it), the goodness of all being, the wickedness of all arrogance and self-will, our perennial need for restraint and humility and obedience.[20]

Others focus upon the additional factors which must have contributed to the rise of modern technology, placing less of an emphasis upon the role of the Judeo-Christian tradition. Santmire,[21] for example, feels that the real problems began with the rise of modern natural science, the formulation of Kant's mechanistic philosophy of nature, and the development of modern industrialism. Similar arguments have also been made against Descartes and his philosophy. Writing in more political and economic terms, Moncreif has argued that there are a multitude of variables involved. These include economic, political, sociological and population factors. Expanding upon White's three-step progression from the religious tradition, to technology, to the environmental crisis, he constructs the following four-step model.[22]

I	→	II	→	III	→	IV
Judeo-Christian tradition		1)Capitalism (with the attendant development of science and technology 2)Democratization		1)Urbanization 2)Increased wealth 3)Increased population 4)Individual resource ownership		Environmental degradation

Probably the most sophisticated critique, reformulation, and expansion of White's thesis appears in William Leiss' book, The Domination of Nature.[23] He begins with White's thesis, but finds that, while it locates the tradition in which the idea of domination may have first been formulated, it does not adequately explain how it achieved its present form. Leiss' thesis is that:

> The vision of the human domination of nature becomes a fundamental idealogy in a social system (or of a phase in the development of human society considered as a whole) which consciously undertakes a radical break with the past, which strenuously seeks to demolish all "naturalistic" modes of thought and behavior, and which sets itself as a primary task the development of productive forces for the satisfaction of human material wants.[24]

These tendancies, he argues, are first found in Western capitalism. Although each precapitalist society had its own distinctive characteristics, all of them sensed a moral order in the universe. Nature had an enduring order, which one must act to preserve. This included prescribed social roles of political power, class standing, and occupation. The existing social order was accepted as the natural social order. It is in this sense that Leiss refers to them as being naturalistic.

In traditional cultures, God was found in nature. This reinforced the naturalistic notion that the existing state of nature was good and should be preserved. Judeo-Christian theology, however, took God out of nature and placed him elsewhere. The universe became split; there was God, there was nature, and man stood in between the two. Prescriptive statements of what was right and wrong came from God, not from nature. Thus, nature became something that could change, and be changed as God willed it. Man dominated nature as a privilege shared with God. The fact of domination was something shared by all people, because they were all part of the creation and received the ability to dominate as a gift of God. This philosophy was essentially anti-naturalistic, but many naturalistic elements remained with it; for example, the naturalistic social structure of feudalism.

Leiss further argues that as the naturalistic social structure broke down in the seventeenth century, and the idea of human equality arose, people recognized the potential to improve their material lives. The idea of dominating nature became linked to the struggle for social and material progess. Francis Bacon strongly advocated the value of science in this effort. By understanding the laws that govern nature, he argued, we would be able to control nature and use it toward humanly desired ends. The laws that we had to operate under became technical, material laws, rather than moral laws. Bacon felt that the power thus gained would be used wisely, under the guidance of reason and religion. But he failed to recognize the faultering nature of the religion of his time. Religion now plays a very small role in shaping our individual behavior and public policies.

Furthermore, Bacon failed to distinguish between the two meanings of "nature." The scientist, writes Leiss, tries to distinguish the reality that lies behind appearances. This is what they mean when they speak of nature, and it is over this nature that they are trying to achieve mastery. But with the decline of religion, people ceased to be joined by a common spiritual bond in the exercise of mastery. The desire for mastery became linked to the desire for social and economic progress as desired by each individual. In a world of limited resources this desire for individual progress necessitates a competition for, and conflict over these resources. It is this reality, the reality as conceived by people in conflict and not that of the scientist, to which the products of science are applied in the technological quest for mastery (see figure 3). Leiss argues that in our time the quest for the mastery of nature has become integrally linked to the mastery of human beings. "Domination over nature is wrongly represented as an achievement that will bind together a bitterly divided species; conversely, the abstract idea of man (in the phrase 'man's conquest of nature') hides the fact that the actual agents in this process are individuals and societies in violent conflict among themselves."[25]

The domination of nature, then, involves both the domination of the bio-physical world in order to satisfy material wants, and the

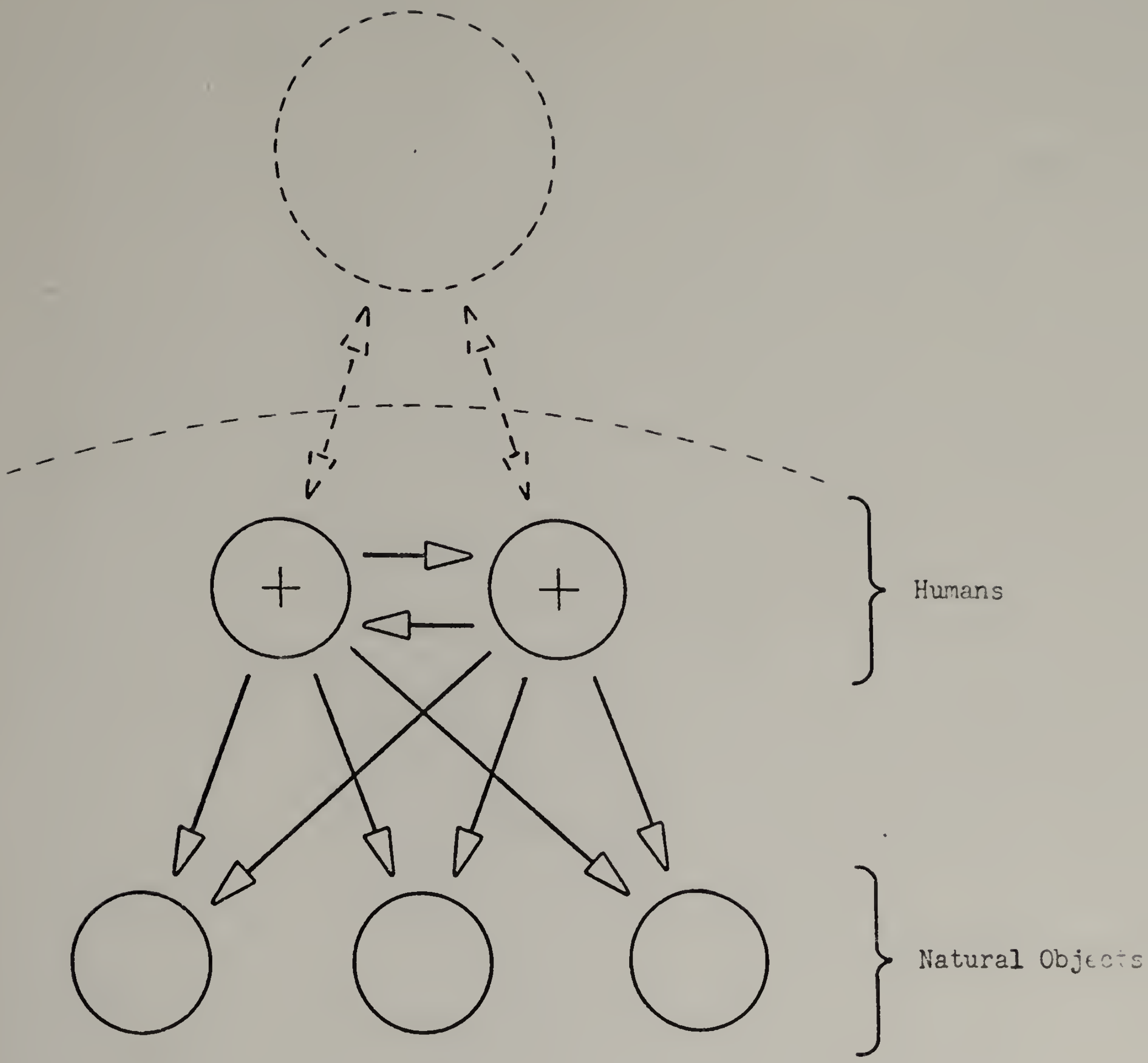


Figure 3. MODERN MATERIALISTIC WORLD-VIEW. This view was shaped by the Judeo-Christian tradition, but does not retain its spiritual elements. Humans are still set apart from nature, because they have minds (rather than because they have souls). Their relationship with natural objects is non-reciprocal. (The "+" indicates the presence of mind. The single-headed arrows indicate a non-reciprocal relationship.)

domination of people (human nature) in order to compete successfully for the material wealth that is required to satisfy these wants. Weapons technology and behavior control are as much a product of the domination theme as are strip mining and air pollution. Leiss fears that this will remain so until there is an equal distribution of resources and a socialist society.

He does not believe that the present approach to domination can continue, because of what he calls the "revolt of nature." This term can be understood in two ways. In one sense it refers to the developing revolt of human nature against the oppression that has resulted from the quest for mastery of people. The revolt of nature, also, refers to the breakdown of our ecosystem in the face of irrational exploitation, which threatens our biological survival.

Leiss fears that if there is a major social rebellion, it may be of an irrational sort, which will turn against and reject science and technology. But this would mean the loss of the vital strengths of science and technology, as well as their drawbacks. What he feels needs to be done is to change the role of science and technology in our society.

> The idea of the mastery of nature must be reinterpreted in such a way that its principal focus is ethical or moral development rather than scientific and technological innovation. In this perspective progress in the mastery of nature will be at the same time progress in the liberation of nature . . . . The task of mastering nature ought to be understood as a matter of bringing under control the irrational and destructive aspects of human desires . . . .

Again a caveat: ethical progress and scientific-

> technological progress are not simple opposites. What is of value in each depends in some measure on the accomplishments of the other. The development of scientific rationality, as I suggested earlier, is one crucial presupposition of any ethical advance, in that it counters the human propensity to project irrational structure into external nature and to be tyrannized by those projections.[26]

He concludes that our understanding of the mastery of nature must become "one in which mastery of nature is understood as an advanced stage in human consciousness wherein intelligence is able to regulate its relationship to nature (internal and external) in such a way as to minimize the self-destructive aspects of human desires."[27] Only in this way can mastery of nature be accomplished as a means of achieving positive human goals.

The very idea that our attitudes toward both people and nature are somehow connected seems absurd to many people. That we have so much difficulty in recognizing the connection between the two may point to the sharp dichotomy between the two which characterizes our culture. Nevertheless, the attitudinal connection has been made before, although generally in a vague, intuitive manner. Thomas Merton, for example, has noted that:

> The ecological conscience is also essentially a peace-making conscience. A country that seems to be more and more oriented to permanent hot or cold war-making does not give much promise of developing either one. But perhaps the very character of the war in Vietnam--with crop poisoning, the defoilation of forest trees, the incineration of villages and their inhabitants with napalm--presents a start enough example to remind us of this most urgent moral need.[28]

Examples of the connection between the domination of both nature and people are numerous. Manufacturers who pollute a town's air and water have threatened to close their plants and move elsewhere if they were required to clean up their effluents. If the manufacturer is a major employer in the town, the threat amounts to economic blackmail. Feeling that they have the right, or necessity to pollute (domination of nature) and, thus, pass the cost of waste disposal on to the townspeople in the form of health hazards and increased maintenance costs (domination of people), they threaten their employees and their town with severe economic hardship if required to stop (domination of people).

The green revolution provides another example. This method of agriculture provides high yields through the combined use of large-scale, mono-crop planting, hybrid seed, and the intensive use of fertilizers, irrigation, and machinery. Exporting this technology to the Third World involves a radical disruption of the traditional agriculture, society, economy, and power structure. Yet little or no effort is made to help the people to understand the wider implications of the new methods, or to give them any voice in making the decisions of whether or not, or how, to employ it.

Modern warfare, as Merton suggested, provides some terrifying examples of the connection between the two forms of domination. In Vietnam, defoliants were widely used in order to deprive the enemy of cover beneath the forest canopy. Large areas of forest were defoliated without regard for the possible impact upon the local ecology, the national economy, or the health hazard to the local populace. In addition, a massive program of crop destruction by the use of herbicides was instituted in order to deprive the enemy of food. This imposed a greater deprivation upon the local peasants, leading to starvation, and contributing to their forced urbanization.

The ultimate synthesis lies in the potential for thermonuclear war. In this situation all distinction between people and landscape, social institutions and ecosystems, combatants and noncombatants, warring nations and neutrals disappears. The relatively small number of people directly involved in the dispute employ a military technology which has the potential essentially to destroy everything on the earth. At this point, domination becomes indistinguishable from insanity.

Alternatives to Domination

As our power to influence nature has increased, we have been forced to realize in very pragmatic terms that we are nature. As we strive increasingly to dominate nature, we must increasingly dominate our fellow human beings. If we destroy nature, we will destroy ourselves as well. The old dichotomy between man and nature is breaking down. In our present cultural context we possess enormous powers to shape the world and control people. These powers, such as nuclear, information processing, and behavior control technologies, are greater than anything that could be conceived only a century ago. They have been developed in a matter of just a few decades; almost instantaneously in the perspective of the history of Western civilization. While the technique has changed, though, our social, political, and economic institutions have not changed apace.

Before we had the power to destroy both humanity and nature, it did not really matter whether we viewed our role as that of domination. Ethos and behavior, although connected, are not identical. The recent changes in our technology have led to a radical change in our behavior, even though the ethos of domination may not have changed in recent decades. But the object of domination is to create a good life for ourselves. In the present context, however, this ethos is not leading to the good life. Instead, it is leading to overpopulation, starvation, pollution, totalitarianism, exhaustion of our resources, degradation of the ecosystem, and nuclear holocaust. The increased power that has come to us through our new technologies has led to the obsolescence of the domination ethos. By continuing to adhere to it, we threaten to lose whatever chance we may have to live healthy, meaningful, and reasonably secure lives.

But what are the alternatives to domination? A number of alternatives have been proposed. Many authors have suggested that the West adopt one of the religions of the East, or of one of the traditional cultures.[29] Lynn White, Jr., has argued that, "religious problem is to find a viable equivalent to animism."[30] Paul Shepard believes that we must revive the hunter-gatherer traditions of our ancient forebearers.[31] And there has been a great deal of popular experimentation with various life-styles and religions, and a revival of interest in magic and witchcraft.

Two Eastern religions which are often cited as particularly good, ecologically responsible models for the West are Taoism, and Buddhism (particularly Zen). Both teach that humanity and nature are an integral part of each other and that our authentic selves can be found only by living within the spontaneous, harmonious rhythms of nature. When we act self-consciously, when we try to impose our will upon the world, we split ourselves from the world, and from the true nature of our being. In so doing, we create a false reality and live incomplete, benumbed lives. They maintain that in order to shed ourselves of this false, debilitating way of life, we must shed ourselves of our self-consciousness and live spontaneously in accordance with the rhythm of the true way, which lies within us and the rest of the universe. Success comes only by working with the world, not by imposing our egos upon it.

> There are those who will conquer the world
> And make of it (what they conceive or desire).
> I see that they will not succeed.
> (For) the world is God's own Vessel
> It cannot be made (by human interference).
> He who makes it spoils it.
> He who holds it loses it.[32]

This approach to the world is often symbolized by water, which although it is capable of eventually overcoming and wearing away any obstacle is fluid and yields to the contour of the land and whatever impedes its progress. It is also symbolized in the grass which, by bending before the wind, is able to survive storms which topple trees. A number of Eastern martial arts embody this principle in their technique of yielding before an opponent's attack, and turning his momentum against him. This stands in marked contrast to the Western approach of meeting an adversity head-on, and countering force with force.

The impact of Taoist and Zen philosophies upon human interaction with nature can be seen in the horticultural arts. The following description of a Taoist hermitage in China of the 1930's illustrates the way in which the gardeners worked within the context of the natural forms of the location, rather than attempting to wholly impose their will upon the landscape.

> The steep path crawling up [the mountain's] western face followed the convolutions of a torrent winding through a series of dark chasms. Not far from where the hermitage clung to the steep rock-face, these miniature cataracts were fed by a high fall; a long slim column of opal-coloured water thundered into a churning pool obscured by rainbow-tinted spray. Here, where the path took a sharp turn towards a stone stairway leading to the main gate, it could be seen that the recluses' love of unspoiled beauty had not deterred them from lending nature a helping hand. The immediate environs of the Valley Spirit Hermitage gave the impression of a series of rocks and caverns, overhung by ferns and luxuriant plants, which just happened to emerge from the undergrowth in this vicinity, adding enormously to its picturesqueness. What aroused my suspicion was that no other section of the mountain, apart from the chasms and waterfall, looked so exacly like the original of a Taoist painting. There was, of course, no obvious symmetry, but yet a sense of underlying harmony that was just a shade too pronounced to be altogether natural. Whoever had been responsible for making the 'guided wildness' of the approach to the hermitage even lovelier than nature's untouched handiwork has surely been a master of subtlety, for there was not an object within sight of the stairway of which one could confidently affirm it had been tampered with.[33]

This scene is quite different from the ornamental gardens of the European tradition. The Taoist and Zen Buddhist gardeners view their role as that of drawing out the potentials which are already inherent in the landscape and plants. They continually prune and plant, but their intention is to act as if they are agents of nature itself.[34] This is not to say that the garden can not be an artificial creation. Every stone and plant in a tea garden, for example, may have been transported to the site. The effect of the garden, however, is to create, in a very small space, the impression of a rustic retreat from the rest of the world. The landscaping and all of the materials, from stepping stones, to lanterns, to bamboo fences, are designed to give a sense of being natural to the place. Even a very formal, abstract garden consisting of moss-covered boulders on a field of raked sand is based upon organic, flowing forms, which reflect nature.

But not all is well in Eden. In his, The Book of Tea, Okakura Kakuzo recounts the following story.

> In the sixteenth century the morning-glory was as yet a rare plant with us. Rikiu had an entire garden planted with it, which he cultivated with assiduous care. The fame of his convolvuli reached the ear of the Taiko, and he expressed a desire to see them, in consequence of which Rikiu invited him to a morning tea at his house. On the appointed day the Taiko walked through the garden, but nowhere could he see any vestige of the convolvulus. The ground had been leveled and strewn with fine pebbles and sand. With sullen anger the despot entered the tea-room, but a sight waited him there which completely restored his humour. On the tokonoma, in a rare bronze of Sung workmanship, lay a single morning-glory--the queen of the whole garden![35]

Kakuzo tells the story with great appreciation, and speaks of the act as a "Flower Sacrifice." To me, however, it sounds like the plants were destroyed for the sake of a sense of aesthetic taste which had lost touch with its religious and philosophical roots.

Proponents of Eastern philosophies as solutions to our environmental problems often lose sight of the fact that one's behavior need not be in keeping with one's idealogy, and that this is no less true of the East than it is of the West. The fact that some Eastern religious and philosophical texts stress harmony with nature does not necessarily mean that Eastern societies live in harmony with nature; nor does the fact that the New Testament stresses brotherly love mean that the West is replete with brotherly love. In both cases we are dealing with ideals--not with actuality. In a similar vein, the gardens of a social elite are not necessarily representative of the manner in which the majority of the people tend their gardens.

Yi-Fu Tuan has pointed out that, "A culture's publicized ethos about its environment seldom covers more than a fraction of the total range of its attitudes and practices pertaining to that environment. In the play of forces that govern the world, esthetic and religious ideals rarely have a major role."[36] The early Christians, for example, did not produce any great changes in their environment, compared to those made by the Romans. The Romans had a centralized administration, which permitted them to conduct large scale projects, such as the construction of aqueducts and road systems. So too, despite Taoist and Buddhist attitudes of harmony with nature, China suffered a great deal of environmental damage over the past two thousand years.

The Taoist hermitage described so glowingly by Blofeld rested on the side of a mountain which had previously been completely deforested. This was only one example of a large pattern of deforestation described by Tuan. He argues that there had been considerable deforestation as early as 800-300, B.C. There even appears to have been professional conservation officials working in the service of the rulers. People were allowed to cut trees only at certain times of the year, in an apparent effort to control the number of trees cut. This suggests that there was considerable concern about the rate of deforestation. It also argues that an attitude of harmony with nature was not sufficient in itself; it had to be enforced through regulations.

From the fourth century, B.C., onward, the peasants made a practice of burning over forest areas in order to destroy the habitat of dangerous animals. Around 960-1279, A.D., the charcoal demand of the country exceeded its timber resources. In the period spanning the tenth century through the fourteenth century, the Buddhists introduced the practice of cremation, which led to timber shortages in the southern coastal provinces. The extensive use of wood in the construction (and reconstruction, after fire and battle) of their cities placed heavy additional demands upon their forests. Finally, Tuan writes that the Buddhists have been blamed for seven-tenths of forest consumption during the seventeenth century. One reason for this, he suggests, "was that instead of living in 'grass hermitages' they built themselves huge halls and temples."[37]

He points out that China was an empire supported by a vast bureaucracy. It is not surprising that the approach of domination was found alongside that of harmony with nature. This is not to deny the value of Chinese philosophy, rather it is an attempt to place it in perspective. It may well be that the presence of the idea that humanity and nature are a harmonious whole helped to direct them away from the extreme of domination which characterizes the West. On the other hand, China's impact upon its environment was no less than that of the West prior to the development of modern Western technology.

We are not likely to solve many of our problems, if any, by trying to transplant Taoism or Buddhism to the West. The rapidity with which Japan industrialized, and the concomitant degradation of of its environment only support this notion. In addition, these philosophies are not rooted in our cultural heritage and, thus, are not likely to become integrated into our culture without considerable modification. Nevertheless, these philosophies can be of great value to us. First, they represent meaningful and significant options for those who wish to adopt them as models for their own lives. The fact that they can not be adopted on a large social scale does not reduce their value to individuals. Even in the East, few people fully commit themselves to the religious life. To most, it provides the backdrop, rather than the focus of their daily lives.

On the larger social level, Taoism and Buddhism are of great potential value, because they provide an alternative to domination, which can be examined and adapted to our cultural context. The idea of harmony with nature is not new to the West, but it is subordinant to that of domination. The East provides a richer variety of models of harmonious relationships with nature. These may be of help as guides as we try to forge a new pattern of interaction with our environment.

We must, however, create our own patterns. In a real sense, we are all on a vision quest. We are seeking a new vision of our world and our place in it, which we can hold before us as a guide. It is very tempting to grasp hold of the vision of another people, but this will not work. Barring a holocaust, we can not go completely back to a previous pattern of living. Neither the old, nor the new ways of doing things are working. We must save what is valuable of our past and our present, and create a new way of doing things--a new world-view, and a new ethos. The process, though, is not wholly (or even largely) one of conscious planning and design. We do not know exactly what we are trying to build. The process is more one of emergence and evolution. The acts and visions of each of us contribute to the larger, organic process.

A number of authors have suggested alternatives to the ethos of domination. Their conclusions are surprisingly similar, and bear some resemblance to the Taoist view. G. Tyler Miller, Jr.,[38] argues that our hunter-gatherer ancestors lived, as do contemporary hunter-gatherers, in a state of "man in nature." In this state, people are essentially powerless in the face of natural events. With the development of agriculture and, later, industry we gained power to shape our environment to meet our needs. No longer were people emersed in nature, rather they strove to control it. Miller calls this stage, "man vs. nature." Now, however, we are discovering that the man vs. nature relationship has severe drawbacks. At the same time, we do not wish to return to the man in nature stage. He suggests that we, instead, develop a "man and nature" relationship. In this stage we would recognize that the world is too complex to control and that: "Everything is connected to everything and our job is to preserve stability, ambiguity, diversity, and human dignity and freedom by harmonious cooperation with nature. Because we can never know how everything or even most things are interconnected, [we must act with] restraint and humility."[39]

Looking back across our history, E. A. Gutkind[40] found a somewhat similar pattern. He believes that there are two fundamental ways in which human beings can be in relationship with their environment. Borrowing Martin Buber's terminology, he calls them I-Thou, and I-It. Originally people lived in close contact with nature. We were dependent upon the natural world and its vicissitudes. We were in close touch with it and responded to its subtle changes. In this I-Thou relationship, everything we saw in nature had meaning to us. As our technology and analytical methods developed, however, we became increasingly distant from nature. In the past few centuries we have become isolated from nature and the human community. Gutkind believes that this has happened in large part because the cycle of our existence has become centered around mechanically regulated activities, (such as work regulated by clock time), rather than around the natural cycles of sun, seasons, animal and plant activities, and our own biology. "Today the transformation from the hesitant and whispered dialogue between man and nature to the aggressive and loud exploitation of nature and from closely knit communities to atomized societies is complete."[41] Nature and our fellow human beings have become alienated from us--things with which we exist in an I-It relationship.

In addition to these two relational patterns, Gutkind has identified four attitudinal approaches to the world, each of which characterizes a different stage in our historical development. The first stage, "fear and security," was characterized by a fear of the unpredictable, mysterious forces in both nature and people, and by a desire to protect oneself from them. Nevertheless, people lived in a direct I-Thou relationship with nature. With the development of agriculture and the techniques of terrace farming and irrigation, we entered a stage of "confidence and adjustment." There was a greater degree of planning and a more rational shaping of the environment. Adjustment to environmental changes, though, was immediate and reciprocal. In the third stage, "agressiveness and disintegration," adjustment turned into explcitation as our power to change the environment increased. Our objectives have become both diverse and disjointed. For the first time an I-It relationship has become prominent, and society has acquired its modern, characteristically domination-oriented approach.

Looking toward the future, Gutkind sees the rise of a new attitude of "responsibility and unification," which will reestablish an I-Thou relationship.

> Expansive ruthlessness is gradually merging into a careful adjustment to environmental conditions and new possibilities. Man begins to be aware of his real responsibilities and of the limitations which the closing frontiers of the world impose upon him. The objectives are gaining in precision, foresight, and co-ordination. Unity in diversity and unification are emerging as the main tasks in the next stage of development in which man must act as a co-ordinator, guided by social awareness and insight into the workings of nature.[42]

Along with the coming change in relationship and attitude, he also sees an emerging change in the scale of our projects. This, again, is part of a larger historical pattern of development. The geocentric world-view was quite bounded, and the projects undertaken by the people who dwelled within it were generally small. With the rise of the heliocentric view, Gutkind notes that there was an accompanying development of greater expansiveness in architecture and cities, and a scattering of colonial possessions. The unbounded nature of our present cosmology has brought on great expansion and growth as we continually push at the frontiers of the world. Now, however, our frontiers and resources are running out and we must recognize the finiteness of our earth. Bigness is not necessarily goodness.[43] He argues that we must reestablish a realistic and human scale in our enterprises.

Both Miller and Gutkind reach similar conclusions. Both argue that we must give up our attitude of domination, and develop one favoring reciprocity and cooperation. Gutkind takes the further step of stating that this attitude must guide not only our interactions with nature, but with people as well. Jonas Salk, too, has arrived at this conclusion, although he argues it in a different way.

> If human life is to express as much harmony, constructiveness, and creativity as are possible for fulfilling the purpose of life, as "required" by Nature, and the purposes in life, as "chosen" by Man, an attitude will be needed, not of Man "against" Nature, but of Man "inclusive with" Nature. A more reasonable attitude would be for Man to "serve Nature" in order to serve himself, rather than to "serve himself" without regard for, or at the expense of Nature and others.[44]

Salk believes that the recent centuries of increasing growth in population, resource consumption, environmental degradation, and violence are characterized by social attitudes based upon exclusion. Either one idea, thing, or person is correct, or acceptable, or another is. Each excludes the other in a combative struggle for domination over the other. In order to reduce the growth rate and head-off a major social and environmental catastrophy, we must change our attitude from one of "either/or" to one of "and." The "and" attitude is inclusive. It accepts conflicting, but complimentary values in a state of dynamic tension. This attitude even allows for the presence of either/or attitudes when they are appropriate.

One way to determine which attitude underlies a particular action is to ask the question, "who wins?" Under the attitude of domination (either/or) there are clear winners and losers. Under the inclusive attitude there are generally not clear losers. Rather, an effort is made to meet the needs of all parties involved. Instead of a win-lose attitude, there is one of double-win. Salk believes that once we develop an attitude of inclusiveness we will be able to play "the game of life *for what can be given to and received from it, not for how much can be taken and how little can be given.*"[45] This applies to our interactions with both our social and our bio-physical environments.

Mutuality

Florence Kluckhohn[46] has developed an anthropological theory which will help to clarify the views that I have been reviewing. She believes that within each culture there are three fundamental value orientations[47] governing human interaction with nature; "Subjugation-to-Nature," "Harmony-with-Nature," and "Mastery-over-Nature." These options are similar to Miller's stages of Man in Nature, Man and Nature, and Man vs. Nature, respectively. Her statement of the concept, however, is far more sophisticated than is his. She argues that this range of values is always present in all cultures. No culture can be viewed as being governed by only one of the value orientations. What characterizes a particular culture is the emphasis placed upon each orientation. Kluckhohn and Strodtbeck conducted comparative field studies of Zuni, Navaho, Spanish-American, Morman, and Texan communities, which seem to support her theory.

It is, then, a gross oversimplification to state that the American ethos is simply one of Mastery-over-Nature, or that the traditional Japanese ethos is that of Harmony-with-Nature. Rather, we must recognize that, although these may be the dominating value orientations, the alternative orientations are still present in each culture. This is encouraging, because it means that if we wish to change the dominant value orientation of our culture we do not have to introduce a totally new set of values. There appears, then, to be a greater likelihood of bringing about such a change.

Leiss, Gutkind, and Salk have pointed out that the change in our ethos must include a change in the way in which we interact with people, as well as with nature. Kluckhohn, however, places the value orientations associated with interpersonal relations under a different category. These orientations are; Lineality," "Collaterality," and "Individualism." Lineality involves an hierarchical relationship between people. The higher one's position in the hierarchy, the greater one's power and authority. This is characteristic of military and corporate organization, as well as of traditional societies in which one turns to the elders when decisions must be made. Collaterality involves an interest in the welfare of a group of people who share in a lateral (as opposed to hierarchical) relationship. "Biologically, sibling relationships are the prototype of the Collateral relationship."[48] When decisions are made, they are made with the interests of the entire group in mind. Individualism, on the other hand, emphasizes the welfare of the particular individual who is making the decision. When group decisions must be made, rather than reaching a consensus in a collateral mode, they are reached by a vote. The majority rules, regardless of the desires or needs of those who lost the vote. Again, she points out that all three relational value orientations are present in each culture, and that each is characterized by which orientations are particularly emphasized.

I feel that the split between the man-nature and the relational values in Kluckhohn's scheme is a product of a cultural bias. It is, I believe, a product of the human nature dichotomy of the Judeo-Christian tradition. I propose to combine the two sets of value orientations under the terms; "Submission," "Mutuality," and "Domination." Under the Submission orientation, one senses oneself as being powerless before the forces of nature, or human authority. Mutuality involves a concern for the welfare of all parties involved in a situation, be they human or non-human. Domination emphasizes the welfare of the individual at the expense of nature or other people. In this view, her two categories involve the same relational structure, but differ in terms of what parties are involved in the relationship: human-human in one, and human-nature in the other (see figure 4).

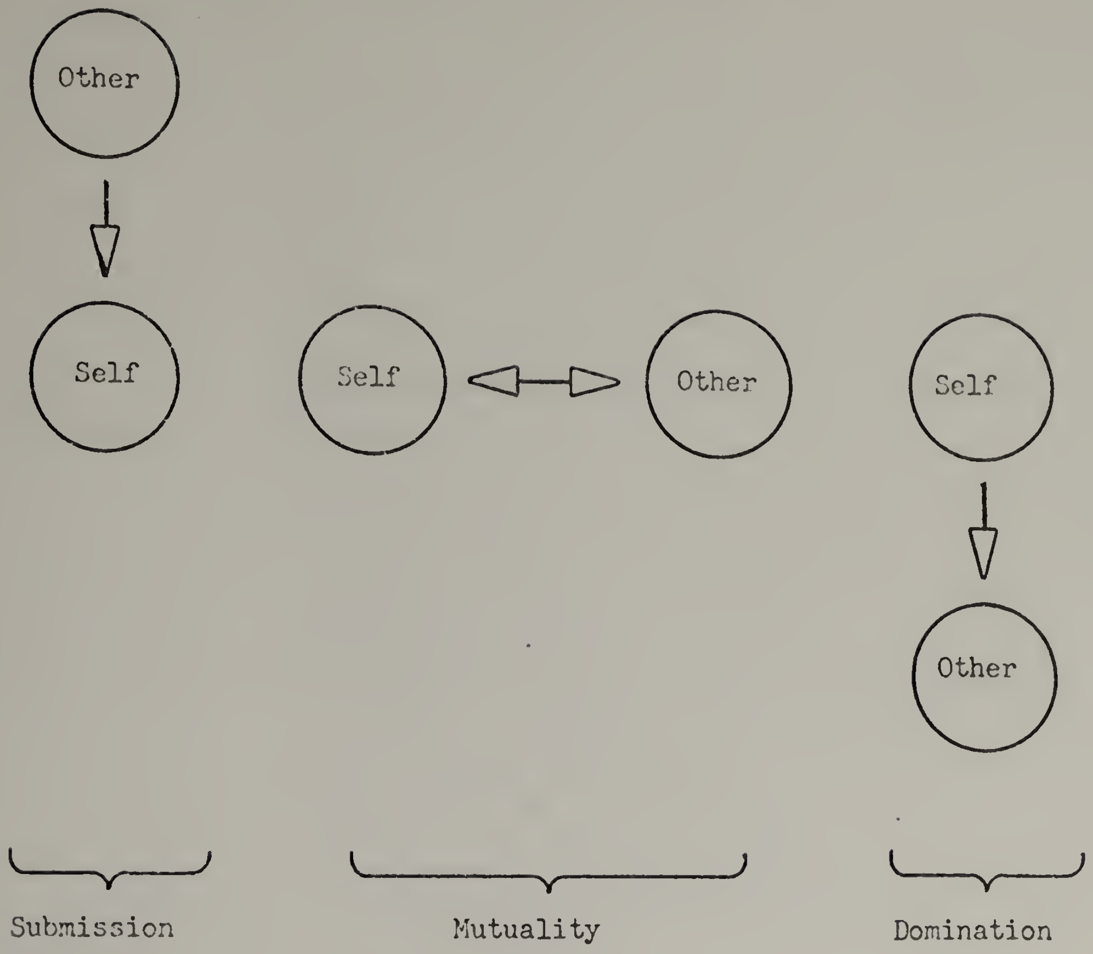

Other
Self
Self
Other
Self
Other
Submission
Mutuality
Domination

Figure 4. THE THREE RELATIONAL VALUE ORIENTATIONS

This is not to say that any culture in which domination of people is emphasized will also emphasize the domination of nature. Indeed, Kluckhohn's and Strodtbeck's results suggest that the Spanish-American community that they studied emphasizes Individualism (Domination) in human relations, and Subjugation-to-Nature (Submission) in man-nature relations. What I am arguing is that the relationship between self and other in both cases are structurally similar and, thus, should be referred to with similar terminology. However, one's relations to people, and to nature may be governed by different value orientations under different circumstances.

It is interesting to note the similarity between Domination and Submission. The difference between the two seems to lie primarily in where power is believed to lie, not in the way in which power is applied. That is, they differ primarily in who or what is seen as dominant, and who or what is seen as in submission. The two are opposite sides of the same coin. Only the Mutuality orientation involves a fundamentally different relational structure.[49]

With the exception of Kluckhohn (who has taken a descriptive, rather than an adversary role) all of the authors reviewed have argued that we must move from an orientation of Domination to one of Mutuality. It is this task which I believe is at the root of the environmental movement. It is a social as well as an ecological challenge, because our current patterns of interaction with our non-human environment are integrally entwined with our interactions with other individuals, institutions, and nations.

The ethos which is characteristic of a predominantly mutualistic value orientation is a logical and necessary extension of the emerging world-view in which we are all interconnected with, and dependent upon the ecology and peoples of the world. Our science and technology have brought us to the point at which the old ethos which emphasizes Domination has lost survival value.

What we are dealing with is Mutuality as both a world-view and an ethos. The former involves an image of a world in which we each exist in a reciprocal, interdependent relationship with both people and nature. The latter involves an ethic based upon a mutualistic reciprocity, requiring that we work for double-win, rather than win-lose solutions. Each, the world-view and the ethos, is in harmony with the other. This points to the emergence of a new moral order, which is implicit in the dynamics of the mutualistic universe. Once this happens, if it happens, we will once again recognize ourselves as occupying a position of significance in the universe and Holtz' new sense of the tragic can emerge.

This can not happen, though, until the mutualistic world-view and ethos become a predominant part of our culture. The process has begun. Take, for example, the problem encountered when a river floods and destroys homes in its valley. A submissive approach to the problem would be to say, "these things happen and there is nothing I can do about it," and rebuild at the same location. A dominating approach would be than of saying, "Damn it, this flooding has got to be stopped," and build flood control dams upstream. The mutualistic approach would involve the realization that it is the nature of a river to flood its flood plain--that the flood plain is a part of the river, although it most often occupies a narrow channel. The solution to the problem, then, would be not to build homes in the river; that is, in the flood plain. This kind of land would better, and more safely, be used for agriculture and recreation. Such an approach is increasingly being taken and instituted in the form of zoning regulations and flood insurance rate schedules.

Our social, political, legal, and economic institutions are likely to become increasingly mutualistic as we are forced to deal with international tensions and environmental degradation. The process needs to be helped along, though, through the clear articulation of a mutualistic philosophy and the development of a body of people who are consciously committed to this approach. In addition, Mutuality must become an integral part of education.

One's ethos and world-view are not inherited genetically. They are learned. It is through education, in the broadest sense of the term, that a new ethos and world-view will be spread. It is important to realize that a society's formal educational institutions probably play a relatively small role in this overall process. Nevertheless, they can help to preserve the germinal ideas until the society is ready to accept them. And they can play a part in helping to crystallize the general mutualistic orientation that students are likely to learn as their social environment becomes increasingly mutualistic.

The major task of environmental education is, as I see it, to foster a mutualistic world-view and ethos. Most environmental educators have viewed their role through a very narrow window and, thus, the role of environmental education has been narrow. However, the perspective that I have presented joins it with humanistic education, international education, and others, in a common task.

I wish to focus upon the role that environmental education can play in promoting a mutualistic value orientation. In particular, I will deal with mutualistic interactions with our bio-physical environment. Nevertheless, since our attitudes toward both people and nature are interconnected, I must deal with social mutualism as well. Before dealing specifically with education, we must take a closer look at the characteristics of social and environmental mutualism. To what extent are they similar, and how do they differ?

Footnotes

[1] Richard Jefferies, The Story of My Heart: My Autobiography (Boston: Roberts Brothers, 1883), p. 33.

[2] Joseph Wood Krutch, The Modern Temper (N.Y.: Harcourt, Brace & Co., 1929), p. 136.

[3] "In the primary world view Man and Not-Man are bound together in one moral order. The universe is morally significant. It cares. What man sees out there, that which is not himself and yet in which he somehow participates, is a great drama of conduct. . . . The universe is not an indifferent system. It is a system of moral consequences."

Robert Redfield, The Primitive World and Its Transformations (Ithica, N.Y.: Cornell Univ. Press, 1953), p. 106.

[4] Krutch, p. 123.

[5] Ibid., pp. 119-120.

[6] Sophocles, "Oedipus Rex," trans. Albert Cook, in Ten Greek Plays, ed. L. R. Lind (Boston: Houghton Mifflin, 1957), pp. 148-149.

[7] Samuel Beckett, Waiting for Godot (N.Y.: Grove Press, 1954), p. 57.

[8] William Holtz, "Homage to Joseph Wood Krutch: Tragedy and the Ecological Imperative," American Scholar, 43 (1974), 279.

[9] Clifford Geertz, "World-View and the Analysis of Sacred Symbols," Antioch Review, 17 (1957), 421-422. See, also, Redfield, pp. 85-86.

[10] See, for example: Redfield (1953), pp. 102-110; Daisetz Suzuki, "The Role of Nature in Zen Buddhism," Eranos-Jahrbuch 1953, 22 (1954). 291-321, as cited by Clarence J. Glacken, Traces on the Rhodian Shore (Berkeley, Calif.: U. of Calif. Press, 1967), p. 494; and Paul B. Sears, "The Processes of Environmental Change by Man," in Man's Role in Changing the Face of the Earth ed. William L. Thomas (Chicago: U. of Chicago Press, 1956), p. 472.

[11] Lynn White, Jr., "The Historical Roots of Our Ecologic Crisis," Science, 155 (1967), 1203-1207.

[12] This diagram and those which follow provide clarity at the expense of undo concreteness. It should be kept in mind that they illustrate only the main pattern of the world-view. In actuality, there are likely to be many variations on the theme.

[13] *Genesis*, 1:26.

[14] Glacken, p. 494.

[15] Ibid., pp. 496-497.

[16] Lynn White, Jr., "Continuing the Conversation," in *Western Man and Environmental Ethics*, ed. Ian G. Barbour (Reading, Mass.: Addison-Wesley Publishing Co., 1973), pp. 55-64.

[17] Ibid, pp. 59-60.

[18] Christopher Derrick, *The Delicate Creation: Toward a Theology of the Environment* (Old Greenich, Conn.: Devin-Adair, 1972), p. 75.

[19] Ian G. Barbour, "Attitudes Toward Nature and Technology," in *Earth Might Be Fair: Reflections on Ethics, Religion, and Ecology*, ed. Ian G. Barbour (N.J.: Prentice-Hall, 1972), pp. 146-168.

[20] Derrick, p. 79.

[21] H. Paul Santmire, "Reflections on the Alleged Ecological Bankruptcy of Western Theology," in *Ethics for Environment: Three Religious Strategies*, ed. Dave Steffenson, W. Herrscher, and R. Cook (Wisconsin: U. of Wisc.-Green Bay Ecumenical Center, 1973), 23-46. For another theologian rebbutal to White, see Harvey Cox, *The Seduction of the Spirit* (N.Y.: Simon & Schuster, 1973), pp. 46-51, 61-66.

[22] John A. Moncrief, "The Cultural Basis for Our Environmental Crisis," *Science*, 170 (1970), 511.

[23] William Leiss, *The Domination of Nature* (Boston: Beacon Press, (1974).

[24] Ibid, p. 179.

[25] Ibid, p. 189.

[26] Ibid., p. 193.

[27] Ibid., p. 197

[28] Thomas Merton, "The Wild Places," in *The Ecological Conscience*, ed. Robert Disch (N.J.: Prentice-Hall, 1970), p. 43.

[29] See, for example: Huston Smith, "Tao Now: an Ecological Testament," in Barbour, *Earth Might Be Fair*, pp. 62-81 (suggesting Taoism); Rajagopal Ryali, "Eastern-Mystical Perspectives on Environment," in Steffenson, et. al., pp. 47-56 (suggesting Hinduism);

J. W. E. Newbury, "Ethics for Environment: Native American Insights," in Steffenson, et. al., pp. 57-68 (suggesting Native American religions); and Theodore Roszak, Where the Wasteland Ends: Politics and Transcendence in Postindustrial Society (N.J.: Doubleday, 1972), (suggesting Gnosticism).

[30] White, "Continuing the Conversation," p. 62.

[31] Paul Shepard, The Tender Carnivor and the Sacred Game (N.Y.: Scribner, 1973).

[32] Laotze, The Book of Tao, XXIX, trans. Lin Yutang, The Wisdom of China and India, ed. Lin Yutang (N.Y.: Random House, 1942), p. 599.

[33] John Blofeld, The Secret and Sublime: Taoist Mysteries and Magic (N.Y.: E. P. Dutton, 1973), p. 117.

[34] See, for example: Brooklyn Botanic Garden, Handbook on Japanese Gardens and Miniature Landsacpes (Brooklyn, N.Y.: 1961), a special printing of Plants and Gardens, 17, No. 3 (1961); Matsunosuke Tatsui, Japanese Gardens (Tokyo: Japan Travel Bureau, 1952); and H. Batterson Boger, The Traditional Arts of Japan (N.Y.: Bonanza, n.d.), pp. 161-220; Masao Hayakawa, The Garden Art of Japan (N.Y.: John Weatherhill, 1973).

[35] Okakura Kakuzo, The Book of Tea (1906; rpt. Rutland, Vermont: Charles E. Tuttle: 1956), pp. 106-7.

[36] Yi-Fu Tuan, "Our Treatment of the Environment in Ideal and Actuality," American Scientist, 58 (1970), 244.

[37] Ibid, p. 248.

[38] G. Tyler Miller, J., Living in the Environment: Concepts, Problems, and Alternatives (Belmont, Calif.: Wadsworth Publishing Co., 1975), pp. 23-30.

[39] Ibid., p. 369.

[40] E. A. Gutkind, "Our World from the Air: Conflict and Adaptation," in Thomas, 1-44.

[41] Ibid., p. 12.

[42] Ibid., p. 27.

[43] This has been argued from an economic perspective by E. F. Schumacher in Small is Beautiful (N.Y.: Harper & Row, 1973).

[44] Jonas Salk, *The Survival of the Wisest* (N.Y.: Harper & Row, (1973), p. 4.

[45] Ibid., p. 113 (italics his).

[46] Florence Rockwood Kluckhohn, "Dominant and Substitute Profiles of Cultural Orientations: Their Significance for the Analysis of Social Stratification," *Social Forces*, 28 (1950), 376-393. Florence R. Kluckhohn and Fred L. Strodtbeck, *Variations in Value Orientations* Illinois: Row, Peterson & Co., 1961).

[47] "Value orientations are complex but definitely patterened (rank-ordered) principles, resulting from the transactional interplay of three analytically distinguishable elements in the evaluative process-- the cognitive, the affective, and the directive elements--which give order and direction to the ever-flowing stream of human acts and thoughts as these relate to the solution of 'common human problems.'"

Kluckhohn & Strodtbeck, p. 341. They state that the value orientation of a culture is synonymous with its ethos (pp. 1-2, 346).

[48] Ibid., p. 18. Please note Kluckhohn's practice of capitalizing the names of each value orientation. This is a practice which I will continue throughout this dissertation.

[49] At this point I am not using these terms in a pejorative sense. Rather, I am simply describing relational situations.

CHAPTER II

LIFE, ETHICS, AND INTRINSIC VALUE

The distinction between Mutuality and Domination value orientations is subtle, lying in the values which underly an act, rather than in the act itself. In order for people to engage in a genuinely mutualistic interaction, each must grant the others autonomy and regard them as having something of genuine value to contribute. Although different people may not all make contributions of equal quality, they are, nevertheless, granted an equal right to participate. However, a number of authors have suggested solutions to our environmental problems which lack this important element of Mutuality.

In his essay, "The Human Prospect," Robert Heilbroner found himself compelled to write that, although he dislikes dictatorships, ". . . our analysis forces us to consider the possibility that the passage through the gantlet ahead may be possible only under governments capable of rallying obedience far more effectively than would be possible in a democratic setting."[1] He is not alone in reaching this conclusion. Others, too have argued that in order to solve our global social and environmental problems we must first establish a global government with enormous, perhaps dictatorial powers. This is an extreme example of a general approach to solving environmental problems which, although widespread, does not seem to have been clearly labelled; this is, solving environmental problems through the domination of people. Another example of this method is the recommendation that the United States foreign aid, particularly food aid, be sent only to countries which have instituted a strong policy of population control. This is, essentially, a policy of starving countries into submission to our solution to their problems. Their population problems eventually have an impact upon the United States and, thus, become our problems as well; but this does not make the policy any more attractive to me. Keeping in mind the question of who is it that wins, and who loses, it is interesting to notice that the people who must be dominated almost invariably are members of a group other than the one to which the person proposing the policy belongs.

If, indeed, ecological problems are in part the product of an attitude of domination of nature, which in turn is connected to that of domination of people, can the problems be solved through further domination? There seems to be some evidence to the contrary. A number of Third World nations, for example, have viewed our population policy recommendations with great suspicion. They have been repeatedly exploited in the past and it is easy to understand why they would hesitate to trust us now. It makes no difference whether or not a policy theoretically can work, if it is not accepted (or is violently rejected). The attempt to establish a population policy through nutritional blackmail is liable to lead only to further hostility.

In addition, the attempt to solve problems through domination actually reduces the likelihood of finding a solution. The dominator approaches the problem with arrogant certainty of the solution. But the problems we face are so novel and complex that no one can really be certain of any solution until it has been tried. By denying the others the right to full participation in the process both of identifying and solving the problems, the dominator limits his access to important information and advice. Each country, each part of a country, differs in landsacpe, people, and social institutions. These unique qualities are often of great importance in determining whether or not a given policy will work, and it is the people who live in these areas who are generally the best qualified to identify and deal with them.

In his seminal article, "Living on a Lifeboat," Garrett Hardin has argued that Kenneth Boulding's "spaceship earth" metaphor is not an appropriate description of our situation.[2] The earth can be viewed as a spaceship only if it has a captain making decisions and allocating the limited resources of the vessel. In the absence of such a centralized authority, Hardin proposes that the metaphor of a lifeboat is more accurate. Each country is a lifeboat with limited space for passengers. The poor of the world are those who have fallen out of their country's boat, and now they are crying to the large wealthy boats for help. But if the wealthy were to help, the additional burden of people would narrow their own margin of safety, or even swamp their boat. Thus, we find ourselves in the classical ethical dilemma; how do we decide who to let into the lifeboat, and who to leave in the water to drown?

Under normal conditions, when the population of a country exceeds that country's ability to produce food, the population falls back down to a lower level. Hardin points out, however, that the proposed World Food Bank would just keep increasing the population level by pumping additional food into the country each time it exceeded its resources. When the inevitable crash finally comes, it would be disastrous. He argues that under programs such as the Bank, "wealth can be steadily moved in one direction only, from the slow-breeding rich to the rapidly-breeding poor, the process finally coming to a halt only when all countries are equally and miserably poor."[3] The end result, then, would be both mass starvation and universal poverty.

Hardin believes that rights and responsibilities go hand in hand. "When human survival is at stake, the acceptance of responsibility is a precondition to the acceptance of rights, if the two cannot be introduced simultaneously."[4] The right to food entails the responsibility to curb population growth. If a country requests food, but refuses to institute strong population control measures, the normal population cycle should be allowed to take its course, because a comparatively few deaths now is preferable to a great many in the future. He concludes by pointing out that:

> No workable answers can be found if we ignore population

> problems. And--if the argument of this essay is correct--so long as there is no true world government to control reproduction everywhere it is impossible to survive in dignity if we are to be guided by spaceship ethics. Without a world government that is sovereign in reproductive matters mankind lives, in fact, on a number of sovereign lifeboats. For the foreseeable future survival demands that we govern our actions by the ethics of a lifeboat. Posterity will be ill served if we do not.[5]

Hardin's thesis has been the subject of a good deal of controversy. Basically, although coarsely put, he is saying, "If they don't shape up, let them starve." This is a disturbing recommendation which many people have been unable to accept, in part because it runs counter to their basic sense of what is ethically proper. For this reason the critiques of his lifeboat ethic tends to be clouded by unexamined assumptions and a high level of emotionality. I, personally, hope that he is wrong in his conclusions. Nevertheless, his argument deserves careful consideration.

The argument that continuing to provide food to a nation which is unable to control its population will only lead to a larger disaster, is persuasive. It is based upon the concept of the "tragedy of the commons," which Hardin had developed in an earlier paper.[6] Any communally owned resource is a commons if the profits derived from its use go to the individual users. Under these circumstances an individual can make a profit even though his actions may lead to the eventual destruction of the commons, because the expense of his exploitation is borne by the entire community, rather than by himself alone. This led to the destruction of the English commons as individuals increased their herd size in order to maximize their short-term profits at the expense of overgrazing. Hardin argues that the World Food Bank would turn the world's food resources into a commons. Agriculturally poor countries would be able to increase their populations at the expense of the world community, which would share the burden of feeding the additional mouths. Since the poor nations would not bear the burden of the expense of their actions, they would not be motivated to restrain their rate of reproduction.

This argument works if the food supply is the only significant factor that might lead to the self regulation of the population size. Others, however, have argued that as a country's standard of living increases, its rate of population growth decreases. If this is true, then a redistribution of wealth may not lead to a world in which we are all "equally and miserably poor." At this point, though, we do not have sufficient information to know which theory is correct. Daniel Callahan believes that in the absence of hard evidence that the situation is as bad as Hardin paints it to be, "It is thus a perfectly moral course to act as if each and every country can be saved, and as if we can take at least some minor steps to help them (in cooperation with other developed countries)."[7] At this point the debate seems to be based upon optimism and pessimism, rather than on hard data.

If we accept Hardin's main thesis, we are still confronted by some difficulties in his approach to the problem. These are particularly germane to the discussion of Domination and Mutuality value orientations. The first lies in the nature of his analogy. He is equating each country's good resources with the passenger rating of a lifeboat. The rating of the lifeboat is determined in terms of how many people it can hold without capsizing, not by the quantity of its provisions. Food resources, then are being converted into spacial measurements; each passenger occuping so much space, and each lifeboat having so much space for so many people. But Hardin does not address the fact that each lifeboat in his discussion is rated by a different system. Since the per capita production and consumption of the rich nations (such as the United States) is very large, their lifeboats are rated to provide a great deal of space (quality of life) for each person. The poor nations, on the other hand, are in lifeboats which have been rated to provide a maximum passenger capacity. The decision of whether or not the rich should let the poor into their lifeboats is initially based upon the level of the *comfort* of their accomodations, not upon simple survival. The survival decisions must be made only after many survivors have been brought aboard and the vessel is packed to its true safety limit. His failure to really deal with this issue of unequal distribution of the world's wealth contributes to an underlying miserly tone in Hardin's paper.

A second problem is that Hardin's picture of the world is one of separate nations, which exist in isolation from each other. The food wealth of the rich, however, depends a great deal upon the resources of the poor. For example, the production of fertilizer places a heavy demand upon petroleum resources, and a large part of the huge anchovy catch of protein-starved Peru ends up as cattle feed in the United States. He does recognize that the rich have exploited the poor in the past, but writes that:

> We are all the descendants of thieves, and the world's resources are inequitably distributed, but we must begin the journey to tomorrow from the point where we are today. We cannot remake the past. We cannot, without violent disorder and suffering, give land and resources back to the "original" owners--who are dead anyway.[8]

In rebuttal, Callahan writes that the issue is not that of paying retribution for old injustices, but of ceasing to continue perpetrating injustice. Writing in terms which echo Puritanism, Hardin condemns the poor for being poor and not doing anything about it, without substantively addressing the issues of how it was that they became and continue to be poor. It may well be that the rich have enlarged their lifeboats by ripping planks from the boats of the poor. In any event, under our present style of living, the rich are not passengers in self-sufficient lifeboats; they are enmeshed in a complex network of trade with the nations of the world.[9]

Hardin, also, seems to picture the poor nations as powerless pawns which the rich can push around as they please without reprecussions. The oil producing countries of the Middle East have demonstrated this to be a false assumption. They have discovered that by controlling the price and flow of their oil they can have a great economic and political impact upon the rest of the world. Other nations which have resources that the rich want are likely to discover that they have similar power. Those which do not have valuable resources can still resort to terrorism and, eventually, nuclear blackmail. We are no longer in a world in which Hardin's starvation policy can be expected to work. The poor nations are aware of the wealth of the rich and they are bound to band together and demand a piece of the pie, whether or not they undertake the population policies that Hardin recognizes as vital to everyone's long-term well being.

Leiss has argued that domination of people and of nature are linked. We have found domination of people in Hardin's thesis, but what of nature? It turns out that he portrays nature only as resources which can be used to satisfy human needs; that is, as something to dominate. Leiss' rationale for linking the two was that in a world of limited resources, people can successfully dominate nature only by successfully competing with and dominating other people. This, too, is the structure of Hardin's argument. In a world of limited resources, the rich can remain rich only if the poor either accept population controls, or starve.

Hardin's approach of, "you do it my way, or else," is reflective of an underlying orientation of Domination. He views the problem as that of the "haves" defending themselves from the irresponsibility of the "have nots." As a member of the "haves" his view of the situation is ethnocentric. The "have nots" can equally blame the "haves" for squandering the world's resources, thus precipitating the crisis before a proper solution to the long-term problems can be found. In either case one group is trying to pin the blame on another.

A Mutuality approach would be, "Look, we have some problems in common which neither of us can solve without the help of the other." In this case both accept responsibility for the problem (or at least do not go out of their way to place blame) and recognize that each can make a contribution toward its solution. Rather than being two separate groups, they are two groups united in a common task. It is a prerequisite of mutualistic relationships that one sense oneself and the others as joined together as part of a larger group.

That we are all part of a larger group is inherent in the concepts of the world community, and humankind. It is this view of the world which underlies mutualistic international policy. But to what group do we belong if we are to establish a mutualistic relationship with nature?

Albert Schweitzer

When the First World War broke out, Albert Schweitzer felt himself forced to confront and attempt to explain the decay of Western civilization. At first he intended to write a critique of civilization, but his work evolved into a philosophy which he felt would lead to its restoration. His thoughts were built upon the fundamental assumption that civilization is based upon ethical ideals.

> We may take as the essential element in civilization the ethical perfecting of the individual and of society as well. But at the same time, every spiritual and every material step in advance has a significance for civilization. The will to civilization is then the universal will to progress which is conscious of the ethical as the highest value for all. In spite of the great importance we attach to the triumphs of knowledge and achievement, it is nevertheless obvious that only a humanity which is striving after ethical ends can in full measure share in the blessings brought by material progress and become master of the dangers which accompany it. To the generation which had adopted a belief in an immanent power of progress realizing itself, in some measure, naturally and automatically, and which thought that it no longer needed any ethical ideals but could advance to its goal by means of knowledge and achievement alone, terrible proof was being given by its present position of the error into which it had sunk.[10]

Before he could make any headway on his philosophy of civilization, he had to identify the fundamental ethical idea upon which civilization was based. He worked on the problem for months, but with no success, until one day in 1915. While traveling to see a patient, his boat passed through a herd of hippopotami and there flashed into his mind, the phrase, "Reverence for Life."[11] He recognized that it is progress toward the full realization of this ideal which marks the genuine progress of civilization.

In Schweitzer's view, social progress was initially measured in terms of the promotion of human solidarity. In antiquity the idea of a brotherhood of man played only a small part in the shaping of human conduct, because the concept of "man" was narrowly defined. Each group or tribe defined itself as being more human than the others, which meant that one need not act in the same way to other groups as one would to members of one's own group. Ethical progress has consisted of widening the definition of the group with which one feels a sense of solidarity and, thus, to which one feels a sense of responsibility and duty. Even today, though, this sense of one's group tends to stop at racial and national boundaries.

Person-to-person relations, however, do not encompass the whole sphere of ethical concern. In reality, it is a subset of a sphere which includes the question of right conduct in the entire world, and toward all life in it. Schweitzer rejected Descartes' formulation of the beginning sentence of thought, "*cogito, ergo sum,*" which he believed led only to an ever-increasing abstraction from the fundamental experience of being alive. Instead, he focused upon the ever-present will-to-live, which he believed we all experience and share with all other life.

> The elemental fact, present in our consciousness every moment of our existences, is: I am life that wills to live, in the midst of life that wills to live. The mysterious fact of my will to live is that I feel a mandate to behave with sympathetic concern toward all the wills to live which exist side by side with my own. The essence of Goodness is: Preserve life, promote life, help life to achieve

> its highest destiny. The essence of Evil is: Destroy life, harm life, hamper the development of life.
>
> The fundamental principle of ethics, then, is reverence for life. All the goodness one displays toward a living organism is, at bottom, helping it to preserve and further its existence.[12]

The ethic of reverence for life is the product of a long process of ethical evolution, which has been powered and guided by will-to-live. At present, our civilization has not reached this stage, but Schweitzer believed that it inevitably will, in a great renaissance of the human spirit. The alternative is our destruction by our own hands. The person-to-person ethic of the present, although active and profound, is incomplete in that it can contain only a fragment of the human experience of living, and can deal with only a portion of the dilemma which confronts us.

Schweitzer found the world to be "a ghastly drama of will-to-live divided against itself."[13] Each animal, each life, exists by feeding and inflicting suffering upon others, without self-conscious recognition of the will-to-live in others. Only in people do we find this consciousness, and only people are capable of developing reverence for life. Once we have gained this consciousness of other wills to live our ethical course is absolute; all life, every plant and animal, must be preserved. Whenever we kill or cause suffering to other lives, even if it is done out of inexcapable necessity, we incur a burden of guilt. Even the recognition that we must eat in order to live cannot relieve us of the responsibility for our acts. Thus, we must take great care to do as little harm as is possible. In order to atone for our guilt we must devote humanitarian attention to the world's suffering creatures. Only the act of relieving others of their distress will help to relieve ourselves of a portion of our burden.

Since reverence for life extends to all life, it includes reverence for human life; our own, as well as that of others. Schweitzer wrote that the ethics of reverence for life,

> forbid me to still my conscience with the reflection that, as the more efficient man, by quite legitimate means I am advancing myself at the cost of one who is less efficient than I. In what the law and public opinion allow me, they set a problem before me. They bid me think of others, and make me ponder whether I can allow myself the inward right to pluck all the fruit that my hand can reach. Thus it may happen that, in obedience to consideration for the existence of others, I do what seems to ordinary opinion to be folly.[14]

Albert Schweitzer was a Christian theologian (as well as an accomplished musicologist, musician, philosopher, and physician) and his thinking is rooted in the Judeo-Christian tradition. He did not, however, write in the dominant Latin theological tradition symbolized by St. Thomas of Aquinas, who taught that only man of all the creatures on earth has a soul. Instead, he wrote more in the tradition of St. Francis of Assisi who taught that all things on earth are united in spirit. To Schweitzer, all life is united in the common experience of a universal will-to-live. His is a mystical philosophy which claims that the fundamental ethicizing truth lies within each of us. He believed that civilization has deteriorated, because people have become mesmerized by matter and have devoted their energies to the understanding and control of the material world. This effort, however, is of little value to ethical progress, because ethics strives to create something that is not already in this world. Although the will-to-live is universal, the ability to revere life is uniquely human and not yet fully realized. He asserted that civilization will advance only after we place the quest for moral progress ahead of our quest for material progress.

This philosophy is mutualistic in nature. It requires that our actions be judged in terms of the degree to which we give aid to others, rather than by how much we gain for ourselves. It also provides a mutualistic link between humanity and nature, all being joined by the common phenomenon of will-to-live. Had Garrett Hardin been guided by this philosophy, he might have recommended a different solution to the world population problem, although his perception of the nature of the dilemma might have remained the same.

Schweitzer's ethic, however, has its limitations. His work was done in the early part of this century, long before the fledgling science of ecology became widely known. He wrote from the perspective of a dedicated physician and humanitarian, who had devoted his life to saving individual lives; not from the perspective of a person who was aware of ecological processes or population dynamics. His is not an ecology ethic, but a life ethic. It is concerned with the promotion of life on an individual basis; each and every life is of intrinsic value.

His ecological limitations are demonstrated in two ways. First, he viewed the non-human world as one of a savage conflict between separate wills to live. This seems to reflect the nineteenth century conception of nature as "red in tooth and claw," in which all creatures lived by the Law of the Jungle--"kill or be killed." Since he was not aware of the complex patterns of ecological relationships which link all living organisms, it was relatively easy for him to project unknowingly his image of immoral man upon the entire living world.

Schweitzer's second limitation is a bit more ambiguous. When he wrote that the essence of goodness is to promote life, he failed to define "promote." If he meant by this that we must do everything possible to increase life, his ethic can lead us into very serious trouble. Under such an interpretation, his desire to "help life to achieve its highest destiny" comes dangerously close to a position that might substitute density for destiny. Alternatively, what we are to promote may be the quality of each individual life. This interpretation is less likely to enhance our population problems.

But how would Schweitzer deal with the dilemma with which Hardin confronts us?--that by feeding people who are starving we allow them to reproduce, and thus, increase the misery and degradation of human life. His works fail to provide clear guidance in dealing with this problem (one of the most profoundly tragic elements in our world today). Certainly, he would have hesitated to condemn the starving to starvation, and would have been less miserly in his approach, but it is difficult to guess what he would do in this situation, since it was something which he never had to confront.

A number of humanitarians refuse to grant anyone the right to take a life through either action or inaction.[15] In practice this refers to our interactions with animals, rather than plants. Schweitzer, however, wrote that we must act with reverence for all life, but recognized that it is impossible to live without taking some life and, thus, assuming some guilt. His philosophy, then, does not ban killing or causing suffering, instead it mandates responsibility. It is, thus, conceivable that a policy-maker who followed Schweitzer's ethic could come to the same conclusion as did Hardin, although the resulting anguish would be overwhelming.

Aldo Leopold

Aldo Leopold brought to ethics the ecological understanding which Albert Schweitzer lacked. He was a forester, ecologist, and one of the founders of modern game management. Although his background and ethical language were very different from those of Schweitzer, a number of their conclusions are similar. Leopold's thinking, though, was in terms of ecological units, rather than in terms of suffering individuals.

In Leopold's view, ethics can be approached from both an ecological and a philosophical perspective. In both cases, the concern of ethics is that interdependent groups and individuals cooperate with each other. Philosophically, this involves defining the limits of what is and what is not proper social behavior. Ecologically, this is defined in terms of what kind of behavior is or is not allowable in the struggle for biological existence. Until recently the ecological concept was not a practical ethical concern, because our impact upon our environment was limited technology and population. Now, however, we have the ability to radically alter our environment and we must give careful thought to the problem of what kinds of alterations are allowable.

The fundamental premise of all ethics, as Leopold saw it, is that we all are members of a community. Originally, ethics involved only interpersonal relationships, but as the human population increased and complex social patterns evolved, ethical systems became more complex. They had to evolve to provide a mechanism for integrating individual and social behavior. The result of this evolution was an expansion of the definition of the realm of ethical concern from one of simply individuals to one which included society. With the more recent increase in population and technology, and our resulting ability to alter greatly the ecological pattern of the earth, we are faced with the need to expand further the realm of ethical concern. No longer is it sufficient to confine ethics to questions of proper social conduct. We must also deal with the question of what is proper human conduct with respect to land. However, the ethics which would legitimately include such a question has yet to evolve.

The new "land ethic" will rest on the same premise that we are members of a community. What Leopold proposed, though, is that we change our definition of community, enlarging the concept "to include soils, waters, plants, and animals, or collectively: the land."[16]

This does not mean that we must cease viewing the land as a resource. To do so would be impossible, since it provides the food and materials which support our lives. What it does imply is that we must value the land not only as a resource, but as something of intrinsic value; something which can be valued on its own merits, rather than in terms of some other value, such as economic worth. "In short, a land ethic changes the role of Homo sapiens from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also, respect for the community as such."[17]

In human communities we accept the existence of communal obligations which extend beyond simple self-interest. For example, taxpayers are expected to pay for schools, road, and other public services, regardless of whether the individual taxpayer will use them all. The criterion is that of the public good, not just the self-interest of the individual. If our concept of community expands to include the biotic community, then the definition of the public good must also expand. It must include the welfare of the land, our fellow-member of the community. Under the land ethic, the counterpart of social cooperation is conservation.

But conservation means different things to different people. Leopold pointed out that there was a major division between the conservationists who regard the land as something of extrinsic value (valued as a means to some other end, such as wealth), and those who regard it as being of intrinsic value (valued as an end in itself). He called this split, the A-B cleavage in conversation. The A-B cleavage is of more than academic interest, because the tension between the two views underlies the history of American conservation, and helps to explain a great deal of the controversy associated with contemporary environmental issues.

If land is viewed as being of extrinsic value, as a means, to some other end, whatever I do to the land can be justified only in terms of that other end. If, for example, I consider land to be of value only as a means to gain economic wealth, I can justify conserving it only if in so doing I increase my wealth (or, at least, do not suffer a loss). If land is viewed as being of intrinsic value there is no need to justify conserving it, because the act of conservation conserves that value. If I wish to alter the land, the burden falls upon me to demonstrate that whatever I do will not threaten that value.

The conservationists of Group A, who see land as being of extrinsic value, are the ones who have held the greatest influence and power in the conservation agencies of our government. Gifford Pinchot, for example, was one of the strongest forces for conservation in the United States during the first decades of the twentieth century. In his capacity as the country's Chief Forester, and with the strong support of Theodore Roosevelt he publicized the need to conserve our natural resources in the face of massive, destructive exploitation by private monopolies. His policies played an important part in changing the pattern of national resource usage from one of rapacious consumption to one of management for sustained use. The idea that conservation consists of managing resources in order to satisfy continuing national economic need, was central to Pinchot's philosophy.

> Conservation stands for the same kind of practical common-sense management of this country by the people that every business man stands for in the handling of his own business. It believes in prudence and foresight instead of reckless blindness; it holds that resources now public property should not become the basis for oppressive private monopoly; and it demands the complete and orderly development of all our resources for the benefit of all the people instead of the partial exploitation of them for the benefit of a few. . . . Conservation has much to do with the welfare of the average man of today. It proposes to secure a continuous and abundant supply of the necessaries of life, which means a reasonable cost of living and business stability. It advocates fairness in the distribution of the benefits which flow from the natural resources.[18]

From this perspective people have ethical responsibilities toward each other, but not toward the land itself. Land is an instrumental value, a means to an economic end. The ethical goal is that of insuring the democratic distribution of the wealth of resources to all of the nation's citizens, both now and in the future. Pinchot asserted:

> that the people have the right and the duty, and that it is their duty no less than their right, to protect themselves against the uncontrolled monopoly of the natural resources which yield the necessities of life. We are beginning to realize that the Conservation question is a question of right and wrong, as any question must be which may involve the difference between prosperity and poverty, health and sickness, ignorance and education, well-being and misery, to hundreds of thousands of families. Seen from the point of view of human welfare and human progress, questions which begin as purely economic often end as moral issues. Conservation is a moral issue because if involves the rights and the duties of our people-- their rights to prosperity and happiness, and their duties to themselves, to their descendants, and to the whole future progress and welfare of this Nation.[19]

Pinchot was not without his opponents, perhaps the most vocal of which was John Muir. Muir and Pinchot met in the Summer of 1896 when they began touring the Western forest as members of the Forestry Commission of the National Academy of Science. They became close friends and discovered that they both shared a common love of the forest. Over the course of the following year, though, Muir realized that they differed in their understanding of what was the role of conservation. Pinchot's emphasized economic use, and Muir's, preservation. This realization crystallized during the debate over the purposes of the forest reserves which were being created at that time. Although he continued to support the establishment of reserves, Muir fought a losing battle to win the country to his preservationist views.[20]

Muir felt the wilderness to be of tremendous spiritual and aesthetic significance, which should be treated with reverence, awe, and humility. In his view, morality lay in preserving the things which are wild, and preventing their desecration. This did not mean that the forest resources could not be used, but he refused to allow their quality of wildness to be destroyed in the process. Thus, he became symbolic of Group B, those who viewed land as something of intrinsic value.

Aldo Leopold realized that as a result of the prevailing economic definition of the good, it is very difficult to justify the preservation of anything that is not of immediate economic value. In order to preserve things of dubious economic worth we must invent methods of economic justification. An important argument used to justify the preservation of song birds, for example, was based upon their role in keeping down the population of insects pests. Sometimes these arguments may become tenuous as the economic importance of the birds, or plants, or insects are blown out of proportion, because Group B is trying to fabricate a justification for preservation which is congruent with the values of Group A. What Group B really values, though, is the integrity of the biotic community, but it is nearly impossible to argue for its preservation without getting into what would sound to Group A as idealistic abstractions. As a result, many organisms are lost, or defined as not worthy of consideration.

Similarly, it is difficult to justify the preservation of specific biotic communities. Those which are not of obvious economic worth (such as bogs, swamps, and dune areas) are not considered worth preserving. Some of these are preserved by searching for less immediately recognizable economic value, as was done when wetland preservation was argued on the basis of their importance in providing water supply and flood control. In order to conserve others, we define them as parks, arguing that they have some vaguely defined cultural value. Their integrity, though, is continuously in danger unless they are further justified in terms of tourism, watershed, and timber crop values.

The value of parks in preserving important biotic communities, though, is limited, because they are of greatest value in preserving large tracts of land. But most of the areas that are still worth maintaining in their unaltered state are mixed in with economically valuable land and cannot be easily preserved. If private land owners regarded the land as being of intrinsic value they would be proud to act as trustees of these unique and beautiful spots. In general, though, they do not and the job of insuring their their preservation must be done by the government, if it is done at all. In the long term, Leopold wrote, this may not be the kind of control over our land which we would want the government to exercise, but the task has been forced upon it by the private citizen's failure to practice conservation on a volunteer basis.

Roderick Nash has pointed out that, "For all his love of the woods, Pinchot's ultimate loyalty was to civilization and forestry; Muir's to wilderness and preservation."[21] This seems to have been generally true of Group A and Group B, respectively. Paul Santmire has argued that this split between nature-oriented and civilization-oriented people became obsessive in the nineteenth century and has led to the present "cult of the simple rustic life," and "cult of compulsive manipulation."[22] In recent years, however, we have come to recognize that the natural resources upon which we depend are enmeshed in a complex system of ecological and geological process. We are beginning to realize that in order to make use of our resources we must be sure to sustain the systems of which they are a part. This perception may lead to a synthesis; our economic well being is dependent upon the well being of the larger system.

It is vital, then, that we change the basic concept of what should be conserved; individual resources, or the larger system. Also, we must do away with economic self-interest as the sole, or even primary criterion for conservation, and substitute a land ethic. This involves developing a new public concept of what is the land, and what should be our relationship with it. Leopold suggested that the master image which should be employed in conservation education is that of the biotic pyramid. He argued that this image can be more dynamic and personally meaningful than that of the "balance of nature." The image of the biotic pyramid portrays land not just as soil, but as a layered grouping of organisms. At the bottom is the soil, then the producer organisms (plants), then the animals in their ranks of primary and secondary consumers. Linking all of these layers is a "fountain of energy" flowing along the intricate paths of the food web. At the top of the heap sits man, receiving life-support from the multitude of organisms in the lower layers. The nature of the flow of energy between these layers is dependent upon the structure of the biotic community. When a change is made in one part of the energy circuit, other parts are also affected as they adjust to the change. Any change that we make in the biotic pyramid affects us. We must, then, treat the land with great respect and with as little violence as is possible.

The concept of the biotic pyramid provides a rational foundation for a form of conservation which is not based upon economic arguments. It links the general human welfare with that of the entire biotic community. Each affects the other. The role of conservation becomes that of promoting the general health and welfare of the enlarged community of both man and land. Leopold defines health of the land as "the capacity of land for self-renewal."[23] With this concept of biotic health in mind, Leopold offers the following definition of right action with respect to the land: "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."[24]

Leopold once wrote, "One of the penalties of an ecological education is that one lives alone in a world of wounds."[25] In the face of such a world, he believed that ecologists had the choice of either hardening themselves, or becoming healers. He chose to be a healer. In his role as a forester and a founder of professional game management, he tried to bridge the worlds of the exploiters, and of those who rejected civilization in favor of wilderness. Central to his work was the notion that when one is managing a forest, or wildlife, one is dealing with a community of organisms, not with just a single species. Beginning with a solid foundation in ecology, he attempted to unite the ethical and aesthetic perception of John Muir with Gifford Pinchot's desire to use natural resources to meet human needs.[26]

Aldo Leopold wrote his essay, "The Land Ethic," shortly before his death in 1948.[27] Since it was written over twenty years before the development of a widespread recognition of environmental deterioration it reflects great vision, but lacks the breadth of perspective which we might wish for today. Its perspective is limited, also, by the focus of Leopold's interests. Nevertheless, the depth of his insight and the sensitivity of his writing have made this one of today's most widely-read essays on environmental ethics.

The key concept in his ethic is that of expanding our sense of community to include the land. It is important to determine just what he means by this, and whether it is possible to do. Are the two concepts of community (biotic and human) compatible and, if so, can they be joined in practice? At times he seems to use his concept of land and the concept of biotic community as if they are synonymous. They are not, but he does not make the distinction clear. Odum defines "biotic community" as follows:

> A biotic community is any assemblage of populations in a prescribed area or physical habitat; it is an organized unit to the extent that it has characteristics additional to its individual and population components . . . and functions as a unit through coupled metabolic transformations.[28]

A biotic community, then, includes only populations of living organisms.

But Leopold defines "land" as "soil, waters, plants, and animals." Since this includes non-living components, it is a different concept. It is clear that he intends to deal with an ecological concept, and the ecological unit which seems to come closest to his definition of land is "ecosystem."

> Any unit that includes all of the organisms (i.e., the "community") in a given area interacting with the physical environment so that a flow of energy leads to clearly defined trophic structure, biotic diversity, and material cycles (i.e., exchange of materials between living and nonliving parts) within the system is an ecological system or ecosystem.[29]

Since he wrote that our sense of community should be extended to include the land, I must assume that he meant that it be extended to include the ecosystem.

What does it mean to extend our concept of community to include the ecosystem? From a sociological perspective, "community" has been defined as:

> A community is an inclusive group with two chief characteristics: (1) within it the individual can have most of the experiences and conduct most of the activities that are important to him; (2) it is bound together by a shared sense of belonging and by the feeling among its members that the group defines for them their distinctive identity.[30]

Implicit in the sociological definition is the assumption that the group is composed solely of human beings. Before Leopold's concept can be developed, the group must be redefined in terms of human beings and their ecosystem. This expanded definition of group would not alter the first sociological characteristic; the events which are important in the life of the individual would, indeed, take place in this setting.

The second characteristic, that of a shared sense of identity with the group, presents more of a problem. People can share a sense of identity among themselves and with their environment, but the non-human components of their ecosystem are unconscious (in the normal sense of the term) and mute. On the other hand, although they cannot consciously experience a sense of identity with the human components of the group, this does not mean that they do not participate in the creation of the identity of the larger community. Humanity and its environment comprise a unit within which each influences the development of the other in a complex feedback relationship. As a result of this process, the distinctive identity of both is defined.

The new concept of community, then, would alter the sociological definition in two ways. First, the groups would be redefined to include the ecosystem. Second, the latter characteristic of community would be redefined to include both the shared feeling of identity by the human members, and the shared participation of all members in creating the distinctive communal identity.

But there are many ecosystems. What is the particular ecosystem that Leopold wished to include in his expanded definition? Traditionally, human communities are located within specific geographical areas. It seems reasonable to assume that the community would embrace the ecosystem of its particular area. High technology communities, though, present a problem. Their human members, trade routes, communications systems, and pollutants circle the globe. They are no longer confined within narrow geographical bounds. Under these circumstances the ecosystem of the community is the entire ecosphere.

The pragmatic problem of feeling a communal bond with the ecosphere seems akin to that of feeling a communal bond with all of humankind. The unit with which we are dealing is so large that it is an abstraction, something intangible and outside of personal experience. Photographs of the earth taken from space have provided an important graphic representation of our community, but this is not enough. Perhaps our larger community will always remain an abstraction. Perhaps we should devote particular attention to our local community; the plants and animals, ponds and streams, rocks and weather, people and institutions, which have an immediate impact upon our senses and lives. On a personal, psychological level, the values and attitudes which develop through this local interaction may become generalized on a larger scale.

On a larger social level, we must alter our legal, political, and economic institutions in such a way as to grant intrinsic value to our ecosystem. A simple change in our individual environmental consciousness is not sufficient to solve our problems, because our institutions exert a great deal of control over our lives. In an article which originally appeared in the _Southern California Law Review_, Christopher Stone argued that natural objects should be granted legal rights, including the right to sue for damages in court. This appears to be a way of introducing Leopold's ideas into our legal system. Stone suggested that since natural objects are not capable of speaking in their behalf, they should be treated as the court would treat any other legal incompetent. People should be able to apply to the court for the creation of a guardianship of the species, ecosystem, river basin, or other natural object in question. The appointed guardian would then be allowed to argue his ward's case in court, or sue on its behalf.

The whole idea of granting legal rights to non-humans may sound absurd to many people. The process, though, is very similar to that which occurred as women and racial minorities, who previously were not granted any legal right, were granted rights before the law. It was only in 1874 that a substantial movement began to grant rights to children, who had previously been considered the property of their parents.[31] This finally led to the creation of laws which made cruelty to children a crime. Inanimate objects, such as ships and corporations, have also been given standing in court.

> The fact is, that each time there is a movement to confer rights onto some new "entity," the proposal is bound to sound odd or frightening or laughable. This is partly because until a rightless thing receives its rights, we cannot see it as anything but a thing for the use of "us"--those who are holding rights at the time. . . . Such is the way the slave South looked upon the Blacks. There is something of a seamless web involved: there will be resistance to giving the thing "rights" until it can be seen and valued for itself; yet, it is hard

> to see it and value it for itself until we can bring ourselves to give it "rights"-- which is almost inevitably going to sound inconceivable to a large group of people.[32]

The importance of granting rights to natural objects lies in the fact that at present a person can sue for damages only if that individual can demonstrate a personal loss. This means that one can sue a company that is polluting a river only if one can demonstrate that one has suffered a loss (generally an economic loss) as a result of the pollution. The effect of the pollutants upon the health of the river ecosystem cannot, in itself, provide a basis for suit. Once natural objects receive rights, however, a person could petition the court for guardianship of the river, or drainage basin, and then file suit in the name of the riverine ecosystem. It would then be left to the court to resolve the conflicts between the rights of the polluter and the river.

The act of granting rights to natural objects does not require that they be given the same rights as human beings. Stone argues that an object has received rights when three criteria have been met: "first, that the thing can institute legal actions _at its behest_; second that in determining the granting of legal relief, the court must take _injury to it_ into account; and, third, that relief must run to the benefit of it."[33] What he is essentially saying is that a thing receives rights when it is granted intrinsic value.[34]

Although Stone is addressing legal issues, and Leopold was concerned with forestry and game management, both seem to be arguing the same general point; when we make decisions which involve our environment, we should be concerned about its interests as well as about our own. Neither is arguing that we should live in subjugation to nature and do nothing that would alter our environment. Our environment is a dynamic system, which has undergone a great deal of change in the past, and will continue to do so. Instead, they are pointing to a new, mutualistic, decision making process.

Whereas Schweitzer's philosophy dealt solely with the individual life, Leopold's is grounded in the concept of the ecosystem within which the individual is embedded. Although most of his essays display a great deal of sensitive awareness of individual lives, his land ethic does not address the issue of individual significance at all. The two men symbolize the two sides of the perennial conflict between the welfare of the individual and the welfare of the group; the love of individual lives in particular, and of life in general. Each person, each society is caught in this tension, which it must resolve in its own characteristic manner.

The two men also differ in their conception of the bond that exists between people and other lives. For Schweitzer this bond is spiritual and is expressed through reverence. In Leopold's view we are all joined in a great pattern of ecological processes, the integrity of which must be loved and respected. The emotional expressions of their philosophies, however, are very similar.

I suspect that Aldo Leopold would appreciate Garrett Hardin's lifeboat ethic much more readily than would Albert Schweitzer. Leopold was a biologist and understood population dynamics. Hardin's language and mode of thought would, for the most part, have been familiar to him. However, he was working with the issues of an earlier period in our history, and did not address the issues of population and world hunger. I will speculate, though, that if he were to address the issue, he would have approached it as one of world ecosystem dynamics. He placed great value upon the beauty and diversity of ecosystems and, I suspect, would have turned a cold eye upon the role of the United States in reducing the biotic, cultural, and economic diversity of the world. He is likely, also, to have written more harshly of our excessive consumption of the world's resources.

The substance of Hardin's point, though, is that population cannot increase indefinitely, and whatever we do to permit further increase will only enlarge the magnitude of the inevitable crash. I am sure that neither Schweitzer, nor Leopold would disagree with this point. They would, however, be less willing to quickly agree to his proposed solution. Unlike the Domination orientation, Mutuality forces one to first attempt a solution which meets the needs of all parties involved. Once these avenues have been exhausted, however, mutualistic decision makers might find themselves forced to accept Hardin's conclusions as a last resort. Mutuality does not preclude decisions such as those proposed by Hardin, but it does make one resistant to quickly accepting them.

If they had to be implemented, it would be done in a manner which would promote the greatest welfare of the global community. Hardin's statements, on the other hand, tend to be nationalistic--failing to grant intrinsic value to the poor of the world.

Rene Dubos

It has been strongly argued that people shape their environment, but in what ways does their environment shape people? This kind of question has been of particular importance to Rene Dubos. In his attempt to arrive at an answer he has articulated a far more subtle and complex view of the ways in which people and cultures interact with their environment than did either Schweitzer or Leopold.

Dubos recognizes that as our environment changes, we are able to adapt to it. But in this process of adaptation, he fears that we will lose the qualities that he feels make life meaningful and worth living.

> Man can learn to tolerate treeless avenues, starless skies, tasteless food, a monotonous succession of holidays which have become spiritless and meaningless because they are no longer holy days, a life without the fragrance of flowers, the song of birds, the joyous intoxication of spring, or the melancholy of autumn. Loss of the amenities of life may have no obvious detrimental effect on man's physical well-being or on his ability to perform effectively as part of the economic or technological machine.[35]

But the quality of our lives is measured in more than simple physical well-being. He fears that our great adaptability will lead to an adjustment to improverished, regimented environments which are devoid of the traditionally human values of our past. "There will be no place for sensitive literature, intensely personal art, or unorthodox science in the human ant hill of the future; not even room for primitive Christianity. What meaning can the parables and poetry of the past retain if there are no lilies in the field? We must hope that there will still be rebels to champion freedom."[36]

In a sense Dubos is calling for a new concept of ecology which integrates the traditional biological conception of the term with an understanding of the dynamics of human culture and the need to maintain continuity with the best features of our past. The idea of continuity is very important to him. He does not argue that either our ecosystem, or our society should remain unchanged. Both are dynamic systems which are in a continual state of change. What he does argue is that the change must be harmonious, without major ecological, social, or psychological dislocations.

In Dubos' view, the predominant orientation of scientific technology is magical; it focuses upon the application of power to specific problems, without reference to the larger structure of human needs and aspirations. In his fine book, A God Within,[37] he argues that science should become more theological in nature and emphasize the underlying processes which integrate humanity with the larger world. He does so with the conviction that our environmental problems are the product of a piecemeal, magical exercise of our powers. The alternative that he proposes is that we exercise our power with the full realization of our place and role in the ecosphere.

without a respect for the spirit of the place can result in unanticipated, perhaps disastrous, impacts upon ourselves. In this sense, we reflect the environments which we create for ourselves. At the moment, we do not know how to make a recognition of the spirit of place a part of our technological process, but we must learn quickly.

Respect for the spirit of place cannot result in a passive relationship with our environment. All organisms alter their environment, people included. Dubos rejects Lynn White, Jr.'s, suggestion that St. Francis become the patron saint of ecologists, because Francis provides too strong a model of a passive acceptance of one's fate. Instead, he suggests St. Benedict for the role. The Benedictine monastic rules emphasized that the monks had to work with their hands and that the monastaries had to be self-sufficient. This led to the evolution of a practical system of land management and development. Ths most influential of the monks following Benedict's rules were of the Cistercian Order. They generally built their monasteries in lowlands, which they had to drain and transform into fertile land. Now, hundreds of years later, these lands are still fertile and productive. Dubos recognizes that Francis is an important symbol of mystical rapport with nature, but argues that he cannot provide a model upon which to base culture. Benedict can, however, because his emphasis upon self-sufficiency makes it imperative that ecological concepts be adopted in order to allow the land to replenish itself continually.

Dubos argues that we should not be afraid of altering and humanizing the earth.[38] There are, however, constraints within which we must work if we are to succeed at creative intervention. The first is that inherent in the concept of spirit of place. When we alter the biophysical parameters of our environment, we also alter the cultural parameters. We must determine the limit to which we want to alter both. The second constraint is that which comes with the recognition that there is a limit to how much a place can be modified and still maintain ecological stability. Dubos recognizes that each location has an ecologically limited number of possible "vocations;" alternative biotic communities which might be valued by man. Some, such as arctic areas, are severely limited in what can be done with them. Others can be adapted to a number of possibilities. For example, different areas in the Northern hemisphere which had similar primeval forests have been converted to agricultural land--each with its own unique agricultural style and crop specialty. On the other hand, some areas, such as the Mediterranean region, have not responded favorably to the agricultural practices that have been employed.

This is not to say that the whole world must fall under the plow, or some other form of intensive human use. Some areas, such as the arctic tundra, may never be adaptable to a different vocation, and other areas which might have other vocational potentials may be left in a wilderness state for moral, aesthetic, and biological reasons. In practice, though, it is impossible to achieve complete preservation, because of the pressures of human needs and the ubiquitous nature of pollutants. Given that there are environmental problems which touch all ecosystems, our problem is that of determining how to improve them all. Variety, however, must be maintained for reasons of ecological stability, cultural diversity, and personal taste.

Different people find value in different landscapes. Some find beauty in topographic and climatic peculiarities that provide a magical splendor and magnitude (e.g., the arctic, Grand Canyon, and Painted Desert). Others find beauty in a close, intimate relationship between themselves and nature. In both cases, there is a sense of fitness between the people and their environment. Most, however, find that the greatest fitness lies in the intimate relationship. Dubos points out that, "The ecological crisis will continue to increase in severity if we do not develop positive values integrating human nature and external nature."[39] This involves integrating the needs of our ecosystem with those of our psychological and physiological being.

Dubos' philosophy is anthropocentric in nature, but of a kind much broader than the anthropocentrism characteristic of our day. "An enlightened anthropocentrism acknowledges that, in the long run, the world's good always coincides with man's own most meaningful good. Man can manipulate nature to his best interests only if he first loves her for her own sake."[40] It is a mutualistic philosophy.

Leopold called for an expansion of our concept of community to include the ecosystem within which it is set. He was motivated by the recognition that this is vital to the continuing stability of our ecosystem and, thus, to the continuing availability of natural resources for human use. Dubos' concept of the spirit of place, though, goes still deeper. He recognizes that the human environment interaction is a fundamental element in the development of human communities and culture. He suggests that the quality of this interaction has much to do with the development of the human condition.

Neither seems to argue that we must create a wholly new relationship between people and their land. Rather, they argue that we must recognize the bond that is already there. Dubos adds that we already share a vague recognition of this bond, which is expressed in the idea that a place has its own spirit, or genius. He asks that we become more consciously aware of this spirit, and that we examine and respect its dynamics.

At one point, though, Dubos is critical of Leopold. He points out that, "Conservation, according to Leopold, teaches what a land can be, what it should be, what it ought to be. Although this aphorism has much appeal, it is misleading because it implies a questionable philosophy of ecological determinism and of man's relation to nature."[41] These words echo David Hume's comment in his A Treatise on Human Nature (1738) that statements about what is or is not often lead into statements of what ought or ought not. The assumption here is that an analysis of what is will reveal what ought to be. Hume argued that one cannot leap directly from an is to an ought. Schweitzer was making a similar statement when he argued that the decline of civilization is associated with the attempt of the West to find moral guidance in the external physical world.

One cannot discover fundamental ethical principles solely by studying the world external to ourselves. Ethics involves conscious choices between conflicting values. The non-human world is what it is, and what happens there happens because it is in the nature of things so to do. The closest thing to valuing that appears in the biotic world is natural selection, and that does not occur by choice in the ethical sense, but by circumstance. Ethics is characteristic of that subset of nature called Homo sapiens.

Just as transistor radios, automobiles, and books are human creations which are new to the world, so too are ethical systems. This is important to recognize, because it is very easy to project unconsciously an existing ethic upon the world and then "discover" that ethic through the lens of our ethos. The effect is that we unwittingly discover only ourselves, and use that discovery to reinforce our ethos. The result is a distorted view of the world and a mistaken belief in the source of our ethic. It is a comforting mistake, though, because it relieves us of the responsibility for our ethic. But, the ethic we discover is actually a reflection of our own unexamined desires and beliefs.

It is not very surprising that the social Darwinists discovered that they were members of the most highly evolved race. Their notion of survival of the fittest also gave sanction to the policies of empirialism and the business practices of robber-baron industrialists. Peter Kropotkin objected to this view of evolution, arguing instead that mutual aid and assistance was also present in nature, and that the history of humanity has been one of an expansion of mutual aid, which will eventually bond all of the people of the earth.[42] The ethic which he based upon this view of evolution was particularly congruent with his political commitment to anarchist-communism.

In addition to the problem of unconsciously creating the world in one's own image, the attempt to derive an ethic from an understanding of ecological or evolutionary processes tends to lead to a very conservative ethic, which supports the status quo and projects today's trend as tomorrow's destiny. This is quite understandable, since the ethic is based upon an analysis of what exists at present. The following quotation provides a fine contemporary example of this approach.

> At present a system of power and social control seems to have emerged in which anonymous bands of specialists determine the priority of questions of social policy and the best means of implementing policy. It is easy to understand the feeling of alienation on the part of humanists and the radical left. Nevertheless,

> the new industrial state, like the old agricultural state, has functional and adaptive value for the reason that it makes possible the solution of problems that involve man's relation to his total environment, problems that can be solved in no other way. The nostalgic appeal of participatory democracy is regressive in the current redefinition of the locus of power and responsibility. If the great problems that concern the quality of human existence are ever to be dealt with, it will be through Galbraith's technostructure rather than by the contemporary Thoreau's who reject any system that curtails individualistic freedoms. In the Cenozoic, the thing to be was a mammal rather than a reptile. Today, freedom and responsibility are realized through the emergent organization, or not at all. New opportunities for creativity and responsibility exact a heavy toll in moral suffering and frustration. And this is the sum and total of the consolation offered by the evolutionist in the face of the problem of evil.[43]

Such an approach to the problems of our day has the ring of a failure of imagination, and of nerve. Unknowingly, the author is saying, "Dominators we have been, and dominators we shall always be." He represents humanity as being completely powerless, in a deterministic world which is without options. We must go where we are taken.

A number of other authors, though, have tried to employ ecology and evolution in their search of guiding principles which will be of help to us in selecting from the behavioral and policy options that are available to us. Such principles tend to be very broad and vague; telling us, for example, that we must act to maintain maximum diversity within the limits of stability. These principles are often called evolutionary, ecological, or environmental ethics. I do not, however, consider them to be ethical statements. Rather than being ethical statements of what ought to be, they are descriptions of the implications of biological processes. This knowledge, however, is important.

Once we develop an ethic and consciously take responsibility for it, we must determine what conditions the world imposes upon our efforts to act upon it. Once I decide to move, rather than sit still, I must negotiate the terrain. Once I decide that I wish to live, rather than die, I must meet the biological conditions of life. And once I have decided that I wish to live a life of a certain kind and quality, I must determine what I must do in order to realize that ideal. An ethic helps us to select which of our enormous variety of potentials we ought to try to actualize. A scientific analysis of ecological and evolutionary processes can help us to determine what we can and cannot do in order to realize our goal. It may even demonstrate that our goal cannot be achieved, given the realities of our world. A major element leading to our environmental crisis seems to be the fact that our tacit cultural goals are unrealistic within the constraints defined by our ecosystem. The task of environmental analysis is to lay down the framework within which we can reformulate our goals before either our cultural or biophysical systems alter disastrously. It cannot, however, select our goals for us; it can only offer alternatives.

In the past and in the present, our goals have been selected in accordance with a tacit value orientation which has been predominantly one of Domination. I contend that we should strive to reshape our value orientation to emphasize Mutuality. Schweitzer, Leopold, and Dubos have provided glimpses of what kind of a relationship with our environment may emerge through such an orientation. Schweitzer would enlarge our definition of the group to which we belong, to include all lives. Leopold enlarged the boundaries of our community to include our ecosystem. Dubos, although not writing in specifically ethical terms, enlarges the concept of human welfare to include the welfare of the earth. The important effect of these expansions is that land, life, and the earth are granted intrinsic value. No longer, if one accepts these approaches, is it necessary to justify their preservation solely in terms of human, self-centered values, such as economic profit and loss. The question is changed from, "can we justify preserving them," to, "can we justify endangering them?"

In order to deal with our environment as something which is valued as an end in itself, we must overcome our self-centeredness and develop a strong, positive emotional response to it. Dubos has pointed out that we "cannot effectively manipulate nature without loving nature for her own sake." Leopold wrote that, "It is inconceivable to me that an ethical relation to the land can exist without love, respect, and admiration for land, and a high regard for its value."[44] Years earlier, Albert Schweitzer anticipated these views when he made his humanitarian call for reverence for life.

These affective values rest at the foundation of the subjective, personal experience of nature which is truly mutualistic. This new, outreaching response to life must motivate the manner in which we undertake ecological research and employ our technology. It must inform a new vision of what our goals ought to be.

Footnotes

[1] Robert L. Heilbroner, "The Human Prospect," The New York Review (24 January 1974), pp. 21-34.

[2] Kenneth E. Boulding, "The Economics of the Coming Spaceship Earth," in Environmental Quality In a Growing Economy, ed. Henry Jarrett (Baltimore: Johns Hopkins Press, 1966), pp. 3-14.

[3] Garrett Hardin, "Living on a Lifeboat," Bioscience, 24 (1974), 565.

[4] Ibid., p. 561.

[5] Ibid., p. 568.

[6] Garrett Hardin, "The Tragedy of the Commons," Science, 162 (1968), 1243-1248. See, also, Hardin's Exploring New Ethics for Survival (N.Y.: Viking, 1972).

[7] Daniel Callahan, "Doing Well by Doing Good: Garrett Hardin's 'Lifeboat Ethic'," Hastings Center Report, 4, No. 6 (1974), 1-4. For additional critical discussions about Hardin's lifeboat ethic, and a rejoinder by Hardin, see Soundings, 59 (1976). The entire issue is devoted to papers on the topic of "World Famine and Lifeboat Ethics."

[8] Hardin, "Lifeboat," p. 567.

[9] Amnon Goldworth has suggested that the analogue of a giant oceanic liner would be more appropriate than that of a lifeboat. The rich on the upper decks depend upon the lower deck poor. "For it is they who feed the boilers that provide the power for the ship and who repair the breakdowns and leaks that threaten the lives of all aboard. They work incessantly with little opportunity for the good things of life enjoyed by the upper deck passengers." The lower deck population is expanding and the people on top are trying to control it, without recognizing that they rely upon those below, or that they are responsible for their plight. "Correspondence," Hastings Center Report, 5, No. 2 (1975), 43-44.

[10] Albert Schweitzer, Out of My Life and Thought: An Autobiography, trans. C. T. Campion (N.Y.: Henry Holt, 1933), pp. 176-177.

[11] Ibid., p. 185.

[12] Albert Schweitzer, The Teaching of Reverence For Life, trans. Richard and Clara Winston (N.Y.: Holt, Rinehart & Winston, 1965), p. 26.

[13] Albert Schweitzer, The Philosophy of Civilization, trans. C. T. Campion (1923; rpt. N.Y.: MacMillan, 1951), p. 312. Schweitzer's Civilization is the most complete expression of his philosophy of reverence for life.

[14] Ibid., pp. 320-321.

[15] For an overview of contemporary humanitarian philosophy and practice with regard to animals, see Stanley Godlovitch, Rosilind Godlovitch and John Harris, eds., Animals, Men and Morals: An Inquiry into the Maltreatment of Non-Humans (N.Y.: Grove Press, 1971); Gerald Carson, Men, Beasts, and Gods: A History of Cruelty and Kindness to Animals (N.Y.: Charles Scribner's Sons, 1972).

[16] Aldo Leopold, A Sand County Almanac: With Other Essays on Conservation From Round River (N.Y.: Oxford Univ. Press, 1966), p. 219. This book provides the best statement of Leopold's philosophy. His essay, "The Land Ethic," is of special importance and provides the basis for the following discussion of his views.

[17] Ibid., pp. 219-220.

[18] Gifford Pinchot, *The Fight For Conservation* (1910; rpt. Seattle: U. of Washington Press, 1967), pp. 79-81.

[19] Ibid., p. 88.

[20] Roderick Nash, *Wilderness and the American Mind*, rev. ed. (New Haven: Yale Univ. Press, 1973), pp. 134-140.

[21] Ibid., p. 135.

[22] H. Paul Santmire, "Historical Dimensions of the American Crisis," in *Western Man and Environmental Ethics*, ed. Ian G. Barbour (Reading, Mass.: Addison-Wesley, 1973), pp. 66-92.

[23] Leopold, p. 236.

[24] Ibid., p. 240.

[25] Ibid., p. 183.

[26] For a brief biographical essay about Leopold, see Nash, pp. 182-199.

[27] It was based on a still earlier essay, "The Conservation Ethic," *Journal of Forestry* (October 1933), rpt. in *The Ecological Conscience*, ed. Robert Disch (N.J.: Prentice-Hall, 1970), pp. 44-55.

[28] Eugene P. Odum, *Fundamentals of Ecology*, 3rd ed. (Phil.: W. B. Saunders, 1971), p. 140.

[29] Ibid., p. 8.

[30] Leopold Broom and Philip Selznick, *Sociology* (N.Y.: Harper & Row, 1963), p. 31.

[31] Carson, *Men, Beasts, and Gods*, p. 103.

[32] Christopher D. Stone, *Should Trees Have Standing?: Toward Legal Rights for Natural Objects* (Los Altos, Calif.: William Kaufman, 1974), pp. 8-9.

[33] Ibid., p. 11.

[34] Of the seven Supreme Court Justices who wrote decisions on the case of *Sierra Club v. Morton*, three of them supported Stone's argument. The decisions are reprinted as an appendix to his book.

[35] Rene Dubos, *So Human an Animal* (N.Y.: Charles Scribner's Sons, 1968), p. 159.

[36] Ibid., p. 155.

[37] Rene Dubos, *A God Within* (N.Y.: Charles Scribner's Sons, 1972). Most of the following discussion of Dubos' view is based upon those presented in this book. His views are summarized in abbreviated form in "A Theology of the Earth," in Barbour, *Western Man*, pp. 43-54.

[38] Rene Dubos, "Humanizing the Earth," *Science*, 179 (1973), 769-772.

[39] Dubos, *A God Within*, p. 193.

[40] Ibid., p. 45. See also W. H. Murdy, "Anthropocentrism: A Modern Version," *Science*, 187 (1975), 1168-1172.

[41] Ibid., p. 173.

[42] Petr Kropotkin, *Mutual Aid: A Factor of Evolution* (1902; rpt. Boston: Extending Horizon Books, 1955); Prince (Peter) Kropotkin, *Ethics: Origin and Development* (1924; rpt. N.Y.: Tudor Publishing, 1947).

[43] Charles Fay, "Ethical Naturalism and Biocultural Evolution," *Zygon*, 4 (1969), 30-31.

[44] Leopold, p. 239.

CHAPTER III

FOUR APPROACHES TO SOCIAL MUTUALISM

A rock rests in my hand as I write these words. It has an ancient history, and reflects the long gone life, of which it is now a mere ghost. This piece of petrified wood embodies the structure of a tree so well that, with a magnifying glass, I can see the shape of cells despite the fact that nothing remains of its living substance. Minerals filled its pores and, atom by atom, molecule by molecule, the wood itself was replaced by silicon and oxygen. Here, halfway between its center and bark, is a knot; the remains of a branch that died in the tree's youth and was surrounded and engulfed by living, growing tissues. Now, thousands of years later, its life and all of the remnants of its organic substance are gone. But the record remains in stone, in colors of rich browns and tan, and in concentric bands that tell of each year of its growth through dry seasons and wet.

I love this stone; its color, texture, patterns, and history. I have held it, fondled it, and contemplated it for hours--turning it into poetry, paintings, and sculpture. But this love is not the same as that which I feel for a friend or lover. This rock cannot protest my probing, nor can it complain at being left unnoticed and forgotten in a box. It does not place demands upon my life, or appreciate my joys and sorrows. It is incapable of sharing the experience of waking to a room filled with the gold of an early sun, and the warmth of skin against skin.

Rocks and people are not identical; there are obvious and profound differences between the two. I can empathize and communicate with another person far more easily than I can with other animals, and more readily with animals than with plants and inanimate objects. I am able to share pleasure and pain, hope and despair, friendship, suspicion, and fear, with other people. But what can I share with a rock, tree, mountain, or drainage basin?

I must draw a distinction between social mutualism and environmental mutualism. Both are based upon the value orientation of Mutuality, but the former involves our attempt to understand and interact with other people, while the latter applies to our attempt to understand and interact with our nonhuman environment. In many ways this distinction is an arbitrary one, because the two areas overlap; for example, when we compete with other people for the use of limited resources. The distinction is based primarily upon the presence or absence of the potential for conscious reciprocal communication. In some people this potential is quite limited, as in the severely retarded. In others it is absent, as in chronically catatonic or camatose patients. On the other hand, some animals demonstrate a relatively high potential for conscious communication with us; chimpanzees, for example, and perhaps dolphins. Although the distinction is somewhat arbitrary, it is useful, because the demarcation between human and non-human generally distinguishes between those who can and that which cannot engage in this quality of communication.

People are generally quick to react to the manner in which we treat them. They tell us whether or not they appreciate our actions, often in ways which are not very subtle. Since we receive rapid responses in forms which we readily understand, we interact with people in a reciprocal manner; each notices the responses of others, and adjusts his actions accordingly. The idea of mutuality appears most often in discussions about interpersonal relationships, because they are so obviously reciprocal in nature.

The literature of social Mutuality is very large, that of environmental Mutuality is extraordinarily small. Perhaps we can learn more about the nature of Mutuality by examining its application to social interaction. What we learn of this kind of Mutuality may be of some use in our attempt to understand the nature of environmental Mutuality.

We do not live in a simple social world; one of clearly defined issues and universal agreement. Rather, we live in a world of complexity and ambiguity. It is difficult for individuals, much less groups of people, to arrive at mutual agreement about the nature of a problem, its relevant elements, and the actions which will lead to its resolution. Yet, it is often very important that people come to a common resolution of their problems, and many of our activities require cooperation, which requires some sort of consensus about objectives and methodology. We are social beings and agreement is one of the elements which binds our society.

We can, and do, respond to the social problems which confront us from the perspective of each of the three value orientations. We can be submissive, act powerless, and hope that everything will take care of itself. We can each formulate our solutions and strive to impose them upon others through domination. And we can work together to reach a mutually valued resolution. The mutualistic approach is often described in terms of dialogue, because it involves reciprocal communication between the parties involved. The Domination approach can be described as analogous to a monologue, because each party believes that he has possession of the truth, which cannot be questioned. Thus, although two people may be talking to each other, they do not listen to each other and are actually conducting simultaneous monologues. Submission is analogous to silence.

The philosophies and methods of E. A. Burtt, Martin Buber, Mohandas Gandhi, and Paulo Freire provide fertile ground for our attempt to further understand the mutualistic, or dialogical, approach to understanding and interacting with other people. Each of these men provides a unique perspective on the problem which is characteristic of his special background and concerns;

those of a philosopher, theologian, social activist, and radical educator, respectively.

Edwin A. Burtt

As a philosopher, Edwin A. Burtt was interested in promoting the progress of our philosophical understanding of ourselves and our world.[1] He noticed that although there are methods for proposing truths about ourselves and our universe, there is no universal agreement among thoughtful people upon the validity of the proposed truths. Philosophers disagree with each other at any single point in time. They also disagree historically, as can be recognized when we see the continual change in the balance of philosophical views over the years. What Burtt set out to do was to identify the factors which inhibited agreement, and to discover an approach which might enhance our search for a common understanding.

Over the history of Western thought, three major methods have evolved which help to verify and correct common sense knowledge. Each, however, has its limitations. The first, intuitionism, is the most limited. Historically, no single intuitive understanding has developed, because the source of intuitive knowledge lies in each individual, and intuitionism does not provide a means of reconciling the conflicting intuitions of different people. Rationalism sought to eliminate these conflicts by linking truths within a web of logical thought. The goal was to develop a logically infallable system of truth. The problem, however, was that although a statement may be logically true, it does not necessarily correspond with the world external to the thinker. The statement that, "All men are dogs. Socrates is a man. Therefore, Socrates is a dog," is logically valid. The error of the statement becomes evident only when we check to see whether all men actually are dogs. Rationalism, however, does not include a mechanism for checking factual truth.

The third method, empiricism, corrected this by employing systematic observation and experimentation. Modern empirical science is the most powerful method known for achieving agreement about the world outside of the observer. But when examined historically, even empirical truths are seen to be in a constant state of flux. The changing nature of scientific understanding is the product of one of the great strengths of empiricism; its dynamic ability to grow by permitting the refinement and revision of our view of the world as we gather new data and propose new theories. Nevertheless, this frustrates us in our search for universal agreement about the nature of the world. We are faced with the realization that today's facts are tomorrow's fictions and, thus, we can accept nothing with certainty.

In his effort to understand the nature of philosophical progress, Burtt studied the history of several recent philosophical movements.

This led to his discovery that such movements appear to evolve through three developmental stages.

> In the first stage the champions of a new philosophy, confident of its soundness, toss out bold assertions of the position they adopted without realizing its limitations or embarassments. . . .
>
> In the second stage the proponents of the new viewpoint begin to be troubled by [outsiders'] criticisms, but believe that any difficulties can be met by drawing a few distinctions. . . .
>
> In the third stage, champions of the new way of thinking are forced by continued criticism to face the question of whether these distinctions and reinterpretations are consistent with what they had asserted in the beginning, and to reformulate that original doctrine so as to reconcile it with them. . . .[2]

This process can be understood, in part, when one is aware of the nature of philosophical presuppositions. Burtt defined a presupposition as, "a hidden or tacit premis underlying any statement or piece of reasoning."[3] One can do science, for example, only if one accepts three major presuppositions: that the external world exists, that some part of it is ordered, and that we are capable of understanding some part of that order. The scientist is not necessarily cognisant of these presuppositions, but they are implicit in the enterprise of science.

One's presuppositions prefigure one's understanding of the world. Burtt argued that disagreements often arise as a result of the fundamentally different presuppositions upon which different philosophies are based. A capitalist and a communist, for example, may talk together at great length without reaching agreement, because each is speaking from a different presuppositional base. For this reason, the same words (e.g.; worker, labor, and history) may have very different meanings to each. They are, then, speaking different languages even though they are using the same word-sounds. In order to establish some sort of positive communication between each other, they must establish a common base of presuppositions from which to begin.

The three stages in the development of philosophical movements appear to be associated with the establishment, shoring up, and reexamination of the movement's presuppositions. Burtt noticed that the process seems to take about thirty years to complete a cycle, and was curious about why it was that it took this much time. Why does not a movement quickly respond to criticism by reexamining its assertions, thereby omitting the second step of the cycle? He suggested that there are two reasons for this. The first is a product of the mechanics of the process of doing philosophy. It takes time to formulate and publicize a philosophy, for others to criticize it, to gather and examine the criticism, and then to reformulate the philosophy. There is probably a point beyond which this process can not be hurried.

There is, however, a second reason for the delay; one which Burtt found particularly intriguing. It appears that the members of a movement share a powerful emotional attachment to the fundamental presuppositions of their movement. As a result, it takes a long period of criticism and controversy to challenge and loosen their attachment.[4] These philosophers may be unwilling to face the humiliation of publicly recognizing that they were wrong. Perhaps of even greater importance is the possibility that the philosophy may have reflected unconscious motives of the philosophers; its presuppositions morroring the philosophers' unconscious needs and convictions. In this situation a criticism of the philosophy would be unconsciously perceived as a criticism of the philosophers. In Burtt's view, the second stage in the developmental cycle is one of defensive reaction on the part of the philosophers. In order to enhance philosophical progress, then, we must reduce the level of second stage defensiveness.

The phenomenon of projection has been well established by psychologists. People's fears, desires, and expectations strongly influence their perceptions. Under pathological extremes, these factors can completely dominate a person's mind, rendering him unable to perceive anything else. Burtt pointed out that:

> In the psychoanalytic era every thinker must ask, in his own case as in that of others, whether an ultimate presupposition is not in essence an emotionally buttressed and molded conviction that, while it dominates a person's thinking, is but half-conscious at best; only when he suspects that it is inadequate and begins to envision alternatives is it likely to be clearly recognized.
>
> The decisive consequence of this realization is that where such a presupposition is concerned the existentialists are right; our conscious intellect, however sincerely truth-seeking, cannot alone fill the role that philosophers have expected it to fill.[5]

The challenge faced by philosophers is that of dealing with this issue. Although presuppositions may be the product of unconscious motivations, they may still be cognitively adequate. The philosopher, however, must take great pains to see beyond his unconscious blinders and determine whether or not the presupposition is indeed adequate to the philosophical task at hand. Burtt has argued that once we become aware of this issue we are enabled to adopt motives which do not conflict with our conscious committment to truthfulness. The implication of this view is that, "a crucial part of the philosophic quest--indeed the foundation of every other part--is the quest for truth about oneself."[6]

This means that philosophers must confront and clarify their motives, and if necessary adopt new motives which are more consistent with truthfulness. This is not an easy task. It involves a deep, searching personal analysis. Burtt has suggested that Eastern meditative techniques and the developing methods of Western psychoanalysis may help foster this confrontation with self.

It is impossible to commit ourselves to a consistent course of thought without committing ourselves to some presuppositions. But there are two very different ways of making such a commitment; one of dogma, the other of accepting one's presuppositions as guides which although adequate at present, are likely to change in the future. The latter approach turns disagreement between philosophers into a positive opportunity to examine one's motives and philosophical presuppositions and, perhaps, to formulate new, more adequate presuppositions which will promote philosophic progress.

The search for truth is a social enterprise, and the act of mutually resolving disagreements is a vital step in this quest. It is, however, a step fraught with difficulty, because it necessitates a positive state of communication between the people involved. How we speak the truth shapes the truth as it is heard and understood by others. In the attempt to communicate with others it is not enough to just know oneself; one must communicate one's self to the other person, and one must work to understand the motives and presuppositions of the other.

This is important, because if we view disagreement as an opportunity, the resolution of which will help us go beyond our present state of understanding, we have a vested interest in promoting the fullest communication. If one is trying to communicate one's vision of the truth to another person, it must be done in such a way as to be understandable to that person. One must be sensitive to the reality experienced by the other.

It is not sufficient, however, merely to be open to others. One must respond to them in a manner which will elicit their fullest positive response and, thus, their fullest attempt toward truthful communication. The outcome of interpersonal relationships is very much a self-fulfilling prophecy. People are influenced by the way in which others respond to them. They tend, for example, to be less communicative and hostile toward those whom they feel are hostile toward them. Even a neutral approach is likely to be interpreted as hostile; and, in any event, it is not likely to foster a full, positive response. In order to foster the fullest positive communication with others, we must approach them in the fullest positive manner. We must work to understand each person with whom we are in disagreement, and act to promote his or her full growth and actualization.

The fundamental psychological motive, or value, which promotes the fullest positive response to others and, thus, the fullest communication, is love. This, however, is not love in the sentimental or romantic sense. As Burtt defined it, "Love is freedom from self-centeredness, and hence from the demands and limitations that self-centeredness involves."[7] Love seems to be the dynamic value that Burtt sought as the foundation of his search for philosophic understanding. In approaching an object of study, be it a person or a philosophy, with love one is able to reach as far as possible for truth unobstructed by negative motivation. Also, love is the value which can bind individual seekers of truth in a common search. In this sense it is a creative medium.

It is also creative in the way it promotes the growth of the person who is loved. Love, when recognized and employed as a fundamental value underlying the total sphere of human activities, leads to our progress as a species. It creates a situation which promotes the maximum of creativity and diversity which is consistent with social stability in the broadest sense of the term.

Burtt's book, In Search of Philosophic Understanding, is a brilliant work which spans a broad range of philosophy's history and concepts. At its core is a model of communication which I accept as an important ideal. It is a model which is thoroughly mutualistic in nature. All philosophers, in his view, are members of a community which is engaged in the pursuit of understanding. Each person is of intrinsic value and must be approached in a mutualistic manner. They interact through dialogue, but Burtt has extended the concept of dialogue to include non-verbal communication as well. He also refined our conception of dialogue by pointing out the great importance of unconscious psychological factors.

In order to engage in true dialogue the speaker must be both free of self-interest, and motivated by a desire to help the other person realize his or her fullest growth and, thus, fullest communication. Most people are not able to engage in this form of communication, because of intervening unconscious motives. In order to dialogue, in the fullest sense of the term, we must prepare ourselves by internalizing love as a motivating value.

Burtt suggested that this requires some sort of therapy or meditation.[8] In addition, we must strive to become devoid of dogma. We must recognize the changing nature of knowledge, that the future is likely to hold a more adequate conception of the nature of the world than we now have. Thus, we must not bind ourselves to our limited knowledge of the present. This implies that we can have no assurance that we will ever attain knowledge of absolute truth. We must search for an increasingly adequate understanding, rather than for truth.[9]

Dialogue is generally thought of as a state of mutual communication between two or more people. In Burtt's concept, though, one must assume that the other person is capable of reciprocity--even if this does not happen. To assume otherwise would be to percipitate a self-fulfilling prophecy. For this reason, and by the nature of the value of love, the speaker must act as though the other person were capable of dialogue, and bear the burden of establishing it. In the best of situations, the state of mutual dialogue will be established. The individual act of dialogue, though, is not dependent upon that state; otherwise it is not likely to be realized.

At this point it is possible to assemble a partial list of the characteristics of social Mutualism. First, it involves the recognition that the people involved are each a part of a larger group. In the case of philosophy, the philosophers must recognize that they each depend upon the others, particularly upon those who disagree with them, if they are to progress in philosophic understanding. With this recognition comes the need for mutual dialogue. In addition, in order to engage in a mutualistic relationship, one must be free of dogma. This comes from the recognition that certain knowledge is unattainable. To assume that one has possession of certain knowledge is to limit one's potential to progress in philosophic understanding. Dogma closes one to others, and predisposes one to impose the dogma upon others through domination.

Third, in order to engage in a mutualistic relationship, we must be free of self-interest. This requirement is born of the recognition that unconscious motives can interfere with dialogical communication. The task of recognizing and transcending our unconscious motives is a difficult one, and requires special effort. We must free ourselves of self-interest, also, as a precondition to establishing a positive relationship with other people. The process of freeing ourselves of self-interest is closely linked with that of overcoming dogma.

Finally, we must recognize that means and ends are inseparable. The way in which we interact with other people determines a great deal of what will be the outcome of that interaction. This is implicit in the nature of self-fulfilling prophecies. We must approach others in the fullest positive manner if we wish to realize the fullest positive mutual communication. This and freedom from self-interest are jointly associated with the value of love.

Although Burtt's analysis was directed to philosophical activities, these characteristics can be generalized to apply to dialogical activity of all kinds, as we shall see.

Martin Buber

Martin Buber's concerns were different from Burtt's. He wrote from the perspective of a philosopher and theologian who was interested in the religious significance of human relationships. Although he wrote of dialogue, it was a dialogue which was more of a spiritual, than of a linguistic, significance. As a Jewish theologian he was embedded in the Judaic tradition, which recognized that people were bonded together by their commonly shared spiritual relationship with God. Buber's thought and language was quite abstract and require effort to understand, but they are both of great significance.

Buber believed that there are two fundamentally different ways of approaching the world, including other persons. One way is embodied in the basic word "I-It," the other in the basic word "I-You."[10] They designate two states of being. In the I-It approach to the world, the I stands apart from the It. The It is confined by borders and can be set in order and classified. The I can possess the It. The I experiences the It as something separate from the I. The word I-It, then, establishes the world of experience. What Buber was saying was that in the I-It approach to things (people, rocks, trees, etc.), the thing with which I come in contact is defined as an object; something separate from me, which I can physically or cognitively manipulate and dominate. In so doing, I also divide myself, because it is impossible to enter such an experience with my full being.

In contrast, an I-You approach involves my whole being. In this situation, the You has no borders and the I does not have possession of the You. The I stands in relation to the You. I-You establishes the world of relationship. The I does not experience the You, because it is not isolated from the You. The You is a subject, not an object. The You cannot be set in order, because to do so would be to limit its possibilities. Experience is characterized by limits, relationship by reciprocity. When, with my being, I say You to another being, that person ceases to be one of many Hes or Shes, but fills the universe. This does not mean that he blinds me to everything else, but that everything else shares of his being. As soon as I abstract qualities from the You, he becomes an It. It is, then, impossible to consciously experience a You; one relates to a You. There is no self-consciousness, or even other-consciousness in I-You, only relationship.

Buber recognized three roles that we can assume when we perceive a person.[11] One is that of an observer, who intently studies a person in order to fix him in mind. The person is an object with traits, which are noted. The second role is that of the onlooker who, with unimposing disinterest, watches to see what will present itself. Both of these ways are I-It approaches. In the third, that of "becoming aware," the person is not an object. He says something to us (verbally or non-verbally) which we feel we must answer. We feel personally addressed. This is the relation of I-You.

Our world, then, is split into two aspects. The first is the It-world of experiences, borders, order, and patterns. This is the aspect about which people can share a common understanding. The other is the You-world of unity, wholeness, and uniqueness. The world appears eternally new and unique, beyond ordering and prediction. We are alone in this world; alone in our individual relationship with it. It exists only in the present. Unlike the It-world, it does not have a past or future, because in order to contemplate past or future we must step back from the total relational I-You of the present, and at that moment the You becomes It.

Since the You exists only during the time of the full involvement of our being with that of the You, the moment we respond to the You, the You becomes an It. This is so, because we can direct our response only to a part of the other, not to his full being. "The more powerful the response, the more powerfully it ties down the You and as by a spell binds it into an object. Only silence toward the You . . . leaves the You free. . . . All response binds the You into the It-world. That is the melancholy of man, and that is his greatness."12

For these reasons, the I-You relationship is doomed to be fleeting. We are doomed to return to, and spend most of our lives in the It-world, because direct relationship cannot last forever. Love, Buber believed, can only exist in the relationship between I and You. Thus, it too cannot last. When we return to the It-world, though, we are charged with a new knowledge which cannot be explained in psychological terms--it has been received. It is a presence and a strength which is devoid of content and, thus, cannot be communicated. Nevertheless, it gives our lives meaning and confirms meaning in everything. The proof of this meaning is found in the actions, which are unique to each person that grow from it. These actions are vital, because only through them can the You-world of relation become embodied in the It-world of experience.

Buber believed that the relation we encounter when we enter the You-world is a glimpse of a more fundamental, eternal You--God. All relationship exists through the Being of God and it is through our brief I-You encounters that we have knowledge of Him. It is only through this encounter that we can begin to address other persons as anything other than objects. The reciprocal I-You relationship between people, and between them and God is a precondition to the realization of human community.

The moments of I-You relationship sound much like moments of mystical experience. Buber, however, did not want this to be equated with mysticism. He distinguished between two kinds of events in the mystical experience. The first is that of the creation of inner unity, or wholeness. This occurs within the person, not in a relationship with God. Buber accepted this element of mysticism, and believed it to be a necessary prerequisite for establishing an I-You relation. The second event is that of union between the person and the other, with the lose of personal identity as the two become fused. Buber was opposed to the ideal of mystical union, or annihilation of the self, because it emphasizes the relationship to the exclusion of its members. This devalues, deactualizes, the members who are in relation. When one returns to the It-world, there is a sense of lose of being; the relational Being of God is split. Buber will accept mystical union only if it allows the members to retain their identity while they are in relation. In lived actuality the relationship and its members are of equal importance. The whole self is involved, not a destruction of self. Devaluing the members in favor of the relationship is an It-act.

People who have an It as the focus of their life goals, cannot be brought to God by telling them to focus on God. They would then try to possess God by making Him an It. It is not just the goal, but the method of reaching it that is important. The motive and method of possession must be changed to that of relation.

In Buber's theology, our relationship with the eternal You, God, is what enables all that is truely human.

> Out of life with nature we take the "physical" world, that of consistency; out of life with men, the "psychical" world, that of affectability; out of life with spiritual beings, the "noetic" world, that of validity. [Without the one Presence shining through each world, they] become usable and murky, and remain murky even if we endow [them] with shining names: cosmos, eros, logos. For in truth there is a cosmos for man only when the universe becomes a home for him with a holy hearth where he sacrafices; and there is eros for him only beings become for him images of the eternal, and community with them becomes revelation; and there is logos for him only when he addresses the mystery with works and service of the spirit.[13]

In my attempt to understand Buber, I fear that I fall victim of what he called the "psychological delusion." This is the attempt to understand my relationship with the world in psychological, rather than spiritual terms. Buber believed such an attempt to be meaningless.

> The man who steps out of the essential act of pure relation has something More in his being, something new has grown there of which he did not know before and for whose origins he lacks any suitable words. Whereever the scientific world orientation in its legitimate desire for a causal chain without gaps may place the origin of what is new here: for us being concerned with the actual contemplation of the actual, no subconscious and no other psychic apparatus will do. Actually, we received what we did not have before, in such a manner that we know: it has been given to us.[14]

I am not sure whether I agree or disagree with him on this point, largely because I am not sure what is his point. His statement can be read in two ways. One is that regardless of psychological explanations, we did receive something from outside of the world--and scientific explanations are not capable of explaining its origin. The other reading is that regardless of the psychological explanation, we have the feeling of having received something from outside the world--and scientific explanations cannot embody, or do justice to the personally felt meaning of this knowledge.

This distinction is important. The first interpretation means that God stands outside of the world and that we receive gratuitous knowledge when we come into relation with Him. This knowledge is certain knowledge, even though it is devoid of content. If this is Buber's meaning, and his philosophy rests upon this understanding, I feel that I must either reject his ideas, or reinterpret them in light of the second possible reading of his statement. I argue this, because my presuppositions are based upon a recognition of the fallibility of human knowledge. I agree with Blaise Pascal, who wrote that, "Every religion that does not say that God is concealed is not true . . . ."[15]

Psychological explanations do not devalue religious experience, if one takes care not to confuse the explanation with the experience. Once we make this mistake explanation becomes knowledge alienated, which can be used to debunk, or "explain away" the experience. But a knowledge of the physical processes which creates a rainbow, or of the psychological processes underlying a mother's love does not devalue the sight of a rainbow, or the expression of love.

Explanations are based upon abstract, generalized models which do not include the individual, feeling person who stands in relation with what is being explained.

In the psychological interpretation of Buber's statement, God does exist in the reality of the person who returns from the I-Thou encounter. This reality, though, is the world as perceived and made real by man. In this view, God lies within the world, not outside of it. We are able to discover Him in the world if we address it in the proper manner. But whether God exists in the Reality we assume to exist behind the world as we know it, is a question beyond our ability to ever answer with certainty.

Psychologically speaking, the question of whether or not God exists is secondary to the fact that the felt relationship fosters psychological integration with the world; the world becomes meaningful. Religiously speaking, whether or not the psychological explanation is correct is secondary to the felt relationship with God. Together, both approaches merge as a larger whole, rather than conflict. To accept this view, one must be free of dogmatic certainty of one's present knowledge of God, and of abstract explanations. It requires great courage in order to embrace this kind of freedom; both to face the uncertainty of the world that this view creates, and in the face of this uncertainty to hold on to one's faith as a tentative truth which can guide one's actions in the world.

Buber's theology provides a meaningful, positive image of the nature of the world, within which we can act. It is positive in that it promotes growth in relation with a larger whole. Buber's concept of love is one which, by definition, requires that we encounter the full nature of other persons; both their good and their bad. Love, by its very nature, cannot be blind. An I in love has a clear awareness of, and feels responsibility to a You.

> The idea of responsibility is to be brought back from the province of specialized ethics, of an "ought" that swings free in the air into that of living life. Genuine responsibility exists only when there is real responding.
>
> Responding to what?
>
> To what happens to one, to what is to be seen and heard and felt.[16]

This value of love appears to be very similar to that of Burtt. Both require that one be free of influences that might block or misshape one's perceptions of the other person. The value Buber saw in the mystic's act of achieving inner wholeness may be related to the value that Burtt placed upon dealing with one's unconscious motives and achieving freedom from self-interest. Both Buber and Burtt required that one have a positive interest in the fate of the other. To Buber, love and I-You encounters are to be valued, because of the very nature of our world; a world in which cosmos, eros, and logos are inextricably entwined. For Burtt, love, which promotes a relationship akin to I-You, is a value necessary for progress toward philosophic understanding and the promotion of human growth.

The I-You relationship is a relationship of dialogue. Dialogue cannot take place in the kind of mystical union of which Buber disapproved, because the members lose their identity in the union. In the I-You relationship both the I and the You maintain their separate identities while they engage in a relationship which involves their whole selves in the present, the here-and-now. Rather than joining in a self-destroying union, they participate in communion.

What is communicated in Buber's dialogical relationship is being, not information in discrete units. Knowledge of You is, then, the fullest kind of knowledge, because it is not interpreted, categorized, or reshaped in any way. Similarly, Burtt argued that knowledge of persons is the most concrete form of knowledge, because each individual is full of surprises and does not fit into any abstracted pattern. He believed that such knowledge is the richest in content. Buber, however, carried his analysis of relationship still further, asserting that a complete relationship is devoid of content. Any time the I attempts to achieve a goal other than then relationship as an end in itself, the You becomes an It. This is true of any goal, be it philosophical, psychoanalytical, or educational. But we live in a world in which we must deal with content if we are to survive and, thus, true dialogue must always be fleeting. Buber's views provide us with an image of social mutualism at its extreme.

Buber's theology and philosophy is intuitionistic in nature, as was Schweitzer's. He asserted that we each have access to personally revealed knowledge. But there are serious problems inherent in intuitionism. Historically, it has not led to widespread agreement among people, and one's intuitions need not correspond with the world at large. Burtt has suggested a cluster of values which may help lead us out of these difficulties. These values are implicit, also, in Buber's work. The nature of these values makes them safeguards against the dogmatic imposition of one's intuitions upon others. Buber's interests were not directed toward pragmatic activity in the It-world, and he did not examine it in great detail. Mohandas Gandhi, on the other hand, provides an example of a man who used these values to guide action on a massive social scale.

Mohandas Gandhi

> In complete silence the Gandhi men drew up and halted a hundred yards from the stockade. A picked column advanced from the crowd, waded the ditches, and approached the barbed-wire stockade. . . . Suddenly at a word of command, scores of native policemen rushed upon the advancing marchers and rained blows on their heads with their steel-shod lathis. Not one of the marchers even raised an arm to fend off the blows. They went down like ten-pins.

> From where I stood I heard the sickening whack of the clubs on unprotected skulls. The waiting crowd of marchers groaned and sucked in their breath in sympathetic pain at every blow. Those struck down fell sprawling, unconscious or writing with fractured skulls or broken shoulders. . . . The survivors, without breaking ranks, silently and doggedly marched on until struck down. . . .Although everyone knew that within a few minutes he would be beaten down, perhaps killed, I could detect no signs of wavering or fear. They marched steadily, with heads up, without the encouragement of music or cheering or any possibility that they might escape serious injury or death. The police rushed out and methodically and mechanically beat down the second column. There was no fight, no struggle; the marchers simply walked forward till struck down.[17]

This journalistic account of one of Mohandas Gandhi's nonviolent resistance campaigns against the British in 1920 stands in stark contrast to the glowing abstractions of Burtt and Buber. Beneath the public surface, though, Gandhi's philosophy was very similar to theirs. His approach to social action was mutualistic; indeed, it was dialogical communication on a massive political and social scale. His political action, interpersonal relations, and inner religious quest were all facets of the same thing. In order to discover what this was, we must look beneath the surface of his political activity, which was designed to free India of British rule, and examine its guiding philosophy.

In the introduction to his autobiography, Gandhi told of his reservations about writing such a book. A friend had asked him why he wanted to write an autobiography (which is in the Western, rather than Eastern literary tradition) and cautioned that although his views may change after the book was written others might still accept the authority of those which he had solidified in writing. Gandhi replied, "I simply want to tell the story of my numerous experiments with truth, and as my life consists of nothing but those experiments, it is true that the story will take the shape of an autobiography."[18] His world, politics, personal life, and religion were intricately interwoven. His entire life was a religious quest--aseries of experiments through which he hoped to find "truth," which he believed to be synonymous with "God."

These experiments were conducted in the form of social action, but their importance to him lay only in the spiritual search, of which the political activity was simply a reflection. It was through the spiritual quest that he derived the power to engage in politics.

> What I want to achieve,--what I have been striving and pining to achieve these thirty years,--self-realization, to see God face to face, to attain Moksha [freedom from the cycle of birth and death]. I live and move and have my being in pursuit of this goal. All that I do by way of speaking and writing, and all my ventures in the political field, are directed to this same end. But as I have all along believed that what is possible for one is possible for all, my experiments have not been conducted in the closet, but in the open; and I do not think that this fact detracts from their spiritual value. There are some things which are known only to oneself and one's Maker. These are clearly incommunicable. The experiments I am about to relate are not such. But they are spiritual, or rather moral: for the essence of religion is morality.[19]

To Gandhi, Truth was God (rather than, God was Truth). It was one of God's many faces. In order to see the face of God he had to find Truth, but he could not do this passively. It required that he be personally able to speak, act, think, and embody truthfulness. Knowledge of truth was inseparable from a truthful life. He could not distinguish between private and public, secular and sacred spheres of activity--all four blended together. Religion was not simply private, politics not just secular. Although he felt that a belief in God was a prerequisite to the practice of his political technique, he was not bound to any established religious dogma. He did not feel that anyone had to believe in the same god as he, because no one could be absolutely certain of their knowledge of God.

The recognition that we cannot know absolute truth in our lives is central to Gandhi's philosophy. He felt that we must cling to, and continually revise and improve the relative truth as we know it. His experiments were his lifelong process of personal revision and improvement of his own relative truth. He referred to his philosophy and political technique as Satyagraha. The word sat means "Being," "Truth," or "God." Satya refers to the relative truth, which is all that we can know. "Satyagraha is literally holding on to Truth and it means, therefore, Truth-force. Truth is soul or spirit. It is, therefore, known as soul-force. It excludes the use of violence because man is not capable of knowing the absolute truth and, therefore, not competent to punish."[20]

When one holds on to the truth, one's life embodies truth and one must act in a truthful manner. Truth as an idea and as an action are inseparable. When confronted by a situation which is contrary to the truth, one is compelled to change it. This was the motivation behind Gandhi's politics. But it is difficult to know what the truth is. Since we can have no certain knowledge of truth, we must not act in any way which will harm others. To do so would be to cause irrevocable injury on the authority of an uncertain truth. It is vital, then, that Satyagraha be grounded in _ahimsa_, nonviolence. Ahimsa is a prerequisite for the discovery of truth, and the two are so closely interwoven that is is difficult to separate them. "Nevertheless, _ahimsa_ is the means; Truth is the end."[21] Satyagraha is the unwavering pursuit of personal and social truth in a nonviolent manner.

The _satyagrahi_ (one who practices Stayagraha) is true to himself and to humanity only when he has tested his relative truth through action. This is so even if the test leads to his death. Gandhi emphasized that nonviolent resistance _is not_ passive resistance. It is not a passive form of resistance which the weak must employ because they are too weak to succeed by other methods. Rather than being submissive, it is an active, militant approach, which requires great moral strength and courage.

The satyagrahi is opposed to evil, not to the evil-doer. This means that he must not think ill of, or do violence to the evil-doer. The nonviolence of ahimsa is not related just to physical violence, but to any kind of violence; including hatred of, evil thoughts about, ill will toward, and even lying to a person. It requires that one refrain from mental as well as physical violence. This demands a high level of concentration on the part of the satyagrahi, and that he maintain a clear understanding of what are his innermost motives.

Gandhi felt that the best English translation of ahimsa is "love," or "charity." Since this is the value which guides Satyagraha, one must love one's opponent, regardless of his acts. Love of the evil-doer requires that one try to win him away from evil, even unto one's own death.

> Love is reckless in giving away, oblivious to what it gets in return. Love wrestles with the world as with the self and ultimately gains a mastery over all other feelings. . . .
>
> The law of love will work, just as the law of gravity will work, whether we accept it or not. . . . The more I work at this law the more I feel the delight in the scheme of this universe. It gives me peace and a meaning of the mysteries of nature that I have no power to describe.[22]

In order to practice ahimsa, one must undergo an inner self-purification. This is a life-long process, which must be continually practiced. The object is to achieve utter humility--freedom from every trace of self-interest.

> Identification with everything that lives is impossible without self-purification; without self-purification the observance of the law of Ahimsa must remain an empty dream; God can never be realized by one who is not pure of heart. Self-purification therefore must mean purification in all walks of life.[23]

In practice this generally involved taking vows of poverty, chastity, and abstaining from a variety of things which Gandhi felt either did injury to oneself, or represented submission to one's passions. Vows were very important, sacred acts which were not to be lightly taken or broken.

Another important element in Satyagraha is suffering. The satyagrahi must be willing to suffer, for three reasons. First, suffering is viewed as a purifying act. Also, the nature of Satyagraha requires that one be prepared to enduring suffering resulting from the actions of one's opponent. Since Satyagraha cannot involve violence, it must rely upon patience and sympathy in an effort to win over the opponent to one's view of the truth. In the interim, however, one is likely to suffer at the hand of one's opponent. This reverses the usual pattern of confrontation, which generally involves the attempt to make one's opponent suffer. Finally, suffering is a tactic designed to convince the opponent of the sincerity of the satyagrahi's purpose. Gandhi's position regarding suffering is similar to that of any leader of militant action. The participants, or soldiers, are asked to prepare for suffering and sacrifice. In the practice of Satyagraha, however, the magnitude of the injuries and loss of life that will be incurred is likely to be considerably less than that associated with violent militancy.

Gandhi believed militant Satyagraha to be a very powerful tool, which should be employed only as a last resort. When faced with a social injustice, the satyagrahi must first employ all available avenues of relief. Only when he was exhausted all other options will he resort to civil disobedience, or non-cooperation with an unjust law or social situation. The satyagrahi is basically a law-abiding person. When a law must be broken as a very last resort, the act is done with a clear understanding of the underlying issues at hand, and with great care to break only the specific law in question. Also, the opponent must be informed of one's plans and motives. Great care must be taken to prevent the issue of law-breaking from masking the fundamental issue which led to the act. The action must be directed not against the opponent, but against the situation in which both parties are caught. The law of love requires that the satyagrahi continually strive to reach, with his opponent, a mutually just resolution.

Great care must be taken to insure that the action not be taken for reasons of self-interest. Also, care must be taken not to do any violence to the opponent--including taking advantage of the opponent during a moment at which he is particularly weak. One must not try to make the opponent feel fear or guilt. Instead, the satyagrahi must continually appeal to what is best in the opponent, from a co-equal position. The objective is to win the opponent to the satyagrahi's views, not to defeat him.

On March 30, 1919, Gandhi called a day of national strike. The strike unified and electrified the Indian People against the British. He had intended a one day, symbolic work stoppage during which the people would pray and fast. In the following weeks, however, there was rioting, arson, sabotage, and murder directed against the British. In one case, the British responded by firing into a peaceful gathering of 10,000 Indians; injuring 1,500 people, of whom 379 died. Appalled by what had happened, Gandhi suspended his campaign against the British on April 18th.[24]

What Gandhi called his Himalayan Miscalculation, which led to this disaster, lay in his assumption that the mass of Indian people was ready for nonviolent resistance. He realized that it could not be, without the preparation necessary to understand the underlying philosophy and methods of Satyagraha. The people had to be prepared to obey the laws, not because of fear of punishment, but of their own free will. Only then would they be prepared to selectively break specific laws in a nonviolent manner. Before he reinitiated his campaign he had to train a corps of volunteers who, in time, would spread across the country and educate the people. He found, though, that few people were interested in the peaceful aspects of nonviolence--particularly as practiced under his rigorous training. Nevertheless, he eventually built a cadre of skilled Satyagraha leaders, whose activities paved the way to freedom from British rule, almost thirty-five years later.

Nearly twenty years after his campaign in South Africa, during which he had first developed Satyagraha, Gandhi met his former protagonist, General Smuts. During their conversation, Smuts remarked:

> 'I did not give you such a bad time as you gave me.' 'I did not know that,' Gandhi replied. The remark is illuminating. He was so utterly wedded to his concepts as not to recognize that there had been a real fight involving the hurting and humiliation of an enemy. He insisted in thinking that the end was a conversion. Here he was wrong. The prevailing white attitudes [in South Africa] had not altered.[25]

After he left South Africa, the Indian community there lost most, if not all, of the ground it had gained under Gandhi's leadership. This points to a problem in his approach to social change.

There has been a good deal of criticism of both the man and his technique. Some have said, as in the passage quoted above, that he misread his political success as verification of his philosophy. This may well be the case. It has often been said, for example, that his success in India was made possible only by the inherent self-restrain of the British authorities, which prevented their use of extremely oppressive countermeasures. His critics have argued that as a result of his pleasant experiences in England as a young law student, Gandhi tacitly assumed an element of decency on the part of the British and other foreigners. But the success of his campaign was not just an historical fluke. His techniques have been used in other countries with some success.

Gandhi died believing himself to be a failure. He saw Satyagraha as a way of living, a way of reaching a mutual truth with one's opponent. In his last years, though, he recognized that he and his method had been used by the Indian politicians to oust the British, regardless of its moral influence upon them. It had been used as a means to an end and then, when the end had been achieved, discarded. What he had thought was militant nonviolence had actually been practiced as passive resistance; a weapon of the weak, who would turn to violence as soon as they gained the strength. His failure lay not in a weakness of Satyagraha, but in the fact that it had never been practiced.

> It is perhaps wrong to describe my present state of mind as depresssion. . . . I am not vain enough to think that the divine purpose can only be fulfilled through me. It is as likely as not that a fitter instrument will be used to carry it out and that I was good enough to represent a weak nation, not a strong one. May it not be that a man purer, more courageous, more far-seeing is wanted for the final purpose? This is all speculation. No one has the capacity to judge God. We are drops in that limitless ocean of mercy.[26]

In Gandhi's view, success was not to be measured by the fact that the British quit India, but by whether or not they left out of a recognition of the moral soundness of his cause. If they had been defeated, rather than converted, then he had done violence to them. In truth, this is probably what happened, and Gandhi did fail to achieve the mutually shared moral resolution of the conflict, for which he had devoted his life. This, however, does not devalue Satyagraha. In my view, a unique quality of Satyagraha is the requirement that one behave as if the opponent can be won to the satyagrahi's view, that one behave as if a mutual resolution is possible. This approach reduces the likelihood that violence will erupt, and leaves the possibility open that a mutual resolution actually will be achieved. To do otherwise would increase the possibility of violence and severely limit the likelihood of a mutual resolution, as is the case with self-fulfilling prophecies.

It is ironic that under the leadership of Indira Gandhi India has fabricated and tested nuclear explosives. India has retreated from Gandhi's ideals and is now moving in the illusion that a strong military is of sufficient value to her to merit an enormous investment of her very limited resources. Kenneth Boulding has argued that this is a false belief, which India has accepted because she has failed to test the reality of her sense of truth. In his view, "the failure of Gandhism is not the failure of ahimsa, but a failure of satyagraha."[27] He suggested that, in a system as complex as the modern world, we cannot rely upon intuition or mysticism as sources of knowledge. Instead, we must turn to the social sciences. He did not place all of his hope in the social sciences, but recognized them to be one of many methods of improving our understanding of truth.

Gandhi used the social sciences in a rudimentary form, as a part of his efforts to resolve labor-management disputes. He often undertook an economic analysis of a situation in order to determine what would be the most equitable wage agreement. This was important to him, because his goal was to achieve mutually advantageous settlements, rather than to maximize the profit of one party over another. I am confident that he would agree with Boulding about the value of the social sciences as a source of pertinent information. I do not, however, believe that he would place the burden of the search for truth in their lap. Although they could provide him with information which would be of great value in achieving his goals, they could not help him to identify what those goals should be. Gandhi recognized the truth and ahimsa to be joined as opposite faces of a coin. As we turn to the sciences for truth, it is all the more important that we cling to ahisma, the law of love.

Gandhi never articulated a coherent, consistent philosophy. This has been the source of much of the difficulty that people have had in interpreting his thoughts. He viewed his life as an experiment with truth, and devised his experiments as the need and opportunity arose. His was a growing philosophy, as was his truth, which he did not want to fix into a system. To do so would have been to kill and preserve it. He saw the value of his approach as lying not in the completed product, but in the emergent process. When the views that he expressed over the years are examined together they are, for this reason, likely to conflict. But the image of truth that he held in his later years was not necessarily the same as the one he held in his youth. He viewed this as a sign of positive growth, rather than of inconsistency.

There seem to be four other reasons for the difficulty that many people have encountered in understanding Gandhi's philosophy.[28] First, one must realize that he did not make a clear distinction between ideas and actuality. He considered his mental, physical, and spiritual facets to be integrally linked, as were his thoughts and actions. Also, he was embedded in the tradition of Hinduism, and his statements are completely coherent only within the light of that world-view. In addition, his ultimate ideal cannot be obtained on earth; the value of his ideals lies in the direction that they provide for action, rather than in their actualization. One cannot be criticized for not being able to conform perfectly to the ideal, only for not striving to do so. The fourth reason lies in the fact that Gandhi spoke of truth from three perspectives, which he did not always clearly distinguish. He spoke of the unrealizable ideal toward which we should all strive, of truth as he had actualized it in his own personal struggle toward the idea, and of the truth as embodied in the struggle of the Indian masses.

Eric Erikson recognized that Satyagraha is based upon "a combination of clear insight into our central motives and persuasive faith in the brotherhood of mankind."[29] One of Gandhi's basic presuppositions was that humanity is not, and must not be divided into separate camps. Rather, he saw us all as parts of a larger whole. Social conflicts, then, are akin to family squabbles, which must be resolved to the benefit of all members of the family. It is inconceivable that such a conflict should be resolved by destroying a member of our family. Erikson believed that the saintliness of Gandhi can be explained through the psychological observation that "the true saints are those who transfer the state of householdership to the house of God, becoming father and mother, brother and sister, son and daughter, to all creatures, rather than to their own issue."[30]

The value that enables this to happen is ahimsa. This is probably the closest thing to dogma in Gandhian philosophy. He did not, however, eliminate the possibility of employing violence. He realized that it takes great personal strength in order to employ Satyagraha, and that some people may not find such strength within themselves. In such a case, when the only choice lies between cowardice and violence in the face of injustice, Gandhi recommended that one choose violence. His hope was that people would be able to find the strength to recognize and employ the third choice, that of love and nonviolence.

Gandhi's concept of ahimsa seems very close to Burtt's concept of love. Both involve freedom from self-interest and a positive interest in promoting the growth of others. Also, both require inner preparation as a prerequisite for their actualization. In psychoanalytic terms, this preparation involves gaining insight into one's unconscious motives. In Gandhian (Hindu) terms, self-purification is required. I believe, though, that the Gandhian approach to self-purification sometimes conflicted with ahimsa, because of itsemphasis upon extremes of self-suffering. This, and Gandhi's extreme dietary practices, seem like acts of violence directed against the self which are beyond what is required by ahimsa. This may be a product of tension between his love of all life, and Hinduism's goal of escaping from the cycle of life. I, personally, believe that self-purification should be understood in psychoanalytic, rather than in Hindu terms.

Another important Gandhian presupposition is that means and ends are synonymous.

> Means and ends in Gandhian satyagraha are distinguishable only temporally. Both means and ends partake of a continuous process. The means precede the end in time, but there can be no question of moral priority. Truth is inseparable from non-violence, and the method of achieving and clinging to the truth in non-violence.

> Non-violence becomes both the means and the end, and the terms become convertible.[31]

The Gandhian view of the law seems to be that each law is a question, rather than a command, which has been placed before the people. The resolution of the question of whether or not it is a just law ultimately lies in their hands.[32] Satyagraha is a method of putting the question to them, and enacting an answer. John Rawls has argued that if the body of people to whom the dissenter addresses himself does not share his sense of justice, the dissenter is likely to fail and civil disobedience will not be an effective technique.[33] The Gandhian philosophy, then, presupposes a universally shared sense of justice. The satyagrahi must cleanse himself of self-interest in order to recognize a just cause, and to properly address it to the people.

Joan Bondurant has pointed out that Satyagraha is an approach to resolving dialectical conflicts between the satyagrahi and his opponent. The object is to achieve a synthesis, which does not do violence to the growing truth of either party. The synthesis, then, is not a compromise. Neither is expected to abandon his core of truth. The satyagrahi must, however, be continually attentive to his opponent's argument in order to determine whose views, his or the opponent's, most nearly embody truth. At the same time, he must employ only those political techniques which help his opponent to become open to his own understanding of truth. Gandhian dialectics are devoid of any vestige of determinism, such as the historical determinism of Marx. To claim a certain knowledge of what the dialectical synthesis will be, is to claim knowledge of absolute Truth, rather than to claim a relative truth. "The Gandhian dialectic, which lies at the heart of satyagraha, is a process to be made explicit by human action, not to be found as implicit either in the nature of things or the process of time. It partakes of prescription, rather than description."[34]

With the exception of the overt religious elements, Gandhi's philosophy appears to be very close to Burtt's. The difference is that Burtt's approach is from the perspective of resolving philosophical disagreement, while Gandhi's is from that of resolving societal conflict. Gandhism is built upon the same four elements we identified in our examination of Burtt: membership is a large group, which includes the opponent; an attempt to transcend dogma; freedom from self-interest; and the recognition that means and ends are united. The Gandhian method for resolving dialectical conflict is that of dialogue on a massive social scale. Through his acts of nonviolent resistance, the satyagrahi attempts to establish a state of dialogue with his opponent, and achieve a mutually valued synthesis.

From a psychoanalytic point of view, Erikson sees the process as one of mutual therapy, the end result of which is a double conversion of the satyagrahi (therapist) and the opponent (patient). The Gandian method is in keeping with Erikson's psychoanalytic interpretation of the Golden Rule: "a man should act in such a way that he actualizes in both himself and in the other such forces as are ready for a heightened mutuality."[35] Gandhi's approach was one of "giving the opponent the courage to change,"[36] which required that the satyagrahi have the same courage.

Nonviolent resistance can be viewed as a form of symbolic violence.[37] Through it, one forcefully confronts the opponent with opposing views, but not in a destructive way. The object is to force the opponent to make a conscious choice and, through that choice process, to examine his behavior and values. This requires that the satyagrahi appeal to what is best in the other, and avoid an emotional polarization that may interfere with the opponent's ability to make the best decision. This means that one should not appeal to a sense of guilt within, or place guilt upon the opponent. Guilt is often related to issues other than the specific ones at hand. Since the object is to help the opponent reexamine a specific issue, such indirect or unrelated issues would only muddy the situation and, thus, interfere with the purpose of the satyagrahi.

The nature of self-fulfilling prophecies requires that the satyagrahi deal with his opponent on the basis of good faith. At the same time, he must realistically be prepared to suffer if there is a breach of that faith. By appealing to what is best in the opponent, one helps him to realize the elements of good intent that he may possess. This kind of behavior on the part of the satyagrahi, particularly when he accepts suffering willingly and cheerfully, is likely to be quite contrary to the behavior expected by the opponent. Bondurant argued that the result may be sufficiently shocking to the opponent to break his normal, stereotyped patterns of thought--allowing him to freshly examine the dissenting views.

Throughout, the idea is to hold up a mirror to the opponent.[38] By clinging to ahimsa and, thus, presenting no threat to the opponent, except to the extent that he projects a threat upon them, the resisters become the mirror of his acts. When the opponent eventually sees what he is doing to them, he is able to see himself and confront his truth.

Erikson has suggested that mankind is divided by its attitudes into many separate groups, or "pseudo-species," which define themselves by reference to such things as race, religion, nationality, and ideaology.[39] The members within each group define themselves as better than those of the other groups; they are the center of their universe. It is, then, permissible to behave violently toward members of other groups, but not toward members of one's own. He argued that in order to reduce violence we must widen our identity to include what has previously been defined as other pseudo-species. This is what Ghandi did in his relationship with his adversaries. He refused to deal with them in a manner which degraded them. "He refused, then, to permit that cumulative aggravation of bad conscience, negative identity, and hypocritical moralism which characterize the division of men into pseudo-species."[40] In Boulding's words, he "refused to exclude even the enemy from his community.[41]

Thomas Merton eloquently summarized Gandhi's philosophy when he wrote that:

> [Gandhian] non-violence implies a kind of bravery far different from violence. In the use of force, one simplifies the situation by assuming that the evil to be overcome is clear-cut, definite, and irreversible. Hence there remains but one thing: to eliminate it. Any dialogue with the sinner, any question of the irreversibility of his acts, only means faltering and failure. Failure to eliminate evil is itself a defeat. . . .
>
> A violent change [however] would not have been a serious change at all. To punish and destroy the oppressor is merely to initiate a new cycle of violence and oppression. The only real liberation is that which liberates both the oppressor and the oppressed at the same time from the same tyrannical automatism of the violent process which contains in itself the curse of irreversibility. . . .
>
> True freedom is then inescapable from the inner strength which can assume the common burden of evil which weighs both on oneself and one's adversary. False freedom is only a manifestation of the weakness that cannot bear even one's own evil until it is projected unto the other and seen as exclusively

> his. The highest form of spiritual freedom is, as Gandhi believed, to be sought in the strength of heart which is capable of liberating the oppressed and oppressor together.[42]

Paulo Freire

Paulo Freire's concerns have been similar to Gandhi's. He, too, has worked to free the oppressed from oppression, and he has considered dialogue to be a vital element in this process. Unlike Gandhi, he has considered dialogue to be of value primarily in interactions among the oppressed and those who are working for liberation, but not of great value in their interactions with their oppressors. Also, he has approached the task as a radical educator steeped in Marxist materialism, as opposed to Ghandi's social activism which was based upon a spiritual quest. Gandhi spoke in terms of mutual evolution; Freire in terms of Social revolution.

While working in literacy education in Brazil, and for agrarian reform in Chile, Freire had the opportunity to direct a great deal of thought and action to the problem of oppression. He developed an educational method, which he called the pedagogy of the oppressed, designed to enable oppressed people to recognize their state of oppression and act to change their condition. His writing is difficult to grasp quickly, because he has developed a personal vocabulary and style. In addition, he assumed that his readers will be familiar with Marxian dialectical theory--a prerequisite to understanding the full implications of his thinking.

Edwin Burtt summarized the core of Marxism as follows:

> Everything in the universe is changing; there are no static realities. But there are laws of change which can be scientifically grasped, and when they are grasped, those who understand them are able to guide the changes toward humanly desirable ends. The fundamental laws are dialectical--that is, they reveal that the universe is a ceaseless process of generation, interplay, and resolution of antagonisms between opposing forces.[43]

This dialectical process is historically determined, inevitable, and can not be altered from its course. The person who is aware of this process, and who can identify the forces which are in dialectical opposition can work to hasten their resolution. What is created through the synthesis of the opposing forces is, in our historical context, necessarily good. The basic proposition of Marxism is:

> That in every historical epoch the prevailing mode of economic production and exchange, and the social organization necessarily following from it, form the basis upon which is built up, and from which alone can be explained, the political and intellectual history of that epoch; that, consequently, the whole history of mankind (since the dissolution of primitive tribal society, holding land in common ownership) has been a history of class struggles, contests between exploiting and exploited, ruling and oppressed classes; that the history of these class struggles forms a series of evolutions in which, nowadays, a stage has been reached where the exploited and oppressed class--the proletariat--cannot attain its emancipation from the sway of the exploiting and ruling class--the bourgeoisie--without at the same time, and once and for all, emancipating society at large from all exploitation, oppression, class distinctions and class struggles.[44]

Freire believes that each period in history is characterized by a series of generalized aspirations and values.[45] In order to exercise autonomous control over their lives, people must have the critical ability to recognize these themes which shape their reality. However, people can be, and are, diverted from becoming aware of these themes through advertising, propaganda, and other forces which foster uncritical thought. The result is that they become objects; spectators unable to interact with their times. During a period of historical change, the old themes lose their importance and new ones emerge. These times in particular require that people have a critical understanding of their reality if they are to play a part in fostering the new values and concerns. They must become integrated with their reality.

To be integrated with one's reality means being able to think critically. A person who is capable of critical thinking is able to recognize the contradictions (dialectical conflicts) in his life and act to resolve these conflicts in a meaningful way. Through this dialectical synthesis he creates a new reality. Without critical consciousness, he is a victim of reality and the new reality that is created by others is an alienated reality. In short, he is oppressed.

Freire recognizes the key theme of our historical period to be that of oppression. The dialectical conflict is between the oppressor and the oppressed. The synthesis which will be produced when this conflict is resolved is liberation of both the oppressor and the oppressed. In each country, state, community, and individual life there are a multitude of other sub-themes. Each situation is characterized by its own unique assemblege. The specific way in which the major conflict will be resolved will be determined by its interplay with the sub-themes in each context. Social action designed to bring about a synthesis which is not alienating, then, must be designed with reference to the specific social and individual context in which it is set. Freire's pedagogy is directed toward this end.

In Freire's view, the world and human consciousness are integrally linked. Our consciousness comes into being in response to the world around us, and as our consciousness changes, so does our world--reality is transformed. This is not a passive mental process; "humans, as beings of relationships, are challenged by nature, which they transform through their work. The result of this transformation, which separates itself off from them, is their world. This is the world of culture which is prolonged into the world of history."[46] One who is able to consciously participate in this process is a "subject." One who cannot, one who is acted upon, is an "object."

Animals, including man, can adapt to the realities of their environment. Animals, though, can only adapt and must do so to whatever the realities may be. People are unique in their ability to adapt and, through a process of critical choice-making, transform that reality. Animals reflex--man reflects. Those who only adapt are called adjusted. Those who critically rebel against their reality and attempt to transform it are often called maladjusted.

> [People] are able to detach themselves from the world in order to find their place in it and with it. Only people are capable of this act of "separation" in order to find their place in the world and enter in a critical way into their own reality. "To enter into" reality means to look at it objectively, and apprehend it as one's field of action and reflection. It means to penetrate it more and more lucidly in order to discover the true interrelations between the facts observed.[47]

Freire believes that peasants are often so much a part of their world, so merged with it, that they are unable to conceive of transforming it. They have no sense of history and, thus, of the possibility of change. When people reflect critically they are aware of their past and future. For those who do not reflect critically (all animals, and many people) the world is timeless and there is no possibility of change. The educational programs he developed were designed to help peasants grow out of their "magical," timeless stage of consciouse, into a "critical," historical stage.

The importance of critical thinking to the peasants is illustrated by the work he did to promote agrarian reform in Chile.[48] The government had recognized the need to introduce new, more productive agricultural techniques into the peasant agriculture.

Toward that end, they established an agricultural extension program. But Freire objected to the idea of extension, arguing that the approach was paternalistic, and that it employed persuasion and propaganda, which are oppressive in nature. The extension agent is considered to be better than the people he is helping. Since the farmer is expected merely to accept and employ the agent's advice, there is no improvement in his critical consciousness. He is treated as an object. Freire argued that extension is not education, but domestication. He believed that in order to be effective as an agent for agrarian reform, the agent must be an educator. He must work with the farmers to improve their critical awareness and enable them to transform their agricultural reality in a manner that is meaningful to them. The agent's task is communication, not extension.

The effect of extension is cultural invasion. The techniques that are introduced have not been a part of the peasant's culture, and are likely to alter it tremendously. Their cultural reality will be transformed without their having been involved in making the decision as to what changes to make, or whether they should be made at all. Cultural invasion is an act in which a subject imposes something upon objects--including doing the thinking for them. At its root "any cultural invasion presupposes conquest, manipulation, and messianism on the part of the invader. It presupposes propaganda which domesticates rather than liberates.

Since cultural invasion is an act of conquest *per se*, it needs further conquest to sustain it."[49]

Historical and cultural continuity are of great importance and can be maintained only when changes in a society are shaped by forces within the historical and cultural context of that society. The alternative is an alienated society. Crop yields are not likely to improve when the farmers are alienated from farming. Even if they do increase, the process of alienation is sure to eat away at other parts of the culture. In order to prevent this, the agricultural educator must help the farmers to the critical stage at which they can examine the proposed agricultural techniques, and decide whether or not to employ them. If they do decide to accept the techniques, they must be allowed to fit them within the context of the empirical traditions of their past.

The process through which the educator must communicate with the farmers is that of dialogue. In order to establish effective communication, Freire believes, the subjects (educators and peasants) must address ("enter into") the same object, and share the same linguistic universe during the period of communication. This establishes "intersubjectivity;" the people share similar realities. The object of dialogue is to identify the contradictions, or dialectical conflicts, in their shared reality; they are "naming the world." "Dialogue is the encounter between men, mediated by the world, in order to name the world."[50]

The idea of naming the world is complex, and related to Freire's concept of "praxis." Praxis is the dialectical synthesis of action and reflection. Action without reflection is activism. Reflection without action is verbalism. Alone, neither can create a humanly meaningful reality. Critical consciousness requires both. Together they transform the world through work. By naming the world, we identify the conflicts in our reality, which enables us to transform reality. Praxis, work, and true word are synonymous. The true word is the essence of dialogue.

> Dialogue in any situation (whether it involves scientific and technical knowledge, or existencial knowledge) demands the problematic confrontation of that very knowledge in its unquestionable relationship with the concrete reality in which if is engendered, and on which it acts, in order to better understand, explain, and transform that reality.[51]

In addition to the true word, dialogue also requires a number of other elements. It requires the humility which will allow the dialoguers to speak on a co-equal level, and a faith in human beings and their ability (when they are not misshaped by alienation) to transform the world in a humanly fulfilling way. Hope of a better future is also necessary, as is the ability to think critically. Finally, dialogue requires love.

> The naming of the world, which is an act of creation and recreation, is not possible if it is not infused with love. Love is at the same time the foundation of dialogue and dialogue itself. It is necessarily the task of responsible Subjects and cannot exist in a relationship of domination. Domination reveals the pathology of love: sadism in the dominator and masochism in the dominated.[52]

In the process of dialogically transforming the world, one must be extremely careful about what one is transforming. The object is to transform the reality that is jointly shared by the dialoguers; not the people who are in dialogue. To direct such an effort at a person would be to treat him as an object. Dialogue cannot take place in an oppressive condition, thus, dialogue cannot be used as an instrument of oppression. The dialoguers are not out to dominate each other, but to conquer the world about them in an effort to bring about their liberation from oppression.

The characteristics of dialogical social action are: 1) There is a cooperative effort to transform the world; 2) the leaders work to unite the people; 3) Social organization is developed around the concept of the leaders working with the people; and 4) Cultural synthesis. In contrast, the characteristics of antidialogue are just the opposite: 1) Conquest; 2) Divisiveness; 3) Manipulation; and 4) Cultural invasion. These points must be kept in mind when one is trying to educate for critical consciousness. Such an approach to education requires dialogue; it cannot happen in a state of antidialogue, or oppression.

Freire views most education as a narrative; a one-way extension of information from the teacher to the student-- the teacher deposits learning in the student. He referred to this approach as the "banking" concept of education. The banking approach, though, is inhibiting and restrictive, as opposed to the dialogical approach, which promotes freedom and creativity. Those who are threatened by the idea of teacher-student dialogue are those who claim sure knowledge before ignorant students. To them, dialogue is a threat. There is a dialectical conflict in the teacher-student relationship. Freire argues that its resolution would place both parties in the position of teacher and student, each learning from the other.

In true education, as Freire views it, there is not a split between knowing and teaching. Education is not a transferance of knowledge, but joint cognition directed to a problem shared by the educator and educatee. The educator does not first gain knowledge and later transmit it to the educatee. Both discover knowledge in the process of solving problems. If the education involves learning previously generated knowledge, then it is to be taught in such a way that one recreates the act of knowing.[53]

Any action or reaction occurs within a larger reality construct. In order to educate, one must place the learning within the larger reality. The educator must help the educatee to penetrate the structure of reality, understand its pattern, and place the new learning within it. True education (which always involves critical thinking) involves the recognition of the dialectical conflicts in one's reality. These conflicts require resolution. Thus, education is a process of recognizing one's reality as a problem which must be solved, or transformed. The larger reality to which education must always be related is the dialectic of oppression. The educational process must resolve the oppressor-oppressed conflict; it must be dialogical. True education, then, is preparation for, and the practice of, freedom.

True education involves both the recreation of the learned knowledge and the application of that knowledge to specific life situations of the learners; it involves praxis. If education is to be dialogical it must pose problems, which the educatees solve within their own existential context. This requires the problematization of human beings in the world. It cannot deal with persons and the world in isolation from each other. It is through an analysis of the objective reality of the world and the subjective reality the people involved, that the educator is able to develop the content of his program.

Freire developed a technique which can be used to integrate these elements with the teacher's other educational objectives. In order to use it effectively, it is vital that one have a close knowledge of the educatee's aspirations and world-view. With this knowledge, working in dialogue with the students, one then identifies the dialectical tensions, the "generative themes," which are central to the educatees' lives. It is these themes which become the focus of the curriculum. Whatever is taught, be it reading skills or agricultural techniques, is taught with reference to the themes. Initially, the burden rests upon the educators to identify the key generative themes. Great care must be taken to insure that they are the people's themes, not those of the educators unconsciously projected upon the people. As the educatees develop critical consciousness, though, they are able to suggest additional themes. At this point, they are generating the curriculum in dialogue with the students. The image of students and teachers as co-learners and co-teachers is very important here, because it is a prerequisite to the successful identification and use of generative themes.

Once the generative themes have been identified, they are codified into existential situations, which are shared in the lives of the students. The codifications are generally visual images (e.g.; paintings, photographs, posters) in which the dialectical elements can be found. The codification must not be obviously related to what one is trying to teach. The educatees decode the situation by discussing the pictures among themselves and with the educator; that is, they problematize the world recorded in the images. Since the image is representative of a part of their world, they are problematizing their own world, as well. Through this process the students enter into their world and develop critical consciousness.

There are four stages in the development of this kind of an educational program. In the first stage, the educator sets out to decode, or identify the dialectical themes of the group to be educated. The overall project is carefully explained to the group which will be educated, and a request is made for volunteers who will assist in the first stages of program development. With the assistance of the volunteers, a team of educators and social scientists conducts a thorough study of the life of the group. This includes living in close contact with the people. The information that is gathered is then examined and the dialectics of the group identified.

The themes are then codified for classroom use. They are placed in a context that is familiar to the people, but neither too explicit, nor too enigmatic. The object is to develop a codification imagery that can be decoded by the students, but not so easily that they do not become deeply involved in the process. The existential contradictions, or dialectical themes, which are selected for codification should be related to other themes which have not been codified, but which are present in the culture. In this way, discussion of the generative themes will branch out to other themes.

In the third stage, the generative themes are tested. Representatives of the social group to be educated are presented the codifications, which are then decoded through dialogue. Everything that transpires in this study group is recorded, and a sociologist and a psychologist are present to study the session. In the fourth stage, a systematic, interdisciplinary study of what went on in the investigation circles is conducted. A determination is made as to which of the themes tested are the best for use in the program that is being developed. The themes are then ordered in a functional sequence. Some additional themes may be introduced by the educators in order to link, or introduce elements in the program. The themes are once again codified and the completed package becomes the center for a mass educational program, which is conducted throughout the area for which the program was designed.

The Brazilian literacy program that Freire developed in this way appears to have been quite successful.[54] In village study groups, or "culture circles," all across the country, peasants were shown the codifications. In dialogue with their teachers they decoded them and discussed the ramifications of the themes in their own lives. Only after the discussion were they shown the written words for the dialectical themes (e.g., work, peasant, land owner). The word was then broken down into its phonetic elements, which were rearranged by the peasants to form other words. The peasants' interest in the words was so great that many were able to read a newspaper after several weeks of study.

Throughout, Freire's major objective is to enable people to gain critical control over their lives. Inevitably, this process is connected to the major dialectical conflict of our time, that between the oppressor and the oppressed. By his definition, "Any situation in which 'A' objectively exploits 'B' or hinders his pursuit of self-affirmation as a responsible person is one of oppression."[55] He realizes that any method which is employed to resolve this conflict must not embody the conflict. It must, if at all possible, be dialogical, rather than oppressive. The true radical, in Freire's view, is a person who is committed to this in the praxis of his life. He is committed to dialogue, and his role is that of a liberator.

But Freire argued that dialogue is impossible between people who are antagonistic to each other. Since the oppressor is likely to respond to the liberation of the oppressed with antagonism, it may be necessary for the oppressed to reluctantly resort to violence in order to achieve liberation. The people will not, however, be responsible for initiating the violence--it was initiated by the act of oppression. The violence directed against the oppressor, though, is not itself oppressive, because its objective is to liberate the oppressor. The oppressor has not reached the state of critical consciousness which will allow him to recognize and act to resolve the historical theme of oppression. Liberation liberates the oppressors as well as the oppressed. Thus, acts performed by revolutionaries to promote liberation are not oppressive, including any acts of social control which prevent the reemergence of oppression.

> Consciously or unconsciously, the act of rebellion by the oppressed (an act which is always, or nearly always, as violent as the initial violence of the oppressors) can initiate love. . . . As the oppressed, fighting to be human, take away the oppressor's power to dominate and supress, they restore to the oppressors the humanity they had lost in the exercise of oppresion.[56]

Paulo Freire's writing communicates his great, loving concern for the oppressed peoples of the world, and demonstrates his commitment to helping them achieve liberation. His dialogical approach to education as a form of social action appears to provide a means for achieving social change without creating an alienating world. His underlying philosophy is very similar to those of Burtt and Gandhi. Freire argued that the educator must regard the students as being of intrinsic value, and that the two must share in a group identity. Also, he pointed out that the educator must overcome his own self-interest in order to foster the fullest growth and liberation of his students. Finally, he realized that means and ends could not be separated; that the effort to overcome oppression must not be oppressive.

However, Gandhi explicitly, and Burtt implicitly, extended their sense of group identity to include all people. Freire, on the other hand tended to identify with the oppressed in opposition to the oppressors. Dialogue is the necessary mode of interaction with the oppressed, but violence may be directed against the oppressors. This does not mean that he totally rejected the oppressors. On the contrary, his convictions about the value of liberation were so great that he was able to view violent revolution as an act of love toward the oppressors, because they too would be liberated. This means that the oppressors and the oppressed can potentially become members of the same group, although at the present they are not.

But really now; loving violence? Perhaps Freire is able to violently liberate the oppressors for their own good, but can we expect such altruism in a massive social movement of liberation? Even Gandhi, who taught that the opponent should be loved, and should not be treated with violence in any form, found that the movement he had led was unable to hold to that ideal. Can we expect better of a movement based upon selective, loving violence? Perhaps a true movement of liberation would not even use the methods of oppressors--violence.

> A revolution is supposed to be a change that turns everything around. But the ideology of political revolution will never change anything except appearances. There will be violence, and power will pass from one party to another, but when the smoke clears and the bodies of all the dead men are underground, the situation will be essentially the same as it was before: there will be a minority

> of strong men in power exploiting all the others for their own ends. There will be the same greed and cruelty and lust and ambition and avarice and hypocrisy as before.57

Perhaps we will never be able to bring about major social change without violence. But let us not delude ourselves by calling it love. Let us at least call it, as Gandhi did, weakness. The whole issue of violence occupies only a small portion of Freire's writing, and it is possible to blow it out of proportion. It does, however, point to a still greater problem, that of dogma. If coercive techniques are justified in the face of an unresponsive oppressor, are they not justified in the face of an unresponsive peasant? Is Freire not arguing, "I will dialogue with you so long as you see the world in my way, or can be educated to see it my way." Throughout, Freire has written of helping people gain critical consciousness of their reality, and helping them to achieve liberation. But nowhere does he explicitly address the issue of empowering them to reject his fundamental political and social philosophy.

I have found the arguments of Burtt and Gandhi about the shortcomings of dogma too persuasive to allow me to quickly accept this part of Freire's theory. What is the source of his intransigence? Marxist interest in dialectics is motivated primarily by an interest in the evolution of human society. The historical change that is brought about through the resolution of dialectical opposites is viewed as historically inevitable. Although Freire is not a Marxist in the traditional sense, he does seem to accept this view of historical inevitability.

The motivating interests of Marxists, however, can limit the range of dialectics which they see as relevant to their interpretation of history and, thus, limit their interpretation of history. There seem to be three major weaknesses in the Marxist view.[58] First, it gives rise to millenarian expectations of a liberated society almost entirely devoid of human exploitation. This can lead to a tendancy to deny or deemphasize the presence of oppression in the post-revolutionary society. Also, Marxism gives rise to the dogmatic delusion that one is not subject to delusion and, thus, is best equipped to know what is best for those who are recognized to be deluded. Finally, the very intensity of the Marxist's emotional commitment to his cause predisposes him to unconsciously make everything fit his social theory.

Edwin Burtt has proposed four presuppositions which, if adopted, would free Marxism from these weaknesses, yet preserve its strengths.[59]

> 1. There is a dialectic of history, which works through dynamic social forces as well as through forces in the individual recognized by existentialism. . . .

> 2. The laws according to which these forces operate can be understood by the human mind, which thus puts itself in a position to direct them toward desirable ends. Indeed, understanding and action are not separable, as most theories of knowledge have assumed. . . . The understanding thus gained is always capable of being improved, not only in details of policy but also in the ultimate philosophical principles. Hence there is always more to learn from growing experience, from other Marxists, and from opponents of Marxism.
>
> 3. In the interplay of forces which constitute the dialectical process, economic forces play a special role so long as man has to live in a scarce economy. . . .
>
> 4. The ideal goal toward which this historical process is moving, and which we can help realize by intelligent action, is a brotherhood of man in which class distinctions will have disappeared and all persons will recognize by attitude and conduct that they are members one of another. . . . It is vital to remember that the means to be chosen in pursuing this goal must be in essential harmony with that goal, otherwise what is actually achieved will be a different goal. Hence, wherever possible, nonviolent must replace violent revolution as an instrument of social change.

Freire subscribes to this last presupposition. The dialogical methods he described are designed to achieve nonviolent social change. His definition of the revolutionary is deeply embedded in a recognition of the nature of self-fulfilling prophecies, and requires that radicalism favor love and dialogue over violence. Both he and Gandhi agreed on this point. They differed, though, in their understanding of the extent to which nonviolence is possible. Gandhi believed it possible, and necessary, at all times, except when the only alternative is cowardice. Freire believed that it reaches its limit when one is dealing with the oppressor. In this case, he supported violence, because he was certain of the historical inevitability, and the fundamental goodness of the social change he envisioned. Gandhi did not grant truth to the idea that we can know such an absolute truth and felt compelled to cling to his near-dogma of ahimsa, nonviolence.

The Marxist view of history strongly colored Freire's understanding of the nature of dialogue. He taught within the context of an inevitable social evolution, and his pedagody was designed to promote progress toward his image of liberation. His dialogical approach, then, is designed to integrate the program content (be it reading, agrarian reform, or fly tying) within the existential context of the student. There were no provisions, though, for dialogically establishing the fundamental program objectives, because they were not recognized as being open to question.

He developed a pedagogic technique which employs powerful psychological tools. Its tacit objective is to shape the student's world-view. and ethos. How, and whether, one uses these tools should be a question of great moral significance. What they create will reflect the values which motivate their use, and these values should be the object of continuous examination and soul-searching. If one views the end to which the tools are employed as inevitable and unquestionably good, though, there is no opportunity for moral examination.

There are two ways in which Freire tacitly avoides moral responsibility for his pedagogy of the oppressed. First, he believes that as people increase in critical consciousness and move toward liberation, they are becoming more fully human. This would seem to be a worthy objective. But this implies that people who live in what he calls the magical state of timelessness are less human--their humanity is devalued. The world-view based upon a sense of cyclical time is characteristic of primative, or traditional, cultures. These peoples exist in a world in which time is measured in terms of biological, seasonal, and astronomical cycles. As a result of the cyclical, rather than linear, nature of time in their existential reality, they are without history in the Western sense, and do not emphasize the concept of progressive change. The classical civilizations of the Far East also shared this sense of time.[60] Are members of traditional cultures, and ancient Chinese philosophers really less human than Freire?

I am not trying to argue that peasants should not be empowered to influence the political and economic forces which shape their lives. Nor am I trying to address the question of whether traditional cultures should be isolated and preserved, or absorbed into the dominant world culture. Certainly, in the particular situations with which Freire was working, the peasants were not isolated. Rather, they were systematically exploited by a political and economic elite--and continue to be so exploited. Under these conditions, their world-view is alienated from the political and economic realities of the objective world in which they live. I, personally, am in agreement with Freire's goals. I am, however, trying to point out that Freire's understanding of what is human is quite culture-bound and, thus, dogmatic.

Another way in which Freire avoids moral responsibility for his actions was through his use of the concept of "fear of freedom." He argued that many of the oppressed are afraid of the responsibility of freedom associated with liberation and, thus, tacitly help to perpetuate oppression. In addition, the oppressors are afraid to give up their false freedom to oppress and accept the true freedom of liberation. If this concept is carried too far, it can be used to counter any criticism of his theories or methods. Instead of thoughtfully dealing with criticism, it becomes possible to unconsciously deflect it by labeling it as defensiveness.

Freire wrote that, "Dialogue is an I-Thou relationship between two Subjects. Each time the 'thou' is changed into an object, and 'it,' dialogue is subverted and education is changed to deformation."[61] He used Martin Buber's terminology and, I assume, intended to use his conception of dialogue. But Buber pointed out that in an I-You relationship, one cannot approach another with any intent in mind. The dialogical relationship is an end in itself. He specifically stated that the intention to educate is incompatible with an I-You relationship. Education, then, is always associated with a deformation. This places the burden upon the educator to decide what kind of deformation to value, and to continually wrestle with the question of the rightness of that value.

The idea of "consciousness raising" has become widely accepted by educators and social activists. But what does the term mean? It implies that one kind of consciousness (the consciousness raiser's) is higher, or better, than another (the consciousness raisee's). The whole issue of what are the criteria by which one can be established as being better than another is not generally addressed. Indeed, the language masks the issue. I strongly suggest that the term "consciousness changing" be used instead. It does not automatically imply that one kind of consciousness is better, or worse than another, and makes it a little more difficult to hide behind the dogmatic assumption of superiority.

By dwelling upon what I see as weaknesses in his philosophy, I do not want to overlook the strengths of Freire's concept of dialogue. I strongly support his objectives and I am excited by the potentials of his pedagogy. However, the use of generative themes as psychological tools is not inextricably linked to his dialogical method. This realization has led many people to express great concern about the potential misuse of his methods, particularly by the United States Agency for International Development which has demonstrated an interest in them. The morality of Freire's pedagogy of the oppressed can not be judged solely on the basis of written reports. It can only be judged in praxis; in the synthesis of reflection and action. As with any form of engineering or behavioral technology, the quality of the world it creates will reflect the quality of the minds and hearts that employ it. For this reason, I feel that Freire's technique must be linked with Gandhi's value of ahimsa, and Burtt's approach to understanding.

Social Mutualism

Despite their differences, all four men approached their work with a Mutuality value orientation, which found expression in their dialogical methods and philosophies. An examination of their methods and philosophies reveals a number of factors which are characteristic of social mutualism. These can be arranged into three clusters, which I will call the elements of social Mutuality.

Element One: Mutuality occurs within a meaningful whole. Those who are engaged in a mutualistic interaction are viewed as members of the same group, not as members of different pseudo-species. As such, each is of intrinsic value, and each occupies a meaningful position within the whole. Mutualistic acts promote meaningfulness and wholeness, rather than alienation and fragmentation. Means and ends are not alienated from each other, but are joined and of equal importance.

Element Two: Mutuality requires openmindedness. This means that one must strive to be free of dogma, which requires that one have the humility to recognize one's limitations. It is also necessary that one try to be aware of one's presuppositions and try to be free of self-interests which might distort one's understanding of others.

Element Three: Mutuality promotes the welfare of others. One acts not just to promote one's own welfare, but the welfare of others as well. The basic psychological motive which promotes these acts is love.

Burtt, Gandhi, and Freire did not speak of dialogue in the ideal sense established by Buber. They used dialogue as a means to an end; philosophic understanding, social change, and education. Their means however, embodied the three elements of social Mutuality. The difference between them and Buber was that dialogue in Buber's sense does not involve a dialectic. True, there are two or more parties involved, and they do maintain their separate identities, but while they are in dialogue there is a full communion, without tension or conflict. The others used dialogue as a means of achieving a synthesis of differing ideas, or social forces.

The relationship between these differing approaches can be visualized as a spectrum. At one end of the spectrum is the dialogical, or mutualistic state as formulated by Buber. It is an ideal which cannot be actualized in this world, but toward which we may elect to strive. At the other end of this spectrum is monologue, or domination. At the domination extreme there is no possible synthesis of opposing forces, only perpetual antagonism. The only resolution possible is the complete victory of one, at the complete destruction of the other. Thus, a dialectical synthesis is impossible at either end of the spectrum. Dialectical conflicts fall between these extremes. Just where they fall is determined by the methods employed to achieve a synthesis. Gandhi, for example, would lie close to the Mutualistic end. Freire might fall closer to the middle, but on the mutualistic side. Adolf Hitler would rest far on the domination side.

If we take a closer look at this model, we will recognize that the methods of dialogue and monologue are in dialectical conflict, as are the value orientations which underly them, Mutuality and Domination.[62] The resolution of each dialectical conflict between ideas or social forces, also involves a resolution of the dialectical conflict between the methods and values which might be employed. It behooves us, in this day and age, to try to solve our social problems by employing methods which fall toward the Dialogue/Mutuality end of the spectrum. With the awesome military power that we now hold in our hands, monologue/Domination may not mean the victory of one at the destruction of the other, but the destruction of us all.

Thinking on a more humble scale, the seemingly perennial human values associated with "good" tend to be identified with dialogue, and those of "evil" with monologue. We will be known and remembered by the synthesis of these two extremes as they are actualized in the praxis of our lives.

Footnotes

[1] Unless otherwise cited, the following summary of Burtt's views is based upon those expressed in In Search of Philosophical Understanding (N.Y.: New American Library, 1965).

[2] Ibid., pp. 103-104.

[3] Edwin A. Burtt, "My Path to Philosophy," Philosophy East & West, 22 (1972), 432.

[4] The similarity between the length of the thirty year cycle and the length of a human generation suggests, also, that some members may never loosen their attachment, but just die away.

[5] Burtt, In Search, p. 113.

[6] Ibid., p. 114.

[7] Ibid., p. 222.

[8] One is reminded of the training analysis which psychoanalysts must undergo prior to practicing their profession. This helps them to avoid confusing their own psychological issues with those of their patients.

[9] Edwin A. Burtt, "Truth, Understanding, and Philosophy," Proceedings and Addresses of the American Philosophical Association, 38 (Oct. 1965), 5-15.

[10] Unless otherwise cited, the following summary of Buber's views is based upon those expressed in I and Thou, trans. Walter Kaufman (N.Y.: Charles Scribner's Sons, 1970). In the translator's prologue Kaufman explained that previous translators had improperly translated Buber's Ich und Du as I and Thou. Du is the informal form of "you." "German lovers say Du to one another, and so do friends. Du is spontaneous and unpretentious, remote from formality, pomp, and dignity." (p 14) Thus, "you" is a better translation than is "thou."

[11] Martin Buber, Between Man and Man (N.Y.: Macmillan, 1965), pp. 8-10.

[12] Buber, I and Thou, pp. 89-90.

[13] Ibid., p. 150.

[14] Ibid., p. 158.

[15] Quoted by Ernst Cassiere, An Essay on Man (1944; rpt. New Haven: Yale Univ. Press, 1962), p. 12.

[16] Buber, Between Man and Man, p. 16.

[17] Louis Fischer, The Life of Mahatma Gandhi (N.Y.: Harper & Brothers, 1950), pp. 273-274.

[18] Mohandas K. Gandhi, The Story of My Experiments With Truth (Boston: Beacon Press, 1957), p. xii.

[19] Ibid., pp. xii-xiii.

[20] M. K. Gandhi, Non-Violent Resistance (N.Y.: Schocken Books, 1961), p. 3.

[21] Ibid., p. 42.

[22] Ibid., p. 384.

[23] Gandhi, My Experiments, p. 504.

[24] Geoffrey Ashe, Gandhi (N.Y.: Stein and Day, 1968), pp. 187-196.

[25] Ibid., p. 125.

[26] Mohandas K. Gandhi, *Gandhi on Non-Violence*, ed. Thomas Merton (N.Y.: New Directions, 1965) p. 75.

[27] Kenneth E. Boulding, "Why Did Gandhi Fail?," in *Gandhi: His Relevance for Our Times*, ed. G. Ramachandran and T. K. Mahadevan (Berkeley, California: World Without War Council, 1971), pp. 129-134.

[28] B. S. Sharma, "The Ideal and the Actual in Gandhi's Philosophy," in *Gandhi: His Relevance for Our Times*, pp. 311-319.

[29] Erik H. Erikson, *Gandhi's Truth* (N.Y.: W. W. Horton, 1969), p. 439.

[30] Ibid., p. 399.

[31] Joan V. Bondurant, *Conquest of Violence: The Gandhian Philosophy of Conflict*, rev. ed. (Berkeley: Univ. of Calif. Press, 1965), p. 193.

[32] Harris Woffard, Jr., "Non-Violence and the Law: The Law Needs Help," in *Civil Disobedience: Theory and Practice*, ed. Hugo Adam Bedau (N.Y.: Pegasus, 1969), pp. 59-71.

[33] John Rawls, "The Justification of Civil Disobedience," in *Civil Disobedience: Theory and Practice*, pp. 240-255; *A Theory of Justice* (Cambridge, Mass., Belknap Press, 1971), pp. 386-387.

[34] Bondurant, *Conquest of Violence*, p. 190.

[35] Erikson, *Gandhi's Truth*, p. 413.

[36] Ibid., p. 435.

[37] Joan V. Bondurant, "Creative Conflict and the Limits of Symbolic Violence," in *Conflict: Violence and Nonviolence*, ed. Bondurant (Chicago: Aldine-Atherton, 1971), pp. 120-132.

[38] Richard B. Gregg, "Satyagraha as Mirror," in *Gandhi: His Relevance for Our Times*, pp. 124-128.

[39] Erikson, *Gandhi's Truth*, pp. 431-433.

[40] Ibid., p. 434. For additional information about "pseudo-species" see Erik H. Erikson and Huey P. Newton, *In Search of Common Ground* (N.Y.: W. W. Norton, 1973), pp. 56-61, 122-127; and Erikson's "Autobiographic Notes on the Identity Crisis," *Daedalus*, 99 (1970), 750.

[41] Boulding, p. 130.

[42] Thomas Merton, "Gandhi and the One-Eyed Giant," *Gandhi on Non-Violence*, pp. 13-14.

[43] Burtt, *In Search*, p. 95.

[44] Karl Marx and Friedrich Engels, "Manifesto of the Communist Party," *Marx* (Chicago: Encyclopedia Britannica, 1952), p. 416.

[45] The following summary of Freire's views is based upon *Education for Critical Consciousness* (N.Y.: Seabury Press, 1973), and *Pedagogy of the Oppressed* (N.Y.: Seabury Press, 1970).

[46] Freire, *Education*, p. 136.

[47] Ibid., p. 105.

[48] "Extension or Communication," *Education*, pp. 91-164.

[49] Ibid., p. 134.

[50] Freire, *Pedagogy*, p. 76.

[51] Freire, *Education*, p. 124.

[52] Freire, *Pedagogy*, pp. 77-78.

[53] The implications of Freire's theories for higher education in the United States are examined in a group of papers on the theme of "Freire's Pedagogy and Undergraduate Teaching," *Soundings*, 56 (1973), 228-258.

[54] "Education as the Practice of Freedom," *Education*, pp. 1-82.

[55] Freire, *Pedagogy*, p. 40.

[56] Ibid., pp. 41-42.

[57] Thomas Merton, New Seeds of Contemplation (N.Y.: New Directions, 1961), p. 144.

[58] Burtt, In Search, pp. 96-97.

[59] Ibid., pp. 98-99.

[60] F. S. C. Northrop, "Man's Relation to the Earth in its Bearing on his Aesthetic, Ethical, and Legal Values," Man's Role in Changing the face of the Earth, ed. William L. Thomas, Jr., (Chicago: Univ. of Chicago Press, 1956), pp. 1052-1065.

[61] Freire, Education, p. 52.

[62] I have elected not to conduct a detailed examination of the place that Submission may have in this scheme, primarily for reasons of simplicity and to keep the scope of this dissertation within bounds. Were it included, perhaps "Silence/Submission" would become a third point of a triagular, "Trialectical" framework.

CHAPTER IV

ENVIRONMENTAL MUTUALISM

> The final victory of man's machinery over natures' materials is the next logical process in evolution, as nature's control of human society was the transition from anarchic and puny individualism to the group acting as a powerful, intelligent organism. Machinery, science, and intelligence moving on the face of the earth may well affect it as the elements do, upbuilding, obliterating, and creating; but they are man's forces and will be used to hasten his dominion over nature.
>
> Simon N. Patten[1]

> Man is amazing, but he is not a masterpiece. . . . Perhaps the artist was a little mad. Eh? What do you think? Sometimes it seems to me that man is come where he is not wanted, where there is no place for him; for if not, why would he want all of the place? Why should he run about here and there making a great noise about himself, talking about the stars, disturbing the blades of grass?
>
> Joseph Conrad[2]

> In defying nature, in destroying nature, in building an arrogantly selfish man-centered, artificial world, I do not see how man can gain peace or freedom or joy. I have faith in man's future, faith in the possibilities latent in the human experiment: but it is faith in man as a part of nature, working with the forces that govern the forests and the seas; faith in man sharing in life, not destroying it.
>
> Marston Bates[3]

To what extent are the three elements of social mutualism relevant as guides for interacting with our non-human environment? Obviously, there are enormous differences between human beings and non-human objects, which would appear to argue against the possibility of environmental mutualism. One of the most important of these is the impossibility of conscious, symbolic communication between humans and their non-human environment. We cannot talk things over with our local ecosystem and reach a mutually beneficial agreement.[4]

It is not at all surprising that many of the people who have written about social mutualism have based their ideas upon the process of dialogue. Language plays a central role in the exchange of information between people, particularly on a conscious level. Through language we are able to communicate our needs to others, defend our interests, discuss the views and needs of others, take steps to correct misunderstandings, and negotiate agreements. Non-verbal communication has been increasingly recognized as playing an important part in our interactions with each other, but two people in face-to-face conversation provide the basic image of social communication.

If language is a prerequisite of mutuality, the attempt to establish a mutualistic interaction with our non-human environment is doomed to failure. However, language is not a prerequisite of mutuality. Under the guidance of the Mutuality value orientation we can act to establish a mutualistic state. Such a state can be defined by the presence of a reciprocal, double-win relationship between the parties involved. The mutualistic process through which this state is reached (if, indeed, it is ever actually achieved for any length of time) involves an exchange of information between the parties, and the selection of these actions which will foster the mutualistic state. The great difference between the two is that humans can act with mutualistic intentions and can exercise conscious choice. In general, our non-human environment can do neither.

Language is the major means by which people exchange information. In order to establish dialogue (a form of mutualism) there must be a reciprocal exchange of information, and each speaker must try to insure that the interests of the other are satisfied, rather than each trying to insure their own interests at the expense of the other. These characteristics of reciprocity and double-win are not dependent upon spoken language, and can be found in modes of interaction other than verbal communication. Love-making, for example, at its best is a form of non-verbal dialogue, or mutuality.

Despite the fact that we do not interact with our non-human environment through speech or writing, we are engaged with it in a complex exchange of information. Ecology is, in large part, a study of these feedback systems, and evolution is the selective change in these systems through time. What we do influences our environment, which in turn influences us. We have discovered that the ways in which we interact with the world around us have profound effects upon our health, the availability of resources, and many other aspects of our lives. The very perception of our environmental problems is, at its root, a perception of the feedback relationship between people and their environment.

People have always been involved in a reciprocal exchange of information with their environment, although generally only on a tacit level. We are now trying to incorporate our growing awareness and understanding of these processes into the ways in which we consciously plan our lives. We are discovering that our efforts to dominate our non-human environment in order to achieve short-term goals is having harmful long-term effects upon us. Environmental mutualism will not establish a reciprocal relationship between people and their environment; that already exists. What it will do is help us to make wise use of our awareness of that relationship, and foster acts which will be to the mutual advantage of both parties.

The term "environmental Mutuality" might be used in two ways. The first refers to the value orientation which underlies the way in which people make decisions among themselves with respect to the way they interact with their environment. This is a form of social mutualism. The only distinction is that they are dealing with each other on issues related to the environment. I prefer not to use "environmental Mutuality" in this sense.

The second sense of the term refers to the value orientation underlying the ways in which individuals and groups interact with their environment. It refers to interactions between humans and non-humans. Environmental Mutuality in the first sense was really dealt with in the third chapter, and I will not explore it any further here, except as it is relevant to specific issues which may arise in my discussion of our interactions with non-humans. Rather, I will focus upon mutualistic interactions between individual people and their non-human ecological environment. I will emphasize individual, rather than societal or cultural interactions with the environment, because a familiarity with this level of interaction will be of a greater immediate relevance to education. I will focus upon interactions with our ecological environment, rather than with individual objects or wholely non-living aspects of our environment, because it is this level of interaction which is most relevant to the central issues of my dissertation.

It is very important to keep in mind that I will not attempt to advocate specific ways in which people should physically interact with their environment. Instead, I will try to identify the value orientation which should play an important part in guiding them in their effort to gain knowledge about, and make decisions concerning their environment and the ways in which they ought to interact with it. If I give specific examples of ways in which people can interact with and alter their environment, it is to illustrate the process involved, rather than to recommend the specific result of the process. I will be pointing to the values which I feel should underly the ways in which we decide how we should act. My assumption is that in many situations, if not most, there is a great variety of behavioral options which may lead to a wise mutualistic interaction. Different individuals, societies, and cultures may make very different, but equally mutualistic and environmentally effective decisions, which are in harmony with their own special character. My proposal is that we foster the mutualistic approach to making these decisions.

It is, also, important to keep in mind that _all_ value orientations are _always_ present in a culture. This implies that it is impossible to reach the point at which we are guided solely by that of Mutuality. Both Domination and Submission value orientations will always be with us, and may be the most appropriate guides in some situations. Although I will be focussing almost entirely upon Mutuality in my discussion, I do not propose that Mutuality should become our universal guide.

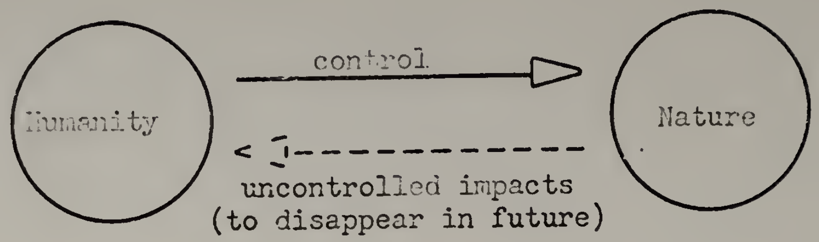
What is Nature?

What is this non-human thing with which we are to interact? Most people would call it "nature," or the "natural world." But what is nature? In popular usage the word appears to refer to that part of the world which is not human. Thus, the world is divided into two parts: humanity and nature. This is the distinction associated with the Judeo-Christian tradition, in which people are viewed as the only creatures on earth which share a spiritual link with God. In this sense, we are at least partly supernatural. However, when we now speak of humanity as distinct from nature, we generally do not mean to say that we are supernatural.[5]

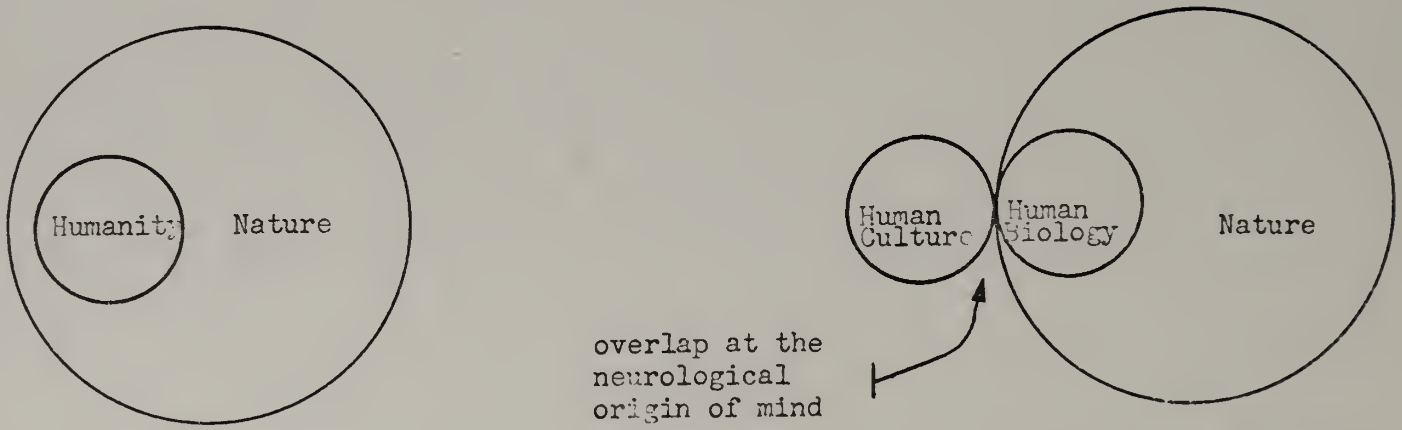
We can discover what we do mean by asking, "What about us is not natural?" Our teeth, feet, eyes, and legs are natural. So, too, are our needs to sleep, eat, and excrete, and those for sex, shelter, and warmth. What of us is not natural? In answer to this question, people often point to our homes, cities, art machines, politics, books, sciences, religions, clothes, music hopes, and dreams. The distinction between what of us is natural, and what is unnatural generally leads to the distinction between the bio-physical world and culture (in the anthropological sense of the word). What sets us apart from nature is the phenomenon of culture.

Culture permits us to consciously act upon our environment to get what we need in order to survive and, hopefully, to enjoy a quality of life beyond that of mere biological survival. We still suffer floods, crop failures, diseases, droughts, rainy days, and other calamities, but our ingenuity, forethought, and technology allow us to alleviate their full potential impact. Many people, those who are strongly guided by the Domination value orientation, believe that we will eventually be able to completely control nature and become totally secure from its vicissitudes. Movement in this direction defines their concept of progress.

There is, however, a problem with this view. It implies that we are apart from nature and can do to it as we please without repercussions. It further implies that we can ultimately achieve complete separation from nature (see figure 5a). This view is not in keeping with our ecological understanding of the world. It seems to be strongly colored by a wish-fulfillment fantasy: "If I close my eyes real tight and wish with all my might, all the bad things will go away and I can get everything I want." From an ecological perspective we are not, and cannot be, separate from nature. We are within it. We are a subset of nature, with our


Humanity
control
Nature
uncontrolled impacts
(to disappear in future)

a. Complete Separation of Humanity and Nature


Humanity
Nature
Human
Culture
Human
Biology
Nature
overlap at the
neurological
origin of mind

b. Humanity Completely Embedded Within Nature

c. Humanity Partially Within and Partially Separate from Nature

Figure 5. THREE VIEWS OF THE RELATIONSHIP BETWEEN HUMANS AND NATURE

own unique characteristics (see figure 5b).

Some people might agree, "Yes, we are animals and share a common biological identity with the other creatures of this world. As such, we also depend upon the life supporting ecological processes, of course. But there is also something in us which is outside of nature and uniquely human. That is our conscious intelligence, and the cultural characteristics which are derived from it," (see figure 5c).

There is a merit to this argument, because we have characteristics which are truely unique. But if this is the case, then why do we not also place the unique characteristics of other organisms outside of nature? Spiders, for example, might classify their webs as something outside of nature, as might the beaver its dam, the archer fish its ability to spit water, and the whales their sonar. Are we not being unnecessarily anthropocentric in much the same way that a tribal group might ethnocentrically call itself, "The People?" Perhaps all we are trying to do is call ourself, "The Species." Why is it that we must invest so much effort into trying to define ourselves as wholely unique and superior beings?

It can be argued that the examples I just used are of innate traits which are transmitted genetically, whereas culture is learned. This would appear to make us different, but we are not the only animals capable of learning. We are discovering that some of the elements of culture also exist elsewhere in the animal kingdom. At one time we defined ourselves as the tool using animal, but we found sea otters using stones to open clams, and birds using cactus spines to probe bark for insects. We then called ourselves the tool making animal, until we found chimpanzees fabricating clubs by pulling twigs and leaves off of branches. We then said that we alone fabricate tools and save them for future use, until we found chimps dragging their clubs around with them. Even the argument that we alone are capable of symbolic communication is being questioned.

The capacity for culture has been evolving for a long time, and did not suddenly appear in our species. When we examine the living and fossil records we can find many suggestions of emerging potentials for culture, both in the line of our pre-human predecessors, and elsewhere in the animal world. This is not to say that there is not something special about us. Our capacity for culture is far more developed than it is in any other species on earth, but this is a quantitative, rather than a qualitative difference. Let us, then, consider culture to be a part of nature, instead of something separate from nature. Cultural processes are exceptional in contrast to biological processes, just as the biological are exceptional in contrast to physical processes. All, however, are of nature and are natural.

This may all seem to be a verbal game, but what is of crucial importance is the world-views which underly the verbal distinctions. In the view that I am proposing, the terms "nature" and "natural" cease to have any obvious meaning, and the human/nature dichotomy is weakened. Everything is "nature" and is "natural." It will be a lot easier to approach our non-human environment in a mutualistic manner if we view ourselves as linked with, rather than separate from it.

As our power to manipulate the world increased over the course of the past few centuries, we increasingly saw our destiny as that of subjugating nature, mastering it, and forming it as we willed. The world was viewed as a stage upon which we conducted the human dance. The objects in our ecological environment were seen as stage props, which could be pushed around as we wished. We are now beginning to realize, however, that they are not simply passive props; they are fellow dancers. We are beginning to realize that the name of the dance is not Humanity, but Life. The dance is too important to endanger by upstaging the other dancers and making them miss their step. The pattern is subtle indeed, and there is no chance of understanding it without paying attention to the detailed interweaving of choreography and music.

At one time our parts were small and it did not matter much what we did, because our actions were of relatively little significance. Now, however, we are primadonnas with the power to make or break the show. But if the show folds, so do we. But despite our sense of self-importance we are not too sure just how the dance goes. We search for the Choreographer, Director, or Producer, but we do not know what they look like and cannot recognize them in the crowd, if they are in the crowd at all. Our only hope lies in the dance itself: a great production of music and motion which could collapse at any moment.

Perhaps we can stumble about for a while, watching, listening, trying to pick up the steps and rhythm. As we watch, we discover that the other dancers seem to know their parts very well; steps flow smoothly as they engage in a complex interplay of song and dance. We feel that if we were able to watch from a high platform, and listen with an omniscient ear, we could see, hear, and understand the grand, ever-changing design. But we are down on the stage, jostled by the crowd as we improvise faltering steps and discordant notes.

We discover that if, in bluff and bluster, we push and stumble about, we create an expanding wave of confusion around us, as other dancers are bumped and knocked down, and their songs are interrupted. They get up and try to begin again, but some have difficulty finding the melody, and others are limping. We discover that if we remain silent and motionless, we are overwhelmed by the others, knocked down ourselves and trampled. We must discover the underlying, evolving pattern that unifies our performances, and develop our own unique variations which, although characteristically ours, harmonizes with those of our fellow dancers. We are learning slowly, but we are learning. Let us hope that we can join the harmony before we have been so disruptive that there is no dance left to join.

Our task is to learn to interact with our non-human ecological environment in such a way that the outcome will be to our advantage. Since we depend upon our environment for survival, and to maintain lives of a certain quality (whatever that quality may be) the outcome must also be to the advantage, or at least not to the detriment of our bio-physical world. The pattern of interaction, then, is very much like a dance. If we do not dance well, we may find our feet trod upon. On the other hand, if we find the rhythm and establish a mutualistic relationship with our partner, we can enjoy the dance. We may even be able to change the step a bit and lead our partner along with us. There is, however, a limit in the variation which we can introduce, and to the rapidity with which we can introduce it. This is the limit of the laws governing life and ecological and cultural processes.

A point of clarification: Nature is not our partner. Nature is the dance; both dancers and choreography. The dancers are the plants, animals, rocks, rivers, and other objects of our world, including ourselves. We are in the dance with them, and are equally a part of nature. We are a subset of nature, not distinct from it.

It would be useful to abandon the use of the word, "nature." It is a word with many meanings, and which conjures up the dichotomous human/nature world-view. In one sense the word refers to those portions of our world other than humanity and human culture. I propose that we use "non-human environment," or "bio-physical environment" instead. They are much less ambiguous terms. In a second sense, "nature" refers to plants and animals in their "natural" environment without human interference. I find it difficult to discover a word which can replace "nature" in this sense. "Ecological environment" is too broad, because it would include people as well. "Non-human ecological environment" is accurate, but awkward. In the balance of this dissertation I will use the word, "nature," in this sense. I will not use the word, "nature," to refer to a system separate from us, but to refer to the other parts of the greater system of which we are a part.

There is still some ambiguity in this use of the word, because we are creating a dichotomy of convenience, rather than one which is genuine. Is the non-urban landscape of New England nature? The agricultural land and second (or third) growth forests are the product of intensive human impact. Does the line lie somewhere between cities and active farms, active farms and abandoned fields, or second growth forests and pristine wilderness? Where do we place bald eagles which contain DDT in their body fats? We are dealing with a continuum between the extremes of untouched nature and an environment of complete human fabrication (e.g., a space capsule). The dividing line is merely a useful fiction, and we must not lose sight of this fact.

Another word which we should exercise great care in using, if not cease to use altogether, is "natural." First of all, if everything is a part of nature, then everything is natural (characteristic of, or a product of nature) and the word ceases to have meaning. The greatest problem with the use of this word, though, does not lie so much in our understanding of our place in the physical structure of the universe (our world-view), but in our understanding of the moral, or religious significance of our environment (our ethos). What is natural, and therefore beautiful and good, to one person may be uncivilized, and therefore ugly and bad, to another.

Paul Santmire has argued that there are two important, but largely unarticulated religious cults within the society of the United States; the "cult of the simple rustic life," and the "cult of compulsive manipulation." The first, which is a religion of nature, is a current expression of the nineteenth century theme, Nature versus Civilization.

> Thoreau's philosophy--increasingly popular today--is the prototype of the first theme, Nature versus Civilization. Positively, this theme means the individual seeks Deity, virtue, and vitality in nature, especially wild nature, and that he strives for personal purity and vitality of soul through communion with the world of nature. So intense is the relationship to nature which this theme occasions that there is usually little psychic energy left for sustained intellectual and moral involvement in the practical political arena, whether that be with a view to upholding, transforming, or overthrowing the inherited order. That is the negative side of the nineteenth century religion of nature in America, a withdrawal from the organized city of man. That city is generally viewed as the godless, virtueless, artificial arena of the mechanized, mindless, heartless mass-man.[6]

Although this statement does not adequately reflect the social philosophy of Thoreau, the author of "On the Duty of Civil Disobedience," it is an extreme statement of an attitude which is widespread among members of the environmental, and back-to-the-land movements. The word "natural" thus acquires the meaning of pure, virtuous, and good. We are admonished to move out of the city to a home (built of natural materials) in a natural setting, where we will eat natural foods and act naturally. "It's natural," and, "It's nature's way," have become modern equivalents to, "It's God's will." Carried to its extreme, everything that is uniquely human is unnatural and, thus, bad--a form of original sin.

I am not suggesting that there is no merit in a great many "natural" practices. What I do object to is that this use of the word describes things as being good without reference to the reasons for their being good. In effect, the word has become a smoke screen, or barrier to clear understanding, behind which the user hides a bundle of beliefs, dogmas, and presuppositions. After all, not everything in nature is good from our perspective. If they were, for example, we would not want to cure disease, or store food for use between growing seasons, because diseases and winter are a part of nature.

Advertisers are learning to take advantage of this unthinking assumption that to be natural is to be good. All sorts of products are being sold as "natural," or "nature's way." A notable and particularly absurd example is the recent promotional campaign for a brand of cigarette, which contains no artificial flavoring: "The natural cigarette is here!"

I suggest that we use the words "good" or "bad," "healthy" or unhealthy," "desireable" or "undesirable," or whatever other words which indicate the values underlying our statements, rather than simply saying that something is natural, or unnatural. Such terms are more likely to force us to probe for the underlying criteria of goodness, health, desirability, and so forth, and decide whether or not we agree with what is being said.

The ethos underlying what Santmire called the cult of compulsive manipulation is quite different from that of the cult of the simple rustic life. This cult is a religion of civilization, which grew from a second, conflicting nineteenth century theme, Civilization versus Nature. Nature was viewed as something mechanical, material, and intended to be used for human ends.

> While the Puritan used nature to glorify God by the fruitful exercise of his Divinely bestowed dominion, the capitalist used nature to enhance his own enterprise and so to fulfill what he considered to be his own Divinely ordained destiny. For both, then, the chief criterion for man's dealing with nature was utility. Hence we can conveniently refer to this coalescing of the Puritan doctrine with the apology for capitalism as the utilitarian view of nature. . . .
>
> Positively, this religion means that society seeks to overcome the ancient enemies of mankind: natural disaster, disease, and, above all, hunger. It also means that men strive to build a society with a level of economic productivity and a breadth of popular distribution of goods which will provide the underpinning for political institutions which, in turn, will prohibit the enslavement of the individual. Poverty is the door to serfdom; remove the first and the second will disappear as well.[7]

At its heart, this is the Domination value orientation. Nevertheless, as we see, it has positive features. As Santmire points out, "the theme Civilization versus Nature was egalitarian, whereas the theme Nature versus Civilization was conservative. Similarly, in a religious context, the faith in civilization was progressive, founded on a vision of a commonwealth that is yet to come, whereas the faith in nature generally was regressive, structured on a vision of a peaceable kingdom that has been lost or that is in the process of being lost through the incursions of civilization."[8]

The negative aspects of the religion of civilization led to our environmental problems. The negative aspects of the religion of nature led to a retreat from civilization and the quest for social justice. At its extreme it is an expression of the Submission value orientation. On the positive side, the former motivates us to deal with the problems of our society, and the latter motivates us to deal with the problems of our biophysical environment. Neither, however, can help us to solve the major problems of our day, because they are a reflection of the human/nature dichotomy and make it difficult to recognize that our problems may share a common origin.

We need to affirm "both civilization and nature, both the progressive forces implicit in human society and the rejuvenative powers implicit in the wilderness, without setting civilization or nature in opposition to the other."[9] It is the value orientation of Mutuality which underlies such an affirmation.

What is Environmental Mutualism?

A number of the authors who have examined social mutualism in detail have also commented upon mutualistic (or dialogical) interactions with non-humans. Although they generally did so only in passing, and their understanding of non-human ecological processes was limited, it will be useful to examine their ideas, because they rest upon a sound understanding of mutuality among people. Another group of writers has focussed upon what I consider to be mutualistic interactions between people and their bio-physical environment. An examination of their ideas will be of considerable value to this discussion, although the strength of the ecological background is offest by their general unfamiliarity with the sizable literature concerning mutualistic interactions between people. (Again, we see the influence of the human/nature dichotomy.) Perhaps we will be able to achieve some sort of a synthesis of these two valuable resources.

Edwin A. Burtt's primary interest was in enhancing philosophic understanding, and his statements about nature were made in terms of *knowledge* about nature. He believed that love, as he construed it, is the value which most promotes understanding. Through love "we can respond in open and free sensitivity not only to other persons but to any object attracting our attention, and such a response is the necessary medium for attaining the truth about it."[10]

Love, in Burtt's sense, involves a freedom from self-centeredness, combined with an interest in promoting the growth of the one loved. There are two reasons for being interested in this sort of growth. He pointed out that, from a pragmatic point of view, it is not sufficient to be free of self interest and act in a neutral manner toward another person. People respond to the way in which we interact with them. In order to promote the fullest positive response from them, we must take a positive interest in them. This means being interested in promoting their fullest growth and expression of what is important to them. But ecological systems, populations, and most individual organisms do not respond to us as do people. This element in Burtt's philosophy does not apply to most of our interactions with our environment.

Nevertheless, being interested in promoting the welfare of another is central to his concept of love, and love is the motive which promotes the fullest knowledge of another. An interest in promoting the welfare of our environment, although not a pragmatic element of communication, may be a prerequisite to an enhanced understanding of it. However, although it is relatively easy to emphathize with other people and recognize what is in their interest, how do we identify what is in the welfare of something that is not human? This is one of the problems central to environmental mutualism and will be dealt with later in this chapter. Burtt offers us no help here.

He does, however, provide us with the insight that love is the guiding motive central to the fullest knowledge of, and mutualistic interactions with our environment.

> For love in its widest meaning, is simply an *intense, positive interest in an object*. When we love a thing we become deeply engrossed in it with all our senses. This is true whether the thing is a woman or a flower, a food or a landscape, a song or a philosophical theory. In each case we want to come into the closest possible contact with it--tolook at it, touch it, listen to it.[11]

This particular description of love is reminiscent of Martin Buber's philosophy. Buber believed that the relationship between a person and anything else, be it person, animal, rock, or tree, can be established on either an I-You, or an I-It basis. In the It-world I can know a tree as its separate qualities, classify it, note its parts, understand the way it functions, and overcome its uniqueness. In the You-world the tree becomes unique and all of the It-qualities become fused. He called this a relationship of dialogue. "Does the tree then have consciousness, similar to our own? I have no experience of that. But thinking that you have brought this off in your case, must you again divide the indivisible? What I encounter is neither the soul of a tree nor a dryad, but the tree itself."[12]

This kind of close personal feeling of relatedness with a part of nature is important. It deals with nature not as an abstract ecological process, but as an individually meaningful reality.

Ecological theory tends to be abstract, alienated knowledge. It must be linked with a personally meaningful felt relationship with nature before we can expect people to genuinely value the welfare of the non-human environment.

Mohandas Gandhi had almost nothing to say about nature. He did, though, believe that, "To see the universal and all-pervading Spirit of Truth face to face one must be able to love the meanest of creation as oneself."[13] It is not clear to me whether he was referring to animal creation in general, or to the lower social classes of India. In either event, he was speaking primarily of a principle of humility.

Paulo Freire did write about human interactions with nature, if he meant, "nature," when he wrote, "the world." He viewed the world as the setting for human conflict and dialogue. Dialogue cannot take place under oppressive conditions and, thus, cannot be used as an instrument of domination. "The domination implicit in dialogue is that of the world by the dialoguers; it is the conquest of the world for the liberation of men."[14] He seemed to be echoing the theme of domination of nature which Leiss criticized. It is difficult to be sure of this, though, because Freire was not specifically addressing an ecological theme. "The world" could have either of two meanings in his writings. In one sense, the world is the world of natural resources from which people derive their physical and economic wellbeing. In another sense, it is the human social reality, which can be transformed through an historical, dialectical process.

Huey P. Newton made comments similar to Freire's during his conversations with Eric Erikson in 1971. He demonstrated, however, a greater ecological sophistication than had Freire.

> People have always struggled against nature, and it is impossible for us who are struggling for the necessities of life, who have to set up our own survival programs, to talk about the struggle ending. The difference between us and the capitalists, though, is that we want a rational relationship with nature. We know that the capitalists have put us in a situation where nature cannot support us; and because we have not yet discovered the source of life, we cannot support nature either. So our struggle is twofold: we struggle to survive and gain power over our environment, and we struggle to have a rational relationship with that environment. Like I've said, we are a part of nature ourselves, so we think the difficulties we have with the environment are all in the family, you might say, and can be solved without hostility. The capitalists are not a part of that family. They are madmen and will destroy nature as well as us, so our struggle to survive and gain a rational relationship with the natural world is first directed toward getting rid of these madmen[15]

What Newton seems to have meant by "a rational relationship with nature" is a relationship in which nature will continue to provide us with whatever is needed to insure our survival. Nature is valued only for its usefulness to us. His value orientation is one of Domination; we do what is necessary to get our own way. The Domination approach to nature is underscored in his comments which preceded those quoted above.

> We believe that the primary motivating drive of people is a will to power, a drive to free themselves from both external and internal controls. But we do not believe that this drive necessarily ends in the domination of one group of people over another: it is only because people lack knowledge and technology that their natural drive for control has been distorted into a desire for power over people rather than a desire for power over things.
>
> So we can conceive of a time when people will not find it necessary to steal power from other people. Given a high level of technological knowledge, people will control the universe instead. They will make the stars go in the direction they desire, and then they can resolve their differences peacefully.[16]

Although both he and Freire are working for a mutualistic relationship between people (the oppressed), their proposed relationship with nature is not one of Mutuality; it is strongly motivated by the desire to dominate. Neither, then, has much to offer us in our attempt to understand environmental mutualism.

Human interactions with our environment are quite complex, and it will take much more than love, or an intense, positive interest in nature to solve our problems. A large part of the complexity lies in the fact that we are not dealing simply with our objective environment. We are dealing with our world as we believe it to be. Our hopes, expectations, and mythologies play a role in creating our environment as we understand it. We need to find a way in which to integrate the meaningful environment which exists as an image in our minds, and the objective ecological reality which science is trying to understand.

In her essay, "A Postcard from Delphi," Madeline Doran examined some of the elements associated with the development of our inner image of a place. In this case, she examined the differences in the feelings evoked by the landscapes of Oatman, an Arizona ghost town, and Delphi, Greece. The physical landscape of each place make their own unique psychological impact upon the visitor. She felt, however, that the major source of the difference lay not so much in the physical site, but in the historical and cultural associations that the visitor projects upon it.

This is particularly the case with Delphi. "Even a Christian, an agnostic, or an atheist may feel, in the great mountain amphitheater, the rumbling thunder, and the circling eagles, the numinousness of Delphi. Why? Because the place itself is invested with ancient myth and the enduring poetry that has celebrated it."[17]

Oatman, on the other hand, lacks a history. The visitor is unaware of the history of the natives who had lived in the area before the European conquest, or of the ancient record of geological events preserved in the rocks of the naked landscape itself. White men had lived there for so short a time that no lasting historical impression had been left. The visitor, then, comes without a mythic image to project upon the town. It is a dead landscape.

Lawrence Durrell shared her view that there is a special relationship between human history and the landscape within which it was set. He added the thought that the landscape projects its influence upon us as well. He has argued that the character of a nation is largely created by the influence of its landscape upon its people. Thus, when we visit a country we should pay as much attention to its landscape as we do to its cities and people, if we wish to understand it fully.

> It is a pity indeed to travel and not get this essential sense of landscape values. You do not need a sixth sense for it. It is there if you just close your eyes and breath softly through your nose; you will hear the whispered message, for all landscapes ask the same question in the same whisper, "I am watching you--are you watching yourself in me?"[18]

In other words there is an interaction between people and their landscape which creates a new relationship, which is greater than either alone. It is a blend of both, and we cannot understand either without recognizing the reality of this new synthesis.

In A God Within Rene Dubos added an ecological perspective to the kind of perception of which Doran and Durrell wrote. He, too, pointed to the complex and subtle interplay between a people and its environment. The climate, biological and geological resources, ecological character, and aesthetic qualities of the landscape exert a strong influence upon the people who live within it. At the same time, the people change the landscape in order to realize individual and cultural values. The product of this interplay is the unique quality which we notice in each place we visit. This quality is called the "spirit" of the place. It is the product, not of just the people, or of their environment, but of both in concert.

This is an important concept. The spirit is unique in each place, because the people and land of each place have their own special characteristics. This is a much more inclusive concept than are those of ecology or culture, in their traditional usage. It implies that when we change one, we will inevitably change the other, as well. This means that when we act to change our environment, we must question not just what we want of the land, but what we want of ourselves. Likewise, when we act to change our society, we must be aware that this may also lead to changes in our environment. Dubos called for a new, enlarged approach to ecology; and ecology of the spirit of place.

He recognized that there are limits to which an environment can change and still maintain a viable ecosystem. The arctic, for example, may only be able to support a tundra, and only then under conditions of a limited impact by people. The temperate regions of the world, however, can support a variety of ecosystems.

Dubos suggested that each area has its own set of potential "vocations." That is, we can alter an area in order to realize one of these vocations and still maintain a viable ecosystem. This means that we must determine what are the vocational potentials, or ecological possibilities of an area before we act to alter it. In determining which of the possibilities to actualize, we must also consider which of our cultural and personal values we wish to preserve or enhance in the new spirit of place that will be created.

Dubos' spirit of place is the product of a reciprocal relationship between the land and its people. By calling for a new kind of ecology, he is calling for a conscious, mutualistic approach, which will resolve human/environment conflicts in a manner which is favorable to both. The new ecology, as a science, would be a synthesis of the natural and social sciences. In application, however, it would be much broader, because it would go beyond description and analysis, to prescription. It would apply the combined knowledge of the values and aspirations of the people, ecological analysis, environmental engineering, and other relevant fields, and create a new spirit. It would be as much an art as a science.

There is a great need for this new kind of ecology. This is particularly evident, for example, in the problem of the Sahelian drought. The Sahel region of North Africa appears to be becoming a desert. This is publicly accepted as the product of a regional drought, but ecological analysis has suggested that it is the result of the impact of economic and agricultural aid programs, exacerbated by an arid climate.

The people of the region are largely nomadic herdsmen. Their wealth is measured in terms of cattle on the hoof. As the human population of the region increased, so too did the herds. There was, however, relatively little water in the region, which limited the number of cattle it could support. Foreign aid programs attempted to solve this problem by sponsoring the drilling of new wells. This only created another problem, because once water became readily available the ecological factor which next limited herd size was the amount of available pasture land. The effort to make water available by drilling deep wells has resulted in an increase in the herd size, and in overgrazing.[19]

As a result of their concept of wealth the nomads have no desire to limit their herd size. The trampling of hooves around the boreholes has destroyed vegetation and begun small, expanding desert areas. An additional problem was created by French efforts to introduce cash crops to the area. "With the best lands given up to the cultivation of cotton and peanuts, people had to bring the more marginal lands into use to grow their own food. In many cases these ecologically fragile zones could not take the strain of intensive agriculture."[20]

The United States agricultural aid to Chad has emphasized the building of farms based upon the intensive, mechanized agricultural practices of our country. The Chineses aid had led to the construction of rice paddies in the drought-stricken region. In each case, the visiting specialists have projected their image of the ideal agricultural landscape upon the Chadinian landscape. These were culturally biased approaches, which were not necessarily the most appropriate for Chad. A mutualistic approach would have tried to get beyond cultural bias and determine what is the most viable approach in the unique Chadinian ecological and cultural context.

Both situations, the aid that originally brought on the drought, and the aid extended to help solve the problem, are examples of what Paulo Freire called cultural invasion. No real effort had been made to devise aid programs which would become an integral extension of the historical culture of the region. Even if it had not led to a drought, the aid probably would have created an alienating agricultural system. This is a commonly heard complaint about Western aid programs in general.

Many of the problems of the green revolution are associated with the cultural impact of changes in agricultural practices. On the most fundamental level, for example, it is not sufficient simply to produce more food, it must also be eaten. However, each culture has its own ideas of what foods are acceptable, and few, if any, accept all of the eatable food in their environment. In the United States, for example, few people are prepared to eat dogs, acorns, or termites. Yet these foods are readily acceptable in other cultures. The difference between what is, or is not acceptable can also be much more subtle.

The Rockefeller Foundation supported a program to develop a variety of corn, called opaque-2, which has a high lysine content. Most corn is deficient in this amino acid, and this can lead to protein deficiency in people whose diet depends heavily upon corn. Despite its obvious dietary advantages, however, opaque-2 has received poor acceptance in Colombia.

> In the lowlands, where most of the country's corn is grown and eaten, the people are used to flinty-hard and lustrous kernels, in contrast to the chalky and dull-appearing kernels of opaque-2 corn. (To urban consumers buying the packaged product, these differences are unnoticeable, and in the highlands the people already eat a corn that is soft in texture). Also, farmers find that opaque-2 corn does not store as well as the flint varieties and suffers more insect damage both in the field and in the crib. Rural housewives, for their part, report that opaque-2 corn grinds less well and cooks differently.[21]

The problem can probably be solved through further breeding experiments, which may produce corn varieties without these drawbacks. But Colombia did not feel that it had the time to wait, and started a public education program designed to change consumer tastes. This is a small, almost inconsequential, example of cultural disruption. It does, though, illustrate how subtle the change can be.

Still greater disruptions can be associated with the technology of the green revolution. It is a high technology enterprise involving special hybrid seed, intensive use of fertilizers, irrigation, large scale monoculture, and mechanization. This requires a radical change in the agricultural practices of Third World farmers. It can also increase the disparity of income between the poor and wealthy, because the marginal farmers cannot afford either the technology, the seed, or the risk of losing a single crop. The wealthy can afford to take the chance of increasing their income by increasing their production.[22]

Whether or not a green revolution program will become a cultural invasion depends in large part upon whether its implementation is guided by the values of social domination, or social mutualism. Whether or not it will establish a mutualistic relationship with the non-human environment also depends, in part, upon the way in which the professional agricultural experts interact with the local farmers.

The potential for applying green revolution technology without regard for the welfare of the environment is quite high. Nevertheless, much research is being done to insure that the technology and the environment are compatible. But the people who have the best knowledge of a specific agricultural environment are often the local farmers. Unfortunately, the "experts" often dismiss such people as being ignorant, or backward. As Brown and Pariser have pointed out, "we must encourage the examination of local problems in terms of the use and improvement of local technologies which are often quite sophisticated and the result of centuries of development."[23]

In a similar vein, Robert Anderson has pointed out that the professional experts can learn much about the development of deep water rice culture in Bengladesh by talking with the local experts.

> . . .there are already many experts in the field. These are the farmers who have gained good harvests in tricky conditions, in floods where water is 12 feet deep, where rice has to be harvested by clinging to upturned jars and swimming back to the boat, where each different current calls for different plant-type, where the plants' roots are often not in the ground but actually floating. Given the nature of research and its isolation from the actual practice, will scientists and technologists learn from these experts before they begin to "improve" the technique which has evolved over hundreds of years?[24]

The approach to applying green revolution technology seems to be changing, and there is a growing cooperation between agricultural and behavioral scientists.[25] The emerging perspective is perhaps best summed up by Brown and Pariser when they wrote, "The time is past when 'West is best' can be taken for granted; 'adopt and adapt' is surely less offensively arrogant and much more to the point."[26] This is a mutualistic attitude. It is an attitude which seems to be gaining wider acceptance for quite pragmatic reasons.

As we can see, social mutualism and environmental mutualism are sometimes not easily separated from each other. Ideally, environmental mutualism involves our trying to clarify our core of truth; the needs, desires, and values which we wish to preserve in the synthesis. It also involves trying to clearly establish nature's truth; that is, the dynamic processes which support life, and which must be honored if we wish life (including our own) to continue. There are universal human needs, and there are values which are unique to each culture, and we should try to preserve both. In a similar manner, there are universal ecological processes, and there are distinctive ecological elements in each ecological setting, which must be preserved if we are to preserve its character. These must all be taken into consideration when we make a mutualistic decision.

The Elements of Environmental Mutuality

> The things of our minds have for us a greater toughness than external reality.
>
> --John Steinbeck[27]

Mutualistic decisions can be made only with reference to specific people within the context of their specific environment. It is impossible, then, to abstractly state that this or that decision or act is mutualistic. I want, instead, to examine the process by which we can go about making mutualistic decisions. More specifically, I am trying to identify the attitudes and values which underly that process.

At the conclusion of the previous chapter I identified three elements which appear to underly the value orientation of Mutuality as applied in a social context. The list was based upon a study of the model of interpersonal dialogue. To what extent do these elements apply to environmental mutualism? Let us examine each of the three elements and their relevance to our interactions with our non-human ecological environment. Again, it is important to keep in mind that we are dealing with an artificial dichotomy, and that there is no clear distinction between the extremes of "totally human," and "totally without human influence."

Element One: Mutuality Occurs Within a Meaningful Whole. In the previous chapter I proposed that, dialogue can occur only when the parties are joined as members of a larger whole. It is important to recognize that the way in which our non-human environment interacts with us differs from the way in which we interact with it. The fundamental difference lies in the phenomena of self-consciousness and mind. Our ecological environment is aware of our presence in the sense that it responds to our actions, but it is not aware that it is aware. It is not self-conscious and does not plan for, or worry about its future, and it lacks our rich inner life of conscious and unconscious dreams, fantasies, and desires. Instead, it responds to the circumstances which exist in the present.

There are, then, two senses in which we must speak about being a member of a larger whole. The first is that of the objective whole; the ecological and evolutionary patterns within which we are embedded, and which birthed and nourishes us. The second can be called the "felt whole" or the psychological whole; the unit in which we exist cognitively, mythically, and emotionally.

It has become well established that we, and all of the other lives on this earth, do indeed exist as parts of a larger ecological and evolutionary whole. Environmental mutualism and our ecological problems cannot be understood without reference to this concept. The problem is that this insight is not a part of the reality of our day-to-day lives. In 1837, Charles Darwin wrote: "If we choose to let conjecture run wild, then animals, our fellow brethren in pain, disease, death, suffering and famine--our slaves in the most laborious works, our companions in our amusements--they may partake of our origin in one common ancestor--we may be all melted together."[28] In the intervening 150 years his evolutionary theory has, in revised form, become widely accepted in the scientific community.

However, in the psychological lives of the general public, and of many scientists, the "melting together" has, at best, progressed slowly.

Ernst Mayr has argued that it took nearly 250 years for evolutionism to become accepted; a process which began about 180 years before, and continued roughly 70 years after the publication of Darwin's The Origin of Species. This long period of time over which the evolutionary view of the world became accepted does not seem to conform to Thomas Kuhn's theory[29] that revolutionary changes in scientific thought occur quite rapidly. Mayr explained this by arguing that the Darwinian revolution in biology was more complex than is usually thought. "The long time span is due to the fact that not simply the acceptance of a new theory was involved, as in some other scientific revolutions, but of an entirely new conceptual world, consisting of numerous separate concepts and beliefs. And not only were scientific theories involved, but also a whole set of metascientific credos."[30]

Of the six changing elements which he reviewed, three involved scientific theory. First, the accepted view of the earth's age had to expand enormously, from theories of a young earth (about 6,000 years old), to one of treat antiquity. Only then would we have the span of time necessary for evolutionary change to take place. We also had to view change as taking place continually, rather than in sudden, catastrophic events, or not at all. Third, we had to recognize that evolution does not progress in a line of increasing perfection from the lowest to the "more evolved" highest. Instead, evolution had to be seen as involving change in adaptative response to environmental circumstances, without necessarily producing improvement in an absolute sense.

The last three elements were not simply scientific, but related to religious, philosophical, and other aspects of our cultural world-view. For example, we had to accept the evolutionary process as something which worked on its own, without the necessity of a god residing outside of nature who continually tinkers with the creation. We also had to break out of the essentialist view of the world. This philosophy, first put forth by Plato, proposes that the world of our experience is an expression of fundamental, discrete, and immutable forms, or essences, which underly it. In biological terms, the view of species as expressions of typologically discrete and immutable essences is incompatible with evolution as the changing genetic composition of a population of organisms. Finally, we had to do away with our anthropocentric view of the world as something which exists for our benefit; a view with which we have not completely done away.

It is not surprising that it took so long for the scientific community to accept the evolutionary view. And it is not surprising that the public in general is having still greater difficulty.

Although the Darwinian revolution may have taken place in the biological sciences, it is still in progress in the world of the non-biologist. After all, the Copernican revolution has not completely altered our world view; we still speak of the sun rising and setting, as if it were revolving around us.

It is much more useful to an astronomer to use the sun as the central reference point in our solar system than it is to use the earth. In our everyday lives, however, it is simpler to place the earth at the center of our psychological universe. Most of us are not trying to navigate from one planet to another. The same cannot be said about our narrowly anthropocentric view of our world. We are trying to move about within our ecological environment, and anthropocentrism is not necessarily our best point of reference.

But is it possible not to be anthropocentric? W. H. Murdy has argued that it is not. All species value, in an evolutionary sense, their survival over that of other species. "To be anthropocentric is to affirm that mankind is to be valued more highly than other things in nature--by man. By the same logic, spiders are to be valued more highly than other things in nature--by spiders. It is proper for men to be anthropocentric and for spiders to be arachnocentric. This goes for all other living species."[31] Thus, we value those parts of our environment which are instrumental to our survival.

He pointed out, though, that we are discovering that more and more parts of nature are of instrumental value to us. His view of anthropocentrism, then, is based upon "the recognition that an individual's well-being depends on the well-being of both its social group and ecological support system."[32] He went on to write that, "An anthropocentric faith in mankind affirms that we are not isolated monads acting out absurd roles within a meaningless context, but that we are essential elements of a meaningful whole and that our individual acts are vitally significant to the self-actualization of the process of human evolution itself and to the enhancement of value in the world."[33]

Schweitzer and Leopold have pointed out that we tend to recognize fellow members of our group to be of intrinsic value. Once we recignize that we are part of an ecological whole, that whole is likely to be viewed as being of intrinsic value. This does not mean that we will not also use parts of the whole to satisfy our needs. It does mean that our total environment and its parts will be of more than simply instrumental value to us. Despite its avowed focus upon anthropocentrism, Murdy's article became a discussion of Mutuality.

Just as astronomers prefer a sun-centered model of our solar system, not because an earth-centered model could not work, but because it is far too cumbersome; so, too, we must switch to a view which recognizes our relatedness to, and the intrinsic value of the whole system of which we are a part. We must do this not because it is inconceivable that we could accomplish the same results by valuing the individual parts of nature for their intrinsic value to us. We are discovering that a careful analysis can lead us to recognize the value of a multitude of parts which were not previously recognized to be of an obvious instrumental value. But the careful examination of all of the parts and their complex interactions as they relate to each of our decisions is simply far too cumbersome a task.

Murdy's reference to a "meaningful whole" is important. Evolutionary biology and ecology have identified and explored the processes of the objective whole of which we are all part. Psychologically, however, few people tacitly feel themselves to be a part of that whole. To most of us, the people and things of our everyday experience have a much more meaningful and concrete reality. How do we integrate ecological abstractions into the context of our psychological needs, cultural values, and historical background in a meaningful way?

The sheer magnitude of the ecological whole creates an enormous problem. It is difficult enough for people to avoid ethnocentrism and the creation of pseudospecies, and to deal with all of humanity as a communal unit. How can we deal with something as vast as all life, or the ecosphere? It is probably impossible to do so without resorting to metaphor and symbol. "Mother Earth" and "Spaceship Earth," for example, are metaphors which incorporate some of the key concepts. The photographs of the earth taken from an Apollo capsule presents an important visual symbol; the image of the fertile earth rising above the horizon of the sterile lunar landscape. In time, we must evolve still more powerful metaphors and symbols, which provide psychologically palpable and evocative references to complex holistic units and concepts.

Another approach to dealing with the problem of enormous scale is that of actually reducing the scale on which we are interacting. E. F. Schumacker's book, Small is Beautiful, has stimulated a great deal of discussion in this area, particularly as it relates to our social, economic, and technological scale. It has been argued that small scale technology and decentralized political systems allow people to become more consciously involved with, and in control of the forces which influence their lives. This philosophy has influenced the back-to-the-land, self sufficiency, and homesteading movements. There is also value in this approach to our environment, in addition to its value as an approach to social systems. For example, it is much easier to understand and meaningfully interact with a farm woodlot than with an Arabian oil field which is several thousand miles away. Small scale, localized systems are more immediately a part of our experience. Nevertheless, many of our environmental problems are on a global scale and we cannot avoid dealing with an environment of enormous magnitude.

In addition to comprehending what it is that we are related to, we have the problem of identifying the ways in which we are related to it. What is our relationship with the world around us? In the predominantly Domination approach, we seem to view our environment as an enemy to be subdued ("the conquest of nature"), or as a slave to be mastered ("Harnessing the forces of nature for the betterment of humanity"). Alternatively, the "Mother Nature" metaphor involves a parent/child relationship. But even this sense of the way in which we are related to the world around us may be problematic.

Erich Fromm has noted that the easiest and most frequent models for relatedness are those of the primary ties of infant relationships. "We see it in the matriarchal religions in which the Great Mother and goddesses of fertility and of the soil are worshipped. There seems to be an attempt to overcome the primary tie to mother and earth in the patriarchal religions, in which the great father, the god, king, tribal chief, law, or state are objects of worship."[34] But these are relationships of submission to a superior authority. They foster a childlike dependence, rather than maturity. But over the past few thousand years a new vision of relatedness on the larger scale has developed. It emphasizes a filial bond of brotherhood and sisterhood, which provides solidarity, without restriction upon freedom. "This is the reason why the solution of brotherliness is not one of subjective preference. It is the only one which satisfies the two needs of man: to be closely related and at the same time free, to be part of a whole and to be independent."[35]

Fromm wrote primarily of relationships between people. However, might his comments provide some insight into our relationship with our environment? The relational model of enemy or slave is appropriate to Domination, but not to Mutuality. The model of nature as parent may be appropriate to a value orientation of Submission, but not to Mutuality. (It is interesting, also, to reflect upon our environmental problems in light of the psychoanalytic analogy of the child asserting its identity by rejecting, or destroying its parents.) Perhaps the model of brother and sister relationships can provide a useful metaphor. This was the view, in spiritual terms, of St. Francis of Assisi. Contrary to Church doctrine, he believed that all of the earth's creatures shared in the same spark of divinity that was in people. His idea of what was a creature was quite broad, and included Brother Sun, Sister Moon, Brother Fire, and Sister Bodily Death. His extremes of asceticism certainly cannot provide a model for our larger society, but his fellow-feeling with the world about him may. In any event, we need a new image of the world which is meaningful; an image of our world which can be savored, loved, respected, and which fulfills our need for relatedness. Perhaps a sense of filial relationship with the creatures of the earth will meet this need; perhaps not.

The scientific view of our world provides a view of the whole, but it alone is not sufficient. In some way it must be wedded with our personal and cultural vision of our environment. Our interpretation of the personal meaning of a scientific theory is not a scientific process. It involves the interplay with the scientific view, of our conscious and unconscious needs, the historical and mythical context of our culture, and a host of other factors. It is here where the objective and psychological wholes come together.

Our interpretation of the psychological meaning of the scientific, ecological view need not, and probably will not be scientific in nature. It is, however, important that the way we behave in the world of our psychological whole not conflict with our continued well being in the world of our objective whole. On the other hand, we should not accept a view of our world which is scientifically accurate, but which is alienating. I propose that we be guided in our selection by a principle which I will call The Embrace: When confronted by differing psychological interpreations of the objective view of our world which are equally compatible with that view, we should embrace those which are the most meaningful.

The means by which we achieve our ends should not be alienated from those ends. One cannot achieve mutualistic ends by means of either dominative or submissive methods. It is possible to give the impression of so doing (by manipulating people into making a preselected decision, for example), but there is a fundamental difference between pseudo-mutualistic and mutualistic processes. Mutuality is born of the belief that the other person or thing is of genuine value, and is an important part of the process by which we came to understand our world and make decisions about how we shall conduct our lives. If this belief is based upon a truthful understanding of this process, then a failure to act in a genuinely mutualistic manner genuinely diminishes our understanding and our lives. Mutualism is more a process through which we work toward certain objectives, than it is the ends themselves.

At the same time, mutualism is not simply a technique for achieving our ends. It is more a way of living. To the extent that we embrace the values of mutualism, we will genuinely be motivated to act in a mutualistic manner. To the extent that we do not, we will be motivated by either a will to dominate, or the futile sense of submission. These psychological motives will give shape to the world which we create around us. If we believe that means and ends are closely bound together, if we value the welfare of others, and if we recognize that we have human limitations, we are likely to value nonviolence. However, life and death are inseparable, and we cannot live without altering the world around us and taking other lives. Is, then, it possible to be nonviolent toward our non-human environment? I believe that it is possible in a limited sense, but that we can never live in a way which is completely without environmental violence. Although there is no way in which we can avoid violence, it is possible to avoid unnecessary violence. But what violence is, or is not necessary?

Although small scale disturbances of our environment are impossible to avoid, there are large scale disturbances which we must avoid. If, for example, we destroy our ecosystem, or the ozone layer in our atmosphere, we will destroy ourselves as well. Obviously we should avoid so doing. It is relatively easy to deal with the issues of environmental violence when we are dealing with clear issues of physical survival. It is the grey areas where psychological and cultural needs of a non-survival nature conflict with the interests of our non-human environment that the problem of violence becomes more ambiguous. Should we eat meat, vegetables, or both? Should we cut trees for shelter and fuel? Should we plant gardens for either food or aesthetic pleasure? To what extent, and by what means should we control agricultural pests, disease organisms, unsightly weeds, human and non-human populations?

Although we cannot achieve total nonviolence, we can be motivated by the desire to avoid unnecessary violence. This means that we will have to work, on both the individual and societal level, to define what is environmental violence, and what it is not, and to what extent it is necessary. It is important that we be motivated by this value, that we recognize the intrinsic value of others, and that we accept responsibility for our actions. This should temper our actions, and contribute to an emerging environmental mutualism.

Element Two: Mutuality Requires Openmindedness. Humility, in the sense of being aware of one's shortcomings or not being arrogant, is a prerequisite of openmindedness. Inherent in Domination is the idea that we can do anything. Submission is based, in part, on the perception that we can do nothing. Mutuality, however, involves the middle ground; it involves the perception that we are neither powerless, nor omnipotent. It is, then, important that we be aware of both our strengths and our limitations.

The belief that there is a technological solution to all, or most of our environmental problems is a modern form of hubris. This is evident, for example, in the approach of the United States medical establishment to the problem of cancer. By far, the greatest human and financial resources are devoted to cancer treatment, and the search for cures. Essentially, this is an effort to employ medical technology to achieve control over the disease. The Submission approach to the problem would be to give in and accept cancer as an inevitable facet of our lives. A mutualistic approach, however, would probably emphasize a preventative solution. It is known that the majority of cancers are the result of environmental factors, and we should be able to identify these factors and avoid them. The preventative approach, however, is based upon the recognition of the limitations inherent in human biology and technology, and of the fact that we must refrain from some activities in order to maintain our health. This is not a very popular idea. Many of us even want to lose weight without altering either our diet or exercise habits.

The debates over whether or not we should build either nuclear weapons, or nuclear power plants provides another example; because much of the debate is generated by differing opinions about the nature of human abilities. The proponents of both feel that "fail safe" devices can be designed and built into the systems. Opponents feel that there is not such thing as a system which is safe from failure, because there is not such thing as an infallable human being. If one accepts the idea that we are not infallible, then we must be extremely cautious about building devices through which a mistake can be magnified into a holocaust.

With humility comes a changed perception of our importance in the world. As our sense of our self-importance is reduced, our sense of the relative importance of the other life on earth should increase. This may be expressed both in the understanding that our lives are entwined with theirs, and in the view that other lives are of intrinsic value. The recognition that our powers are limited and that other lives are of intrinsic value is a fundamental aspect of environmental mutualism.

It is impossible for us to live without threatening other lives. We are biological organisms and depend upon other organisms for food. In addition, we all have cultural and personal needs which conflict with the needs of other lives, both human and non-human. If this is so, then it is impossible for us to be totally without self-interest in our interactions with our environment. There are, however, times when we should try to do just this.

First of all, we must do so as a part of doing scientific research. There is nothing new in this statement, because objectivity has long been a fundamental principle underlying the way in which science is done. It is important that we understand our environment; what are its components and the ways in which they interact. The sciences, both natural and social, are our best tools for learning the answers to these questions.

There is, however, something else which we need to know. Mutuality involves trying to meet the needs of both parties, therefore we need to know what is in the best interest of our non-human bio-physical environment. This is not a scientific question, although science can play a significant role in answering it. "Best" is a heavily value laden word, and the question of what is in the best interest of our environment is extraordinarily ambiguous. If, for example, we define "best" as, "that which facilitates a stable population of "x" number of individuals," then we would be able to tackle the question with the tools of science. Unfortunately it is not that simple.

What is in the best interest of our environment? In order to answer the question we must first take great care not to project our own self-interests into the answer. This does not mean simply ignoring our interests, but consciously recognizing what they are as a first step toward temporarily transcending them during the course of our study. As Burtt has suggested, this will require considerable training, if not personal therapy.

The whole question involves so many conflicting interests, both ours and those of the multitude of other organisms and systems in the world, that the most appropriate answer might be, "That is in the best interests of our environment which would occur in the complete absence of humanity and human influence." It is not a very good solution, but it provides an unrealistic extreme against which we cancontrast our own unrealistic hopes, wishes, desires, dreams, and fantasies. The two would be in a dialectical tension, and a mutualistic decisionmaking process would attempt to achieve some sort of a synthesis of the two.

In practice, things will be quite complex, because we will not be dealing with a vague thing called, "environment," but with specific environmental systems composed of specific components. We will also be dealing with many viable communities and ecosystems which could not exist without the influence of people. Is it, for example, in the interest of the New England rural landscape to cease to exist? I think not, but this does not argue against my proposal of what is in the best interest of our environment. Such a landscape, or community, or ecosystem is the product of a mutually successful interaction between people and their environment.

I do not really know what is in the interest of our non-human environment. Perhaps we can never really know. Perhaps such things have no real interests, and the whole concept is merely a useful fiction. I do, though, wish to pose the question, and I argue that it can be answered only to the extent to which we are able to identify and transcend our own self-interests.

We can be without self-interest and still be dogmatic or prejudiced in our understanding of our world. I am not speaking simply on the level of religious dogma, or the more blatant forms of racial prejudice. I want to focus special attention upon the subtle, tacit ways in which we structure our conception of our environment. These are operating on the level of the unconscious presupposition of which Burtt wrote, and of the ways in which each culture unconsciously creates its own image of reality. These unconscious, unexamined, but firmly embraced images of the world can be examined on both an individual and a cultural level.

Examine, for instance, the following account.

> The stars were shining, and the leaves restled in the woods ever so mounful; and I heard an owl, away off, who-whooing about somebody that was dead, and a whippowill and a dog crying about somebody that was going to die; and the wind was trying to whisper something to me, and I couldn't make out what it was, and so it made the cold shivers run over me. Then away out in the woods I heard that kind of a sound that a ghost makes when it wants to tell about something that's on its mind and can't make itself understood, and so can't rest easy in its grave, and has to go about that way every night grieving. I got sc downhearted and scared I did wish I had some company. Pretty soon a spider went crawling up my shoulder, and I flipped it off and it lit in the candle; and before I could budge it was all shriveled up. I didn't need anybody to tell me that that was an awful bad sign and would fetch me some bad luck, so I was scared and most shook the clothes off of me. I got up and turned around in my tracks three times and crossed my breast every time; and then I tied up a little lock of my hair with a thread to keep the witches away. But I hadn't no confidence. You do that when you've lost a horseshoe that you've found, instead of nailing it up over the door, but I hadn't ever heard anybody say it was any way to keep off bad luck when you'd killed a spider.[36]

Although this is a fictitious account, Huckleberry Finn's image of the world is representative of one which has been widely held. It has its own internal consistency, is peopled by a specific cast of characters, and has its own moral order. It is blatantly superstitious, but it is firmly believed. It is a fearful world, but it is also understandable and somewhat predictable (watch out if you burn a spider).

On the individual level, Huck and those who share such a world-view and ethos, actually believe that the world is put together in this way. It is not something which one even thinks to question. Many people in other cultures have shared similar understandings of the world as a place peopled by ghosts, witches, demons, and other such beings. They are, however, individuals who are holding to beliefs which are a part of the culture of which they are a part. The world-view and ethos are cultural phenomena, and this makes it incredibly difficult for members of the culture to question them, because they do not have alternative models from which to select, and little or no incentive to do so (indeed, there may be severe sanctions against so doing).

People did not believe that the earth was flat, or that it was at the center of the universe, simply because they were stupid or whimsical. In their cultural context the earth *was* flat, and *was* at the center of their universe. To believe otherwise might literally have been unthinkable for most members of the culture. This is a form of unconscious, cultural dogmatism.

My examples are extreme, and it is easy for us to develop an inflated sense of our own sophistication. But what are our cultural dogmas, which blind us to alternative ways of seeing things? Those which are the most alive and active are likely to be the most difficult to identify, because they are the ones which are shaping our view of our world. (This does not necessarily mean they are not appropriate views to hold, just that they are views which we are not aware of holding.) There are others, however, which are changing and which are more visible to us. One, for example, is the ethos of progress; the idea that we can improve our earthly lot through our own efforts. This has played a major role in the cultural history of the United States. From the manifest destiny of westward expansion, to Horatio Alger's stories, to our ever increasing Gross National Product, to lunar exploration, the idea of progress has shaped our hopes and dreams. "Bigger and better," and "progress is our most important product," provide the keynotes of our age. Now we are beginning to realize that bigger is not necessarily better, that quality may be more important than quantity, and that change can occur at too rapid a rate for our own good. The idea of progress is becoming more visible, and is being carefully examined.

Another image which has changed is that of wilderness. To the Puritans the wilderness was a place of chaos, fearful beasts, and evil. Satan waited in the wood. One went to the wilderness only on errands, and their special errand was to bring it under the axe and plow; creating order, beauty, and good. It is only in the past 150 years or so that wilderness began to be viewed as a place of beauty, to which people journeyed for pleasure and renewal.[37] Many people are now surprised to learn that the early Americans disliked wilderness. It seems so obvious to us that it is a place of great beauty and wonder. What, I wonder, will people think 150 years from now when they contemplate our present views about wilderness?

We are not dealing here with the process of individual psychological projection, or selective perception, which distort our view of our world. These elements are important and must be addressed, as Burtt has argued. But what I am pointing out is that we are all embedded in a socially shared image of reality.[38] It is a pervasive image which is very difficult to transcend, because it is at the root of what gives our sense of our world its stability and meaning. It can, however, also create problems.

The European-American way of doing things has made an enormous impact upon the rest of the world. Airports and hotels are so similar throughout the globe that it can be very difficult to tell where in the world we are. Our agricultural practices have also circled the globe, sometimes to the detriment of other societies. We have been engaging in what Paulo Freire has called cultural invasion. Little thought, though, has been given to the culturally and environmentally unique factors of each locale.

This has happened, in part, because Western advisers and businessmen just did not realize that there are other valid ways of doing things. Their own cultural biases have shaped their approach to the rest of the world and, thus, helped to create an international sameness.

We also have cultural biases in terms of what we expect of, and how we ought to interact with our non-human ecological environment. The value orientations of Domination, Mutuality, and Submission are a part of this. It is important that we be aware of these biasis and be openminded in our attempt to determine what are our needs, and what are the ways in which we ought to shape our world in order to meet these needs. We may find useful models in other cultures, and we may sometimes find it necessary to transcend the existing models and discover new ways of doing things.

This is not an easy task, but it is already happening as the global flow of information and people increases. We must be careful, though, as we become familiar with other cultures and try to create totally new approaches, that we do not become alienated from our own cultural roots and create an alienated and alienating world around us.

Element Three: Mutuality Promotes the Welfare of Others. Mutuality involves an attempt to satisfy the interests of both parties. It is, then, not sufficient simply to know what are the interests of the other; one must be committed to promoting the other's interests. E. A. Burtt wrote of this in terms of promoting the growth of others. He was examining the interactions between people, and viewed them as developing, maturing, becoming beings. However, this may not be appropriate with respect to non-human ecological systems. Although we may wish to promote the growth of an individual, there is a point beyond which the growth of a population can be harmful, both to the individuals within the population and to other populations it may influence. In some situations, then, it may be more realistic to think in terms of stability, or adaptation than it would be to speak of growth.

Aldo Leopold was one of the first and most eloquent proponents of this approach to ecosystems. He argued that actions which promote the welfare of an ecosystem are good, and that those which work to the contrary are bad. He played an instrumental role in establishing national wilderness preserves; actions which embody this value. His work is being carried on by many organizations and thousands of people, who are working to preserve wilderness areas. Naturally, these efforts are not unclouded by self-interests, such as the desire to preserve favorite environments for hiking and camping. In addition, some people have the mistaken view that wilderness ecosystems are static, unchanging things, and they attempt to eliminate change factors, such as fire, as components of the systems. Nevertheless, their goals seem to be directed toward preserving and promoting the interests of wilderness.

Those who are working to preserve endangered species also are often motivated by this environmental Mutuality. This has particularly become the case as more and more preservationists have recognized that a species can be preserved in the wild only by preserving its habitat. Their motives, too, are not unclouded. Generally it is the large, aesthetically pleasing or awe-inspiring animals which receive their attention. Often, too, there is little consideration of the point that a particular species may become extinct without the added burden of human influence. Despite this, they are working for the preservation and promotion of the welfare of other species.

Preservationists such as these are often portrayed as being a bit strange. The wilderness preservationists are "anti-civilization," and the wildlife preservationists are pictured as precious sentimentalists. Both, of course, are opposed to "progress." True, some may overstate their case, but there is another reason for the negative view that many have of these people. Many are genuinely commited to working for the welfare of non-humans. To those who do not share this value, such actions must appear strange, and might even be threatening if the preservationist's acts impinge upon their self-interests.

Preservationists who wish to promote non-human interests at the expense of all human interests are no more mutualistic than are those people who promote the human without regard for the non-human. Environmental mutualism includes a concern for the interests of both humans and non-humans. The genuine extremists, however, are rare among the preservationists, and their actions do harm to the movement.

The efforts to preserve wilderness areas and endangered species are examples which are not representative of most mutualistic endeavours. Perhaps the majority of preservation efforts are much more limited and close to home. Some people may try to preserve a park, others a spot of wetland, a stream, or a grove of trees. The issues, battles, and threatened areas exist on a smaller scale. People who become involved in such efforts often do so only when something with which they are familiar, and which they love is threatened. This is understandable, because a genuine commitment to promoting the interests of another grows out of a respect and love of that person or thing.

In mutualistic relationships, freedom from self-interest and a positive interest in promoting the interests of another are closely intertwined. Burtt has argued that the combination of these two values defines love. If this is true, then mutualistic relationships with our environment are loving relationships. Our problem is that of creating ways in which to learn about, and interact with our environment, which embody the value of love.

Abraham Maslow has pointed out that:

> Classically, "scientific objectivity" has been most successfully achieved when its objects were most distant from human aspirations, hopes, and wishes. It is easy to feel uninvolved, detached, clear-eyed, and neutral if one is studying the nature of rocks or heat or electrical currents. One doesn't "care" about it as one does about one's child. It is easy to take the laissez-faire attitude with oxygen or hydrogen and to have noninterfering curiosity, to be Taoistically receptive, to let things be themselves. To be blunt about it, it is easy to be neutrally objective, fair, and just when you don't care about the outcome, when you can't identify or sympathize, when you neither love or hate.[39]

He was writing of the social sciences in particular, but his comment is relevant to mutualistic knowledge of our environment. We do care about the outcome of our interactions with our environment, because we have our own interests to protect. Also, as I have already noted, if we are to interact in a mutualistic manner we cannot be emotionally neutral; we must love the object of our study.

Maslow proposed that there is a second kind of objectivity, which he called "caring objectivity."

> . . .if you love something or someone enough at the level of Being, then you can enjoy its actualization of itself, which means that you will not want to interfere with it, since you love it as it is in itself. You will then be able to perceive it in a noninterfering way, which means leaving it alone. This in turn means that you will be able to see it as is, uncontaminated by your selfish wishes, hopes, demands, anxieties, or preconceptions. Since you love it as it is in itself, neither will you be prone to judge it, use it, improve it, or in any other way to project your own values into it.[40]

We need to develop new ways of doing the environmental sciences which embody science both as an objective study and as a loving enterprise. Probably all good scientists love what they study, but that love is not valued in the same way as is reproducibility, prediction, and objectivity. Indeed, the last three factors are carefully displayed in research papers, while evidence of the loving relationship between the scientists and the object of study is systematically excluded.

However, despite the strengths of Maslow's caring objectivity, it is a very passive approach to what is being studied. There comes a point at which we must interact with our environment in a much more active manner. We make demands of it, and we alter it. This is inevitable. We must, then, also develop methods of environmental intervention which are guided by love. Rene Dubos pointed this out when he wrote of the attention which we should pay to the "god within" each landscape.

Although there are many examples of this kind of active, loving interaction between people, there are few which can guide us in our interactions with non-humans. In their search for models, a number of people are examining the ways in which the traditional cultures, particularly native American ones, interact with their environments. Although these explorations will lead us in important directions, they are not likely to discover models which are completely satisfying. We need to evolve new ways which are appropriate to our own unique circumstances.

A Direction

As we increasingly come to recognize our world as a system of interrelated people, organisms, and objects, we must develop an ethos which is compatible with this view of the world. This is particularly important at this point in our history, because we have developed enormous powers to alter, if not destroy, the earth. The values underlying social mutualism can, with minor modification and thoughtful concern, be effective guides in our interactions with our non-human environment. I propose that we work to enhance the elements of social and environmental mutualism in our culture.

What we are dealing with is an evolving change in our culture. As such, it is not likely to occur rapidly, but over the course of decades. We, however, can act to hasten the change by consciously working to spread the idea. We will never develop a culture which is completely mutualistic. It is unrealistic to even attempt this, because the value orientations of Domination and Submission are integral and, under some circumstances, useful elements in all cultures. Our task is that of reducing the relative emphasis upon Domination, and enhancing that of Mutuality.

Many people are already working toward this end on an individual level. Efforts to introduce this ethos into our social institutions has come more slowly. There are, however, already promising signs. Federal requirements for environmental impact statements represent an important beginning. There are no requirements that the statements consider the rights and welfare of an environment, this is not the motive underlying the requirement, but the statements do insure that people become aware of the environmental impacts of their actions. Town conservations commissions, such as those in the Commonwealth of Massachusetts, provide another example of an institution which pays attention to the impact of human activities. In this case, care is given to the preservation of wetlands in particular. Their motivation for preserving wetlands, however, is that of preserving water supplies for human use. Christopher Stone's proposal that natural objects be granted legal rights and the legal standing to sue in defense of those rights, suggests a way of introducing into our legal institutions a concern for the environment as an end in itself. Additional approaches will certainly develop in the coming years.

The key, the fundamental motivation which must underly our efforts is that of love. As Lewis Mumford eloquently wrote:

> What we need to confront the threatening omniscience and omnipotence of posthistoric man is to cultivate powers equally godlike in a quite different part of the personality. Must we not cultivate a force that came late even in man's conception of godhood--the force that Henry Adams prophetically summoned up in opposition to the dynamo? I mean the force of love. And I mean love in all its meanings: love as erotic desire and procreativeness; love as passion and aesthetic delight, lingering over its images of beauty; love as fellow-feeling and neighborly helpfulness, love as parental solicitude and sacrifice; love as the miraculous capacity for overvaluing its own object and, thereby, glorifying it and transfiguring it, releasing for life something that only the lover can see. We need such a redeeming and all-embracing love at this moment to rescue the earth itself and all the creatures that inhabit it from the insensate forces of hate, violence, and destruction.[41]

This may be edifying, but it is not very encouraging news. The world has never been blessed with a great abundance of love. Although there are some signs that this may be changing, they are not very strong. We must, however, act with love, and in the faith we can become more loving, because if we do not, then by the nature of self-fulfilling prophecies, we will not.

The effort to promote Mutuality must, in the final analysis, be pursued on a deeply personal level. We are the living bearers of the ideas and values of our culture. Unlike any other creatures on earth, we are able to shape the world around us. The shape it takes is the physical and social expression of our collective ideas and values, hopes and dreams. The quality of our outer environment, then, depends in large part upon the quality of that which we bear within us.

Footnotes

[1] Simon N. Patten, The New Basis of Civilization (N.Y.: Macmillan, 1907), pp. 25-26, as quoted in Arthur A. Ekirch, Jr., Man and Nature in America (N.Y.: Columbia, 1963), p. 104.

[2] Joseph Conrad, Lord Jim (1900; rpt. N.Y.: Modern Library, 1931), p. 208.

[3] Marston Bates, The Forest and the Sea (N.Y.: Random House, 1960), p. 262.

[4] It might be argued that there exists a form of direct communication between people and plants. This has been championed in popular literature, and has been used as the basis for some communal experiments in agriculture. I choose to sidestep the question of the validity of these arguments by ignoring them and focusing my attention upon ecological relationships. I will treat the issue of our communicating with dolphins and primates in the same manner.

[5] I am setting aside the whole issue of whether or not there actually is spirit, since it is not germain to the following discussion of our role in an ecological world.

[6] H. Paul Santmire, "Historical Dimensions of the American Crisis," in Western Man and Environmental Ethics, ed. Ian G. Barbour (Reading, Mass.: Addison-Wesley, 1973), p. 67.

[7] Ibid., pp. 71-72.

[8] Ibid., p. 72.

[9] Ibid., p. 91.

[10] Edwin A. Burtt, In Search of Philosophic Understanding (N.Y.: New American Library, 1965), p. 225.

[11] Smiley Blanton, Love or Perish (N.Y.: Simon & Shuster, 1956), pp. 108 f., as quoted in Burtt, p. 225.

[12] Martin Buber, I and Thou, trans. Walter Kaufman (N.Y.: Charles Scribner's Sons, 1970), pp. 58-59.

[13] Mohandas K. Gandhi, An Autobiography: The Story of My Experiments with Truth (1929; rpt. Boston: Beacon Press, 1957), p. 504.

[14] Paulo Freire, Pedagogy of the Oppressed (N.Y.: Seabury Press, 1970), p. 77.

[15] Erik H. Erikson and Huey P. Newton, In Search of Common Ground (N.Y.: Norton, 1973), p. 76.

[16] Ibid., p. 75.

[17] Madeline Doran, "A Postcard from Delphi," The American Scholar, 42 (1973), 236.

[18] Lawrence Durrell, Spirit of Place: Letters and Essays on Travel (N.Y.: Dutton, 1971), p. 158.

[19] Nicholas Wade, "Sahelian Drought: No Victory for Western Aid," Science, 185 (1974), 234-237.

[20] Ibid., p. 236.

[21] Carroll P. Streeter, Colombia: Agricultural Change; the Men and the Methods (N.Y.: The Rockefeller Foundation, 1972), p. 41.

[22] For an excellent examination of the social impacts of the green revolution see Robert S. Anderson, "Imposing Food Science and Technology: The Case of South Asia and North America," in Transdisciplinary Studies in Science and Values, ed. William A. Blanpied and Betsy Kwako (Washington, D.C.: AAAS, 1976), pp. 143-174. See also, Pierre R. Crosson, "Institutional

Obstacles to Expansion of World Food Production," *Science*, 188 (1975), 519-524; and Harry Walters, "Difficult Issues Underlying Food Problems," Ibid., 524-530.

[23] Norman L. Brown and E. R. Pariser, "Food Science in Developing Countries," *Science*, 188 (1975) 593.

[24] Anderson, pp. 169-170.

[25] For an excellent examination of this changing perspective see, William S. Saint and E. Walter Coward, Jr., "Agriculture and Behavioral Science: Emerging Orientations," *Science*, 197 (1977), 733-737.

[26] Brown and Pariser, p. 593.

[27] John Steinbeck and Edward F. Ricketts, *Sea of Cortez: A Leisurely Journal of Travel and Research* (1941; rpt. N.Y.: Paul P. Appel, 1971), p. 181.

[28] Francis Darwin, ed., *The Life and Letters of Charles Darwin* (N.Y.: Appleton, 1887), I, 368.

[29] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 2nd ed., enlarged (Chicago: U. of Chicago, 1970).

[30] Ernst Mayr, "The Nature of the Darwinian Revolution," *Science*, 176 (1972), 981-989, 987.

[31] W. H. Murdy, "Anthropocentrism: A Modern Version," *Science*, 187 (1975), 1168-1172, p. 1168. For reader responses to this article see, "Letters," *Science*, 189 (1975), 593-596.

[32] Murdy, p. 1169.

[33] Ibid., p. 1172.

[34] Erich Fromm, *The Revolution of Hope: Toward a Humanized Technology* (N.Y.: Harper & Row, 1968), p. 66.

[35] Ibid., p. 67.

[36] Mark Twain, *The Adventures of Huckleberry Finn* (1884; rpt. N.Y.: Holt, Rinehard & Winston, 1948), pp. 3-4.

[37] Roderick Nash, *Wilderness and the American Mind*, rev. ed. (New Haven: Yale Univ. Press, 1973). This book provides an excellent examination of these attitudes.

[38] See Peter L. Berger and Thomas Luckmann, *The Social Construction of Reality: A Treatise in the Sociology of Knowledge* (N.Y.: Doubleday, 1966).

[39] Abraham Maslow, *The Psychology of Science: A Reconnaissance* (Chicago: Henry Regnery Co., 1969), p. 115. Although this is "primarily an effort within psychology to engage the conception of science so as to make it more capable of dealing with persons," (p. 5) this book is useful in understanding the approach to knowledge of the sciences in general. Chapter 11, "Interpersonal (I-Thou) Knowledge as a Paradigm for Science," is particularly pertinent to the present discussion.

[40] Ibid., p. 116.

[41] Lewis Mumford, "Summary Remarks: Prospect," *Man's Role in Changing the Face of the Earth*, ed., William L. Thomas, Jr. (Chicago: Univ. of Chicago 1956), pp. 1151-1152.

CHAPTER V

EDUCATION FOR ENVIRONMENTAL MUTUALITY

One of the fundamental objectives of environmental education (EE)[1] is that of preparing people who will be able to work toward the solution of our environmental problems. Fostering Mutuality is central to the solution of these problems. In the following pages I will examine the role that EE can play in fostering this value orientation.

There are three areas in which I will focus my attention. First, I will examine the underlying conceptual structure of EE and the place within it of education for environmental Mutuality. Then I will examine values education, an approach which is increasingly used in EE. I will propose that education for Mutuality be the values agenda that values education embrace. I will argue that it already embraces much of this agenda, and that the agenda is ideally suited to EE.

Third, I will examine a variety of approaches to EE which can help to foster the elements of Mutuality. I will describe a number of existing educational methods and content areas that are useful means of doing this. Since much of my teaching experience has been in undergraduate education, my attention will be directed largely to EE as it is implemented on the college level. (Environmental Education on the college level is often called environmental studies, and I will use the latter term in this sense.)[2]

The major goals of EE on both the college and pre-college levels are essentially the same, however, and the points I raise will also be relevant to elementary and secondary education.

The Place of Mutuality in Environmental Studies

Relatively little has been published in the areas of the philosophical foundations of, or curriculum development in environmental studies (ES), compared to the wealth of material available regarding EE in elementary and secondary education. Since their goals are similar, it will be useful to examine some of the literature of pre-college EE in an effort to understand what is, or should be, happening on the college level. Gary D. Harvey has conducted a detailed conceptual analysis of EE and proposed that:

> The precept (man-environment relationship) operationalized in a formal values-laden context results in the development of two criteria for differentiating what is, from what is not, environmental education. For a topic (used in the broadest sense) to be considered part of environmental education, it must meet both of the following criteria:
>
> 1. All three components of the precept (man, and relationship) must be present.
>
> 2. A human values component representing different positions relative to a man-environment relationship must be present.[3]

To this general description of EE he has added descriptions of three of its important educational objectives. They are stated in terms of the environmentally educated person; who must be literate, competent, and dedicated. Thus, EE attempts to create an:

> Environmentally literate person--one who posseses basic skills understandings, and feelings for the man-environment relationship.
>
> Environmentally competent person--one who is environmentally literate, and in addition, has the ability to apply, analyze, synthesize, and has values consistent with the man-environment relationship . . .
>
> Environmentally dedicated person--one who is environmentally literate and environmentally competent in the affective domain, and in addition, is characterized by a values system in which one acts consistently in a manner compatible with homeostasis between quality of life and quality of environment. The environmentally dedicated person is inferred to be able to operate at the highest levels of the psychomotor and cognitive domain as well as the affective.[4]

The Belgrade Charter, one of the founding documents of the UNESCO environmental education program, states similar goals. It proposes that:[5]

> The goal of environmental education is:
>
> To develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones.

Harvey's statements and that of the Belgrade Charter provide a clear image of what is EE, and I will accept them as the foundation of my examination of both EE and ES. When I write about these approaches to education, I am referring to programs which:

- are problem-motivated
- focus upon the interrelationships between people and their environment

- combine analytical, valuative, and action-oriented approaches in an effort to understand and improve upon our interactions with our environment.
- attempt to teach people to be environmentally literate, competent, and dedicated.

The statements which I have quoted make it clear that EE is not simply an approach to cognitive education. EE and ES also involve education in the affective and psychomotor domains.[6] Education for Mutuality falls largely in the affective domain, because it involves the formation of attitudes and values within the students. Education for a conscious awareness of Mutuality and mutualistic approaches to problems falls in the cognitive domain, and provides guidance for selecting the psychomotor activities in which we engage.

Since I will not be exploring mutualistic approaches to scholarship in any depth, my examination of education for Mutuality will be weighted toward affective education; toward teaching Mutuality, rather than teaching about Mutuality. Nevertheless, there is an important place for Mutuality within the traditional approaches to scholarship and disciplinary education. This will be hinted at in the following pages and has been demonstrated throughout this dissertation.

The analytical, valuative, and action-oriented approaches to ES define three central programmatic components, each of which deals with a different kind of problem and employs different modes of inquiry and action. The sciences can play a vital role in ES programs, particularly in what I call their analytical component. This part of ES is involved with establishing what are the dynamics of the bio-physical and socio-cultural systems, and of the interactions between the two. Also, it tries to assess what is the current state of these systems. It aims at both description and prediction, and includes both the natural and the social sciences. Historically, this component has played the central role in most ES programs; reaching the point at which, in many programs, environmental studies and environmental sciences have become synonymous. However, despite their great strengths, the sciences do have their limitations and must be complemented by the other two ES components.

The second part of ES programs is the valuative component. Description and prediction are not sufficient in themselves; we also want to determine what is good or bad, right or wrong, desirable or undesirable, healthy or pathological. These are questions which involve values and ethics, and are not readily amenable to scientific solutions.

The distinction between the analytical and valuative components is important, and substantive. As I mentioned in Chapter Two, David Hume pointed out that one cannot leap directly from a statement of what is, or is not, to one of what ought, or ought not. In other words, an analysis of the present state of affairs (what is) does not lead directly to a statement of what that state of affairs ought to be. In his Principia Ethica[7] G. E. Moore restated this understanding when he pointed out that one cannot equate the good (ought) with an object in nature (is). By "object in nature" he meant any phenomenon in nature, not just physical objects. He referred to the belief that the good is synonymous with an object in nature as the naturalistic fallacy. As an example of this kind of fallacious reasoning, he pointed to social Darwinism, which attempted to derive an understanding of what is ethical from an understanding of evolutionary principles.

The debate over the validity of Moore's conclusions has played a central role in the literature of twentieth century ethics. Arguments have been made both in support of and against the idea that such reasoning is fallacious. The very fact that there is such a debate should make us pause before we leap directly from empirical study into ethical pronouncements. The ease with which people are able to use scientific information to support their (often unconsciously) preconceived conclusions should also make us very cautious about the role of science in this area. We need to give careful thought to what we are doing when we are dealing with values and ethical issues.

When it comes time to evaluate our interactions with our environment and project alternatives we must refer to an image of what ought to be. The task of articulating this vision is better suited to the humanities, arts, and religion, than to the sciences. In projecting an image of what ought to be, they must work with an understanding of the limitations which bio-physical and socio-cultural processes place upon what is possible. Unfortunately, the humanities, arts, and religion have been slow to become involved in problems of this sort, and the valuative component of most environmental studies programs tend to be their most poorly defined and "mushy" aspect.

The third component of these programs is that of application. Once a situation has been analyzed and evaluated, the problem arises of how to use this information. The application component of ES programs deals with the application of knowledge and skills in an effort to affect change. Employing the knowledge of the human/environment dynamics developed in the analytical component, the students are prepared to actively change the world in order to make their vision of what ought to be, a reality. In the applications component they develop the technical and interpersonal skills necessary to act effectively.

These three components are closely interrelated. Application involves action on the basis of the understandings derived through analysis, guided by the values decisions made in the valuation component. In a similar manner, each component must be informed by the other two. What they have in common is their general area of study; the interactions between people and their environment (see figure 6).

An ES program must be examined to determine whether it includes these three components, and whether appropriate emphasis is given to each. This does not mean that a program must keep them separate from each other. It is possible, and often preferable, to blend them together within courses and other kinds of learning activities. At the same time, each part of the program need not include all three components. It is necessary that the overall ES program strike some sort of a balance among them. Just what emphasis will be placed upon each component will depend upon the particular program (e.g.; its special programatic emphasis, the interests and capabilities of its staff and students, the design of its curriculum, the resources available to it, the priorities of the sponsoring institution).

This view of ES provides a philosophical framework within which most of the traditional disciplines can be included. Environmental sciences, political science, engineering, anthropology, religion, philosophy, law, business and administration, to mention a few, fit within this scheme and need not lose their traditional integrity. It is important, though, that the people who are organizing the program be committed to creating a programmatic integration of these disciplines, and in teaching an understanding of this integration. This understanding is a part of

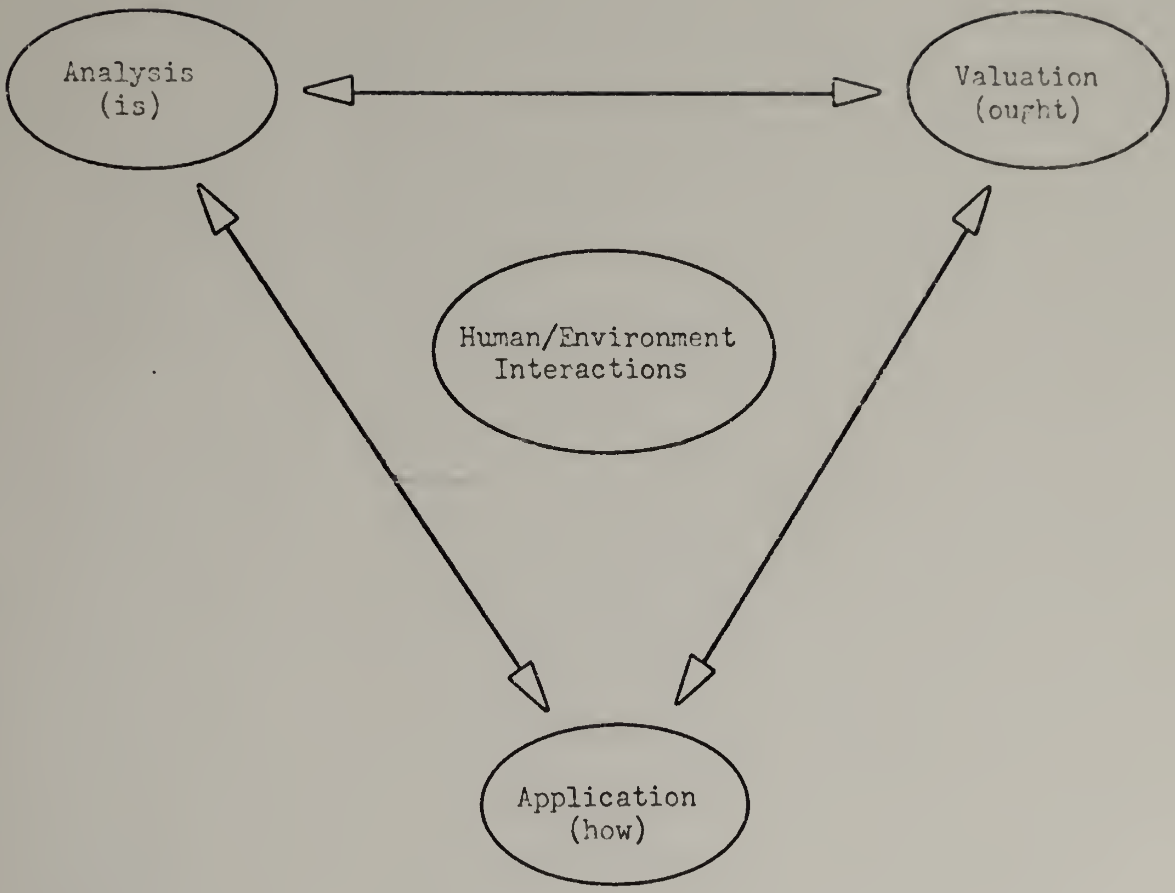

Analysis
(is)
Valuation
(ought)
Human/Environment
Interactions
Application
(how)

Figure 6. CONTENT COMPONENTS OF ENVIRONMENTAL STUDIES

environmental literacy in higher education. There is an ecology, an interrelationship of knowledge, understandings, skills, and disciplines which must be an integral part of the educational context of environmental studies.

Education for Mutuality can occur within all three components of ES. It is most obviously at home in the valuation component. On the affective level, teachers can help students to explore mutualistic value alternatives and, perhaps, incorporate them into their own values systems. On the cognitive level value issues can be critically analyzed in terms of Mutuality, and the value orientation itself can become the object of critical study. Mutuality can also be introduced into the analysis and application components. The ways in which we go about analyzing a problem or affecting change can strongly influence the results of the analysis or action. It will be useful, then, to explore mutualistic ways of conducting research and acting as change agents. Finally, Mutuality can be introduced not as a topic of study, but as an environment in which education takes place. We need to explore mutualistic ways of teaching, both in terms of pedagogical tools and interpersonal relationships between teachers and students.

Values Education and Mutuality

All ES programs of which I am aware include the analysis component, and a great many include application in one way or another. Most, however, do not include the valuation component as a consciously designed part of their curriculum. Although they do deal with values and ethical decisions, they do so in an unconscious, unreflective, and piecemeal manner. This may result, in part, from the fact that most ES programs are rooted in the natural or social sciences. The humanities have played a very limited role in ES to date. In addition, higher education places great value upon cognitive knowledge and tends to place little value upon affective education. There is, however, a growing number of teachers who are exploring the cognitive interface between ethics and the environmental sciences. There are, also, some teachers who are introducing affective approaches to values education into their classroom.

The valuation component is a difficult one with which to work. It involves both an objective examination and questioning of our values, and making decisions as to which values we will embrace. It is necessary that we strike a balance between the objectivity necessary for thoughtful study and the passionate valuing which leads to action. Both aspects of the component are essential to ES.

Many teachers do not want to deal with values in the classroom, because they do not want to take the responsibility for teaching a specific set of values to their students. We live in a pluralistic society and people are justified in their fear that the values of one segment of our society will be taught at the expense of those of other parts of our society. In addition, most teachers simply do not know what values ought to be taught. At the same time, we must face critical environmental problems which influence all elements of our society. There are significant value issues which lie at the heart of these problems and we cannot deal with them by ignoring them. We need to find ways in which to work with values in education, while maintaining a respect for our cultural diversity. This is an important issue, which I will explore in greater depth.

Inherent in the EE and ES goals of fostering environmental awareness, competence, and motivation is the need to help students to articulate what kind of an environment they value and wish to either preserve or create. The Belgrade Charter points to this need when it states that one of the goals of environmental action is, "For each nation, according to its culture, to clarify for itself the meaning of such basic concepts as 'quality of life' and 'human happiness' in the context of the total environment, with an extension of the clarification and appreciation to other cultures, beyond one's own national boundaries." Within this statement is the central issue of environmental values education. There is the necessity of articulating values by which tolive, and there is the injunction to respect the values of other people, which may differ from our own. But how far can we go with ethical relativism? At the bottom line, someone else's actions can affect my environment and, potentially, threaten my life. Their values, then, are not simply a personal matter; they can have an impact upon me. The tension between the recognition of the social importance of values and the desire that they be articulated on an individual level pervades contemporary values education. There have been a number of attempts to deal with it, of which I will examine three.

The use of the word "clarify" in the Belgrade Charter statement is significant, because it might be a reference to a specific values education technique called "values clarification." This method places its emphasis upon the valuing process, rather than upon teaching what one ought to value. The wide variety of values clarification activities which have been developed often involve students in listing or inventorying their values, rank ordering them, and examining them in a number of ways. In addition, students are often asked to state their value positions regarding thorny situations which involve significant values conflicts with no clearly right or wrong solution. The teacher's role is that of helping the students to recognize, or clarify what are their values. During this process the teacher can speak with authority in areas of truth or falsity, but not in those of belief or values.

Louis Raths, a principal developer of values clarification, and his colleagues define "value" in terms of seven criteria, which emphasize the ways in which values are chosen and the ways in which the chooser feels about them and acts upon them.[8]

Choosing: (1) freely
(2) from alternatives
(3) after thoughtful consideration of the consequences of each alternative

Prizing: (4) cherishing, being happy with the choice
(5) willing to affirm the choice publicly

Acting: (6) doing something with the choice
(7) repeatedly, in some pattern of life

An advantage of this definition is that each of the criteria can be stated as an educational objective which can be acted upon and evaluated.

Values clarification is a useful, successful method for helping students identify and ponder their values. The technique can be integrated into a wide variety of educational situations, and students generally enjoy participating in the process. It takes advantage of their interest in themselves, is non-threatening when properly used, and is fun. As an added bonus, the process appears to be value free (an impression which is incorrect). As a result, it has been used widely on the elementary and secondary levels, and is beginning to be used on the college level.

There are, however, some problems with it. An important problem arises out of its very successfulness. Since it works so well and is rewarding to both students and teachers, it is easy to lose sight of its limitations. Although values clarification is an important beginning, it is just that-- a beginning. Once one has identified one's values, what is the next step? Rodney Allen has pointed out that, "the educator cannot arouse such awareness and let the student hang there, especially if that student is dissatisfied. An adequate study would have to go beyond that point, to help students explain how persons develop values, how values operate in one's life, and the implications of a variety of values for decisions and lifestyles."[9] He has also noted that the ethical standard of values clarification is that of being happy with one's choice. Is this, however, a good standard and should teachers teach only one standard? "Values education in a public institution must deal with the rich variety of human commitments and a spectrum of approaches to ethical discourse, not restrict or approve only certain approaches and religious-philosophical commitments. . ."[10]

A fundamental presupposition of many values clarification advocates seems to be that people are inherently good, and once we clarify our values sufficiently we will behave in an ethical manner. There also seems to be an assumption that, despite the heavily individualistic approach to valuing, people who have sufficiently clarified their values will interact in a socially ethical manner.[11] This would resolve the conflict between social responsibility and individualistic valuing. However, although there may well be some abstract universal human value needs (as the research of Abraham Maslow seems to indicate), the assumptions of values clarification advocates seem to be simplistic and to lack a cross-cultural perspective. We learn values, in large part, through the processes of socialization and enculturation. Values clarification may only help us to clarify our positions within this context. I do not believe that a personally clarified value is necessarily ethical, or that individual values are necessarily compatible with either social values or ethics. I believe that values clarification can be most successful when the people in question share similar cultural backgrounds and have been socialized to accept similar ethical standards.

Lawrence Kohlberg has developed an approach to education, which he believes does deal with culturally universal moral processes, and he has conducted cross-cultural studies which support his point. He, too, focuses upon process, rather than content. He has identified six developmental stages in moral reasoning.[12]

LEVEL		STAGE
	0.	Amoral Stage. Prior to understanding the idea of rules and authority, "good" is what is pleasant, exciting, non-painful and non-fearful. The person does what he can do and wants to do.

I. Pre-conventional	1. Obedience and Punishment Orientation. The person defers to power or authority. This is a trouble avoiding mind-set.
	2. Naively Egoist Orientation. Right action is that which satisfies one's desires and needs. The person talks of "rights" and motives, and believes that one good turn deserves another. This is a marketplace, exchange, or "back scratching" sense of morality.
II. Conventional	3. Interpersonal Concordance Orientation. Correct behavior is that which wins approval from others--it fits what others think is proper. Empathy with others becomes a factor in moral reasoning.
	4. Law and Order Orientation. Good is that which is best for society, the majority, and the social order. It is codified in rigid, institutional laws, rules and principles, which one must obey.
III. Post-conventional	5. Social Contract, Legalistic Orientation. Right action is defined in terms of general individual rights and principles which the society approves of in its basic notion of the "social contract." Laws should be obeyed, but one can work to change laws which one does not believe are right.

6. Conscience or Universal Principles Orientation. Right action is defined in terms of individual conscience. One is guided by a set of self-chosen, abstract principles and commitments.

These are stages in the development of our ability to reason about moral issues. As infants we all reasoned on level one, and progressed from one stage to the next as our moral reasoning matured. In Kohlberg's view, this is a universal, invariable sequence in our psychological development. We cannot get to stage five, for example, without first progressing through stages one, two, three, and four in that sequence. His studies seem to demonstrate that this is true of all cultures, although the average age at which one begins to reason in terms of each stage may vary from culture to culture. Although the moral content may vary between cultures, the reasoning process does not.

Kohlberg believes that the teaching of morals is not linked to the teaching of a particular belief system.[13] He proposes that moral education involves both stimulating the students' moral judgment abilities and helping the student to apply those judgments to his or her own actions. The teacher must identify the students' present stage of moral reasoning and then challenge the student to reason in terms of the next highest stage. This is important, because the sequence of stages cannot be varied. If the teachers reasons on the basis of a level below that of the student, the student's development will be retarded. Similarly, reasoning on a level two or three stages beyond that of the student will only create frustration.

Implicit in Kohlberg's theory is the belief that the more abstract levels of moral reasoning are better than the earlier ones. This seems to be derived from his belief that there are universal moral ideals. Thus, the more abstract our moral reasoning, the closer we can come to understanding these ideals. He believes that these ideals are generated internally within the individual and are not the product of socialization or enculturation. He also believes that, "Basic values are different largely because we are at different levels of maturity in thinking about basic moral and social issues and concepts. Exposure to others more mature than ourselves helps stimulate maturity in our own value process."[14]

Although I believe that there is great merit in his developmental scheme of moral reasoning, I hesitate to accept his views of its implications in terms of universal moral ideals. He believes, for example, that one of the universal moral ideals is "justice or reciprocity."[15] This seems to be close to the idea of Mutuality. Are there, then, also universal moral ideals of Domination and Submission? I suspect that what he is doing is filtering his observations through his own presuppositions about what is and is not ethical. And even if there were a universal ideal of justice, each culture is likely to interpret what is a just act in its own way, thus frustrating his search for universality.

I suspect that there are greater similarities between values clarification advocates and Kohlberg than either would wish to admit. Both seem to ground their theories on the assumption of a universal, intuitive sense of what is ethical. Values clarification deals with this primarily on the affective level. Kohlberg, on the other hand, emphasizes a cognitive approach. They seem to have the potential of complementing each other quite well.

Rodney Allen has attempted such a synthesis, and has added a few elements of his own. The result is a much more complex and subtle approach to values education, which includes the analysis of value statements and a systematic approach to moral decision making. The most complex and comprehensive of his processes involves leading the student through nine phases in making a decision. First, the student attempts to clarify and comprehend a situation, then states the issues and conflicts which it involves. The third phase involves trying to emphathize with each of the people involved in the conflicts, which requires that the student attempt to overcome his or her own biases. The next phase is that of stating the intentions or goals of each party. Then the student tries to lay out the alternative courses of action which are open to each party, and predicts their consequences. Seventh, the student considers the specific acts necessary to bring about the consequences, then makes and justifies his or her own decision. Finally, the student examines the consistency of his or her decision with respect to the decisions which he or she had previously made.[16]

Allen's approach also emphasizes the valuing process, rather than specific values. The student is the source of the value content and Allen does not help us in our attempt to decide what values should be taught. He does, though, place a strong emphasis upon an empathetic understanding of other people and their values and needs, and he requires that students articulate their own values within a social context. This is an important contribution. His approach is still heavily cognitive and, thus, is of more limited value with children. It is, though, very useful on the college level and provides a systematic method for dealing with values conflict with regard to environmental issues.

The teacher's role in values education is a sensitive one. The teacher must help the students to engage in the valuing process, but must not impose his or her own values upon them. People may state specific values either out of compliance, identification, or internalization.[17] Values which are stated out of compliance are adopted in order to gain approval or some other social reward, but they do not reflect a personal belief. We may also identify with the values of another person or group. Although we may actually believe in these values, they are important to us because of our identification and desire to establish a relationship with the person or group. Their specific content, however, is not particularly important. We internalize values when we find them to be intrinsically rewarding. Here it is their content which is significant to us. A goal of values education seems to be to help students to thoughtfully develop their own internalized system of values. It is very important, then, that the teacher not impose his or her value system upon the students in order to avoid their adopting them through either compliance or identification.

Does this mean that teachers should not try to foster specific values? I think not, but the problem becomes, "what values should we teach?" Values clarification and Rodney Allen have avoided the issue by placing the valuing responsibility upon the student. Kohlberg, on the other hand, has made the specific proposal that the public schools should teach the moral value of "justice."[18] He argued that justice is a socially pluralistic value, and that it does not necessarily favor either minority or majority social groups. In addition, it is central to our country's political system. There is merit to his argument. Justice is a wide-ranging concept, which can be applied to a variety of value issues and conflicts. In addition, it can be embodied not only in the overt educational content, but also in the educational process employed by the teacher. On the other hand, is the teaching of justice in keeping with the objective of helping students to internalize their own values? Kohlberg might argue that it is, because justice is a universal moral ideal, which will emerge within the mature person. I, however, believe that it is more a matter of how justice is taught. It must be taught in a manner which is mutualistic, rather than dominating. Indeed, the idea of justice can be subsumed under that of Mutuality.

I propose that values education not attempt to teach specific values, but that it attempt to foster the value orientation of Mutuality. If its educational objective is to help students to develop their own internalized system of values, then teaching methods must be employed which discourage both compliance and identification. The values which underly the educational process should promote what is in the welfare of the students, rather than the selfish interests of the teacher. In other words, they should be mutualistic in nature.

Mutuality is particularly appropriate in ES programs, because the very world which they study is problematic and in a state of change. There are few clearly defined solutions to the multitude of complex ES issues, and the teacher cannot assume the role of a deliverer of certain knowledge. It is important, then, that the guiding programmatic values be amenable to open, mutualistic learning on the part of both the students and the teachers. In addition, as I have argued in the earlier chapters of this dissertation, the solution to our environmental problems depends, in part, upon enhancing Mutuality. One of the goals of ES is to prepare students who will be competent to work toward the solution of our environmental problems and, if my argument is valid, these programs should help students to internalize the value orientation of Mutuality.

This approach also resolves the tension between social responsibility and an individualistic valuing process. Mutuality does not emphasize the group at the expense of the individual, or the individual at the expense of the group. It places value upon the welfare of all parties involved in an interaction. In Florence Kluckhohn's scheme (see Chapter One), the value orientation of Individualism is Domination on the level of interpersonal relationships. The tension in values education, between mutualistic goals and a dominating valuing process, becomes understandable. I believe that the best of educators have tacitly resolved the problem in their own teaching by teaching Mutuality, and teaching mutualistically.

In order to educate for Mutuality we need to introduce the value orientation into all of the values loci of a classroom. Much of the concern about values in education is based upon the fear that the teacher will impose his or her values upon the student. Here we have two important values loci; the teacher and the student. Values, however, may also be inherent in the discipline, or content being taught. Science, for example, is based upon a cluster of values (e.g.; objectivity, predictability, and reproducibility) which the student must learn in order to be able to do science. In addition, there are values inherent in the educational process, or methodology being used. There are, for example, considerable differences between the values underlying teacher-centered and student-centered, or inquiry-based and rote-memory approaches to education. These values loci, which represent educational loci in the classroom, are also influenced by the institutional setting within which they are located. This, in turn, is influenced by the society and culture of which it is a part (see figure 7).

The values agenda, or hidden values curriculum of a classroom or other learning situation is the product of the interaction between the four loci and their institutional setting. An analysis of the values of individual loci, or of the institution will not necessarily reveal what is the values agenda of a program. The inquiry values inherent in the sciences, for example, can be lost in an educational process which emphasizes the unquestioning

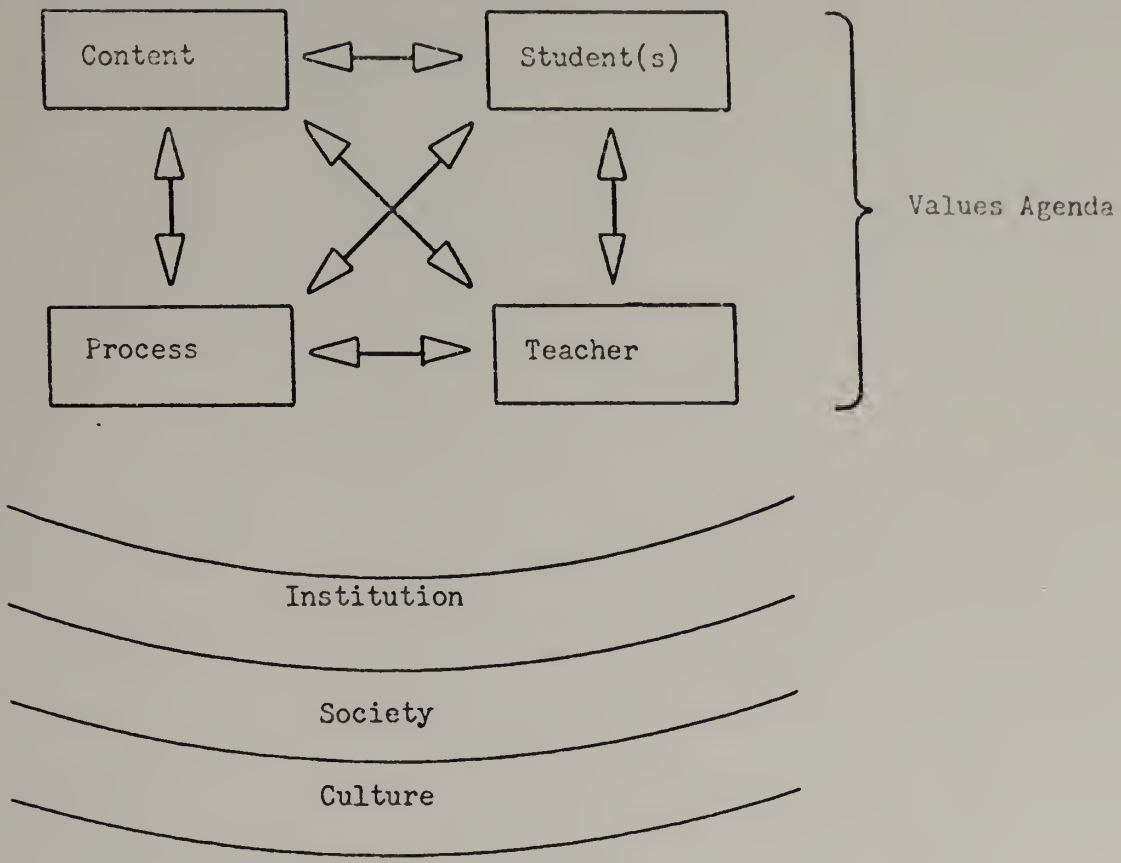

Content
Student(s)
Process
Teacher
Values Agenda
Institution
Society
Culture

Figure 7. ELEMENTS WHICH CONTRIBUTE TO THE VALUES AGENDA

memorization of facts. As another example, the teacher's values may be of little significance in the face of student peer pressure. The full interaction of the values loci and their institutional setting, the values ecology of the situation, must be taken into account if we wish to understand what is being taught. Similarly, we cannot effectively teach specific values without including the full values ecology in our planning.

I propose that teachers of environmental studies work to include Mutuality as a fundamental part of each of the loci of values education. As I have already argued, the process and methods of education should be mutualistic. The educational content should include mutualistic interpretations of and approaches to the solution of environmental issues. The teacher is in a central power position and should be motivated by the value orientation. The students should be included as coparticipants in a mutualistic process of designing and conducting ES programs. We need, also, to develop mutualistic educational methods, EE and ES texts and educational materials which include mutualistic views of environmental issues, and programs for preparing teachers to teach in a mutualistic manner. The objective is to create a values agenda which is mutualistic and which will help students to internalize the value orientation. This will not be an easy task, given the strong Domination orientation of our institutions, society, and culture.

Approaches to Teaching for Mutuality in Environmental Studies

Values education is one way of dealing with Mutuality in ES. There are other ways in which education for Mutuality can be introduced into the analysis, valuation, and application components of ES, and into the values loci. In the following pages I will examine the elements of Mutuality in an effort to suggest questions, issues, methods, and content which should be considered by teachers, program planners, and educational administrators. My focus will be upon environmental mutualism, but it will also be necessary to touch upon social mutualism.

Education for Mutuality is not just values education. A value orientation is not a specific value; it is an orientation, an attitude of predisposition to chose certain kinds of values and, thus, actions. The mutualistic elements of being a part of a meaningful whole, openmindedness, and promoting the welfare of others are more evocative phrases than they are a descriptive definition. Mutuality is, essentially, a valuing style. It is, then, very difficult to teach, and formal modes of education play a relatively limited role in the process through which it is learned. However, a carefully designed educational environment may help to foster it. All of the parts of the ES program should complement each other.

For example, if we want to help students to feel a sense of meaningful relatedness to a larger whole, be it a local community, humankind, or the ecosphere, there needs to be a congruence between the ethos and the world-view which we teach. What is the educational message in a weather map which includes only the political boundaries of our own country, and on which all meteorological activities terminate at these boundaries? Weather patterns are not determined by political patterns. Should not the boundaries of the maps which we see on television and in newspapers be determined by the weather? This would provide an holistic view of weather, and would demonstrate the meteorological commonalities among nations. But most people are only interested in what the weather will be like in their own little fragment of the world. The maps which we commonly see foster a world-view of political and meteorological isolation, rather than wholeness. If we try to foster attitudes and values which embody wholeness and a world-view based upon fragmentation, we are likely to create an ethos and world-view which are alienated from each other. Each should be compatible with, and supportive of the other.

If Mutuality can only exist within a meaningful whole, then ES must help students to deal with the question of what is the whole of which they are a part. If the answer to this question is to be truely meaningful to each student, then it must be answered by the whole person and not by only his or her cognitive self. A number of traditional disciplines help to foster a holistic world-view; for example, geology can give us a perception of our place in time, ecology our place in the living system, astronomy our place in space, and anthropology our place in the human family. Most of the courses in these fields, however, teach only the facts and modes of inquiry, and do not explore the students' feelings about these views of their world. Introducting an affective component into these courses would be useful in helping students to internalize these views.

Abraham Maslow has pointed out the difference between extrinsic and intrinsic learning. Extrinsic learning is content oriented and is based upon the goals of the teacher. It is external to the learner and impersonal. Intrinsic learning is based in the learner, and deals with personal experiences and values.

> These learnings are unique instances, not the results of drill and repititions. In my life I think of the death of my father, the birth of my children, and of my grandchild, as such moments. In such experiences do we discover who we are, what we are, what we might become.
>
> In this realm of intrinsic learning, intrinsic teaching, and intrinsic education I think that the arts, and especially the ones that I have mentioned [music, art, dancing and rhythm], are so close to the psychological and biological core, so close to this identity, this biological identity, that rather than think of these courses as a sort of whipped cream or luxury, they must become basic experiences in education.[19]

The individual artistic and poetic experience of our environment is important and should become a legitimate part of ES programs. The arts and the sciences deal with two different facets of human experience which must be united in our exploration of our environment. If they are split and isolated from each other, then our understanding of ourselves in our environment will also be split and fragmented.

One of the courses I teach at Hampshire College, called "Views of Nature," is designed to help students to understand the different ways in which people perceive their non-human environment. It is centered around a number of books by nature writers. As a part of the course the students write essays or poems about their own experiences in nature which try to evoke what was personally meaningful about the experiences. This has been one of the most successful parts of the course. It helps them to identify and understand, on both affective and cognitive levels, those aspects of their environmental interactions that are personally important. In addition, their experience as people reflecting upon nature, and as writers, helps to inform their reading of the nature writers. As an unexpected outcome, a number of students who were supposed to be poor writers did some fine work. It would be interesting to experiment with introducing this approach to our environment into a traditional ecology course.

The scientific view of the world, although of enormous importance to ES, is not able to provide a personally meaningful view of our environment. It must also be integrated with the history and inner life of the students. Harvey Cox has stated that, "All human beings have need to tell and hear stories and to have stories to live by. Religion, whatever else it has done, has provided one of the main ways of meeting this abiding need."[20] As he sees it, stories unite one's history, emotions and values. Currently there is a great deal of interest in ancient myths and religions. This interest may be based, in part, upon the desire to find a personally meaningful story, or understanding of the world. There have also been a number of recent books, which have combined new findings in animal behavior and human evolution with a lot of speculation in an attempt to explain the roots of human behavior. These, too, can be viewed as attempts to develop new mythologies. Myth and religion provide the linkage between ethos and world-view, and it will be useful for ES to explore this avenue.

Environmental studies programs should provide models for holistic approaches to our environment. Where, though, is there a program which integrates the sciences, arts, humanities and religion? The issues and themes associated with our interactions with our environment, and the educational approaches to Mutuality are so broad and far ranging that they appear to cut across all academic disciplines. No program can handle it all, and each must employ its own philosophy and standards of selection. We need, however, to give greater breadth to ES programs. Environmental educators have frequently been criticized for focusing upon the non-human environment and avoiding our social environment. Similar complaints can be made about many ES programs. The extent to which these complaints are true is a measure of the extent to which such programs are failing to meet the objectives of environmental studies.

There is so much information available to us that we cannot conceivably deal with it all and must, necessarily, be selective in what we study. Specialization is a principle of selection which limits the field of information with which a person must remain current. However, this can also lead to a narrow, fragmented view of the world. We need to develop other, equally legitimate principles of selection, which will help us to avoid fragmentation in our understandings. If this is to happen in higher education, we must also develop more meaningful definitions of academic rigor. The National Conference on Environmental Studies Programs in Higher Education has made the following recommendation. "We recommend a redefinition of 'rigor' as it applies to interdisciplinary studies. Perception of broad implications is at once 'rigorous' and conducive to the inculcation of precision, intensity, and depth of analysis. Interdisciplinary environmental education need not apologize on the grounds of 'rigor.'"[21] The definition of a rigorous education should also be extended to include affective approaches to knowledge.

The need for openmindedness, which includes humility and freedom from self-interest, in education for Mutuality underscores the need for a broader definition of rigor. Openmindedness is central to academic rigor, yet teaching openmindedness involves far more than either cognition, or any single academic discipline. At its extreme, it is not simply an educational problem, but a therapeutic one as well. Lawrence Kubie has argued that our neuroses distort our perception of the world around us and our choices of actions. What we create in our world, then, reflects our neuroses. We must deal with the neurotic aspects of ourselves if we are to become openminded and free of self-interest. "Without self-knowledge in depth we can have dreams, but no art. We can have the neurotic raw material of literature but not mature literature. We can have no adults, but only aging children who are armed with words and paint and clay and atomic weapons, none of which they understand.[22]

Education for Mutuality must include education for self-knowledge. This sort of psychological education,[23] however, is not generally well regarded by the academic community, and it is not likely that many people who are teaching in the traditional disciplines will become involved with it. There are many students who are willing to engage in such an exploration, if the opportunity were made available to them. Many of them are finding informal opportunities when formal ones are absent. We need to strenghten psychological education in our colleges and develop techniques which are particularly appropriate for working toward Mutuality; including techniques which deal with our personal relationship with our non-human environment as well as with other people.

It is not just our students who need to engage in this sort of learning. We, the teachers, also need to deal with our own neurotic processes, and need to gain insight into our own motives and interests. Maslow has pointed out that, "Teachers and other kinds of professionals suffer from having been indoctrinated into a mastering, manipulating, controlling outlook toward nature, toward people, especially toward children." He felt that the best people to assume a helping role are those who are the most emotionally and physically healthy and mature, because, "The better person you are, the less neurotic you are, the less need you have to manipulate, control, and force people into imitations of yourself rather than help them grow in their own style."[24]

A note of caution: The line between psychological education and psychological therapy can be difficult to identify, and there is a potential for the improperly trained teacher to do real harm to the student. Although therapy may be complementary to, and inseparable from education for Mutuality, it is not the task of the educator.

The easiest way to approach the issue of openmindedness in higher education is through the selection of the traditional educational content. This involves including a diversity of viewpoints in what is being studied, rather than filtering it through a particular political, class, ethnic, sexual, economic, or other limiting perspective, and helping the students to gain an empathetic understanding of these different views. The efforts to introduce feminist and Third World interpretations of history provide examples of this approach. In education for environmental mutualism, we can attempt to introduce historical and multi-cultural perspectives on the diverse ways in which people have interacted with, valued, and understood their environments. In addition to providing a more holistic view of the topics, this approach may help students to gain insight into the nature of their own interactions, values, and understanding; both through the recognition that there are alternative approaches, and by being forced to articulate and examine their own deeply held presuppositions.

The "Views of Nature" course, which I mentioned earlier, was designed primarily with this objective in mind. It is based upon the assumption that part of what we see in nature is a reflection of ourselves, because we psychologically project ourselves upon what we are viewing. This is particularly true in nature literature, which explores the author's experience of nature. We read books by Loren Eiseley, Annie Dillard, Henry Beston, Aldo Leopold, Edward Abbey, and Sally Carrighar, and some biographic pieces about them. One focus of class discussion was the similarities and differences between the views of nature which the authors reported, and the students' personal responses to those views. The students also had the opportunity to explore and become aware of their own views by doing some nature writing of their own. Although this sort of course does not necessarily teach openmindedness, it does encourage self-awareness, which is a first step toward openmindedness.

I have also helped to teach a workshop in lifestyles, which provided students the opportunity to examine their own style of living and project alternatives which they wish to explore. In addition, it strongly encouraged them to examine their own assumptions and biases about how one ought to live. Between class meetings the students either critically examined or tried to alter an aspect of their way of living (e.g.; diet, transportation, what they did with their time, images of their ideal homes, and patterns of consumption). Class discussions focused upon their experiences during the week, and encouraged divergent points of view (something which is not always easy, considering the interests of the students who would register for such a course). We also read and discussed a number of popular books about lifestyle, and some articles critical of the views expressed in those books.

The "American Literary Landscape"[25] course offered at Hampshire College provides another example of this approach to teaching. The course examines the cultural history of the image of landscape in the American mind. It provides an historical perspective on our changing understanding of what is our landscape and how we ought to interact with it. In addition to providing traditional academic rigor in American Studies, the course includes educational methods which encourage the students' affective exploration of their personal landscapes and sense of place. The course provides a model for integrating cognitive and affective education on the college level. It is remembered as a significant educational experience by many students, because it encouraged their first awareness of their own culture-bound presuppositions about their environment.

College teachers, however, tend not to engage in either interdisciplinary or affective approaches to teaching. Harvey

Cox has pointed out that, "Like other people, academics are hesitant to stray from fields where they feel they are more or less masters into questions on which they would have to give up any pretense to omniscience . . . Only when people are freed from the need to control and master can they run the risk of admitting they are not omnipotent."[26] Education for Mutuality requires that teachers be able to interact with students as co-learners and not employ what Paulo Freire called the banking concept of education. This requires that they recognize their own limitations, that they are not and need not be omnipotent, and that teaching can also be a learning experience. In other words, it requires a degree of humility.

Both the Global Survival Freshman Year Program at the University of Massachusetts, Amherst, and the Environmental Studies and Public Policy Program at Hampshire College have embraced the concept of teacher and student as co-learners.[27] This has been embodied both in the ways in which teachers and students interact with each other, and in their programmatic design. The design of both programs has provided the flexibility necessary to allow students to play an important role in program planning, designing and teaching courses, program evaluation, and the day-to-day administrative details. As a teacher in both of these programs I have seen the exceptional efforts which the students invested in this approach to learning. I have also seen the maturing effect it has had upon those who have been most closely involved in the general planning and operational details. For many students, the boundaries between learning, the content learned, and the other aspects of their daily lives began to become less distinct; they began to become affectively integrated. The teachers' experiences were similar. No effort was made to sacrifice traditional academic rigor. What we did try to sacrifice was the narrowness and will-to-master, which can become crutches of insecure teachers.

I have been writing of humility as it relates to social mutualism, but we also need to foster humility with respect to our environment. On this level, humility may be fostered through our efforts to teach the view of our place in time, space, ecosystem, and the human family, which I have already suggested might help us to develop a sense of our place in a meaningful whole. We are, each of us, part of a universe of time, space, life, and people which is far greater than we, and of a complexity beyond our full comprehension. This awareness can be humbling if properly taught. We should be careful not to make this vision a fearful one, because the desire to control may be born of fear.[28] If this is taught not as a view which is overwhelming and fearful, but as a view of an awe-inspiring universe of which we are a meaningful part, then we may be humble before a world of wonder.

Many people have spoken or written of the importance of a sense of wonder to EE. In her fine book, The Sense of Wonder,[29] Rachel Carson emphasized the importance of a child's sense of the wonder in nature and the necessity of cherishing and preserving that sense in one's adult years. There should be a place for the wonderful in ES, and an effort should be made to foster the growth and expression of this sense in students. But wonder cannot be turned on and off like a light bulb. The teacher can share his or her own wonder, and try to create situations in which the students will also wonder at their environment.

The sense of wonder can be stimulated on different levels of abstraction. Some people, for example, can be captivated by the beauty, elegance, and endless ramifications of a mathematical description of a subatomic phenomenon. Others are awe-struck by the astronomical view of a cosmos in which stars are continually being born, maturing, and dying in an ever expanding universe. In terms of education for Mutuality it is important that such views be integrated into a sense of a personally meaningful whole. For this reason, perhaps the majority of people find wonder in less abstract, physically involving experiences. Take, for example, Edward Abbey's description of a huge stone arch in a Utah desert.

> If Delicate Arch has any significance it lies, I will venture, in the power of the odd and unexpected to startle the senses and surprise the mind out of their ruts of habit, to compel us into a reawakened awareness of the wonderful--that which is full of wonder.

> A weird, lovely, fantastic object out of nature like Delicate Arch has the curious ability to remind us--like rock and sunlight and wind and wildness--that *out there* is a different world, older and greater and deeper by far than ours, a world which surrounds and sustains the little world of men as sea and sky surrounding and sustain a ship. The shock is real. For a little while we discover nothing can be taken for granted, for if this ring of stone is marvelous then all which shaped it is marvelous, and our journey here on earth, able to see and touch and hear in the midst of tangible and mysterious things-in-themselves is the most strange and daring of all adventures.[30]

Abbey emphasizes the importance of the unexpectedness and novelty of the sight. It has the power to shake the viewer out of everyday, stereotyped seeing. Unfamiliar sights, or familiar things seen in new ways have special ability to kindle wonder. It is also important that the experience be as fully involving as possible, so that one experiences without detaching oneself from the experience and examining it. Many EE, and some ES programs include outdoor activities which provide an opportunity for this sort of experience. A special effort should be made to facilitate such wonder-full activities.

One summer I helped to lead a group of summer campers on an overnight hike up one of the mountains in New Hampshire's Presidential Range. This was the first time that many of the boys had climbed a mountain, and one of them did not want to be there at all. He was a city boy from the Bronx, although everyone called him Brooklyn. He was overweight, uncomfortable in the outdoors, and often made fun of those who enjoyed themselves in the woods.

"Bird watchers" he called them, with a sour expression on his face. After hours of hiking we reached an empty cabin and decided to stop for the night. He removed his pack, dropped it to the ground, and sat on it exhausted and grumbling. After a while he and some of the others stared down into the valley and made amazed remarks about the fact that they had walked all that way.

It was late and the sun was beginning to set. We all stood watching the sky redden as the sun sank to the horizon. The colors were incredibly deep and bright. Shortly before it set, the light reflected off the surface of a distant lake, which rested between us and the sun. Suddenly there were two blinding red stars, one above the horizon and another in the valley. The one in the forest burned brighter and brighter, then faded, and the sun set.

We stood quietly in wonder, then the group slowly broke up. Brooklyn remained there in silence, crying. He did not say much for the rest of the night. He got up early in the morning and saw the sunrise reflecting off the dew covered forest canopy, each tree a flame.

The next summer Brooklyn returned well read in woodcraft, a little less heavy, and eager to be off. He had spent the winter reading everything he could find about hiking, camping, and other outdoor activities. In the following years he became one of the best outdoorsmen in the camp and shared his skills and appreciation with others.

Although it does not fully account for the change, his first experience on that mountain was a turning point in his attitude toward the outdoors. He had a full affective, cognitive, and psychomotor experience which, although it was initially uncomfortable, became personally meaningful and valuable. The experience, though, did not lead to a passive sense of humility. It led to a positive valuing of that kind of experience, environment, and activity. We tend to value that with which we have had a positive experience, and the more fully we experience it, the more deeply we value it. We should work to include intense positive experiences of our environment as a part of ES.

We need to reestablish contact with our non-human ecological environment. We need to regain an experiencial understanding of the cylcical patterns of night and day, growth and decay, weather, and the multitude of other phenomena from which our built environment has isolated us. Outdoor education provides some valuable techniques for doing this; two of which I will mention briefly. Steve Van Matre's method, "acclimatization," places strong emphasis upon direct sensory involvement with the environment. He asks educators to involve their students in "the most sensory experiences imaginable: mud baths, bog crawls, marsh wading--and let's do it at times blindfolded or ear-plugged--with all of our senses in total operation: taste, smell, touch, sight, and sound."[31]

This is a strongly affective approach to EE, although a good deal of cognitive learning also takes place. It was originally designed for use with children in summer camps, but is finding its way into elementary school level EE. Some of its methods can be adapted for use with much older students.

Another approach, called the 24-hour experience, can be readily used with all ages.[32] It employs a variety of outdoor education methods within a 24-hour formate. Participants rest during short catnaps, but they are essentially active at all hours of daylight and darkness. The unusual formate promotes an intense learning experience, and provides an opportunity to become directly aware of the daily cycle of events in nature. There is enough flexibility within the formate to tailor a trip to meet a variety of EE and ES objectives.

Adventure education is a popular and rapidly growing field of outdoor education.[33] It brings students into an intense experiencial involvement with the outdoors environment and, thus, may be of considerable value in ES. It generates a great deal of enthusiasm on the part of students, can be used in a variety of educational contexts, can be a valuable tool in group-building, and seems to be of value in helping participants to develop self-confidence and a positive self-image. Although a growing number of people are beginning to perceive adventure education as synonymous with environmental education, this is not necessarily the case. It can play an important role in EE and ES, but care must be taken not to lose sight of their goals as a result of the enthusiasm generated by adventure education methods.

A number of people have been concerned about the way in which some adventure education programs use outdoors experiences to improve participants' self image, and cooperation within groups. Stated simply, some programs are based upon the belief that this happens when individuals and groups face and overcome adversity. In this case, the adversary is a difficult or hostile outdoors environment (e.g.,; climbing a rock face, hiking through difficult terrain, camping in bitter cold, and canoing or crossing a raging river). This approach is a militaristic one in which individuals develop self-confidence, and groups of people learn to cooperate through the effort to dominate the environment. To what extent, though, is this attitude necessary in order to accomplish the programmatic objectives? Many successful adventure education programs do take a much less dominating approach to nature, and it is unfair to dwell overlong upon this issue. We must, however, be continually aware of what value orientations underly our teaching.

The issue of mutualistic means and ends is not limited to the relationships between teachers and students. It is also relevant to the ways in which they interact with non-humans. I recall, for example, at time when I was a lab assistant in a freshman biology course. We were studying the circulatory system and I had to set up a demonstration of a living heart. I anesthetized a large turtle, placed it on its back in a dissecting pan and tied down its legs; each appendage stretched out toward a corner. Using a hole saw mounted on an electric drill, I cut a 2-3 inch hole through its plastron into the chest cavity. Bone fragments collected like sawdust and the cut smoked from the friction of the spinning blade. Many of the women were squeamish and made faint, by shrill protests on behalf of the animal. The men braced themselves for the job that had to be done. I tried to be on top of it all and explained that the turtle could not feel anything and, besides, it was all educationally necessary. The beating heart was exposed, connected to recording instruments, physiological experiments were conducted, and we all had an instructive and successful lab session. I wonder now, though, what was also taught about the living turtle and the value of a turtle's life.

The experience of seeing the living, beating heart and the blood pulsing through living tissue is something which cannot be communicated through print or film. It is wonderful, and it is the complete antithesis of a mutualistic relationship with the turtle. I value that educational experience, and it also disturbs me. This sort of animal experimentation may, if properly handled, contribute to a mutualistic appreciation of turtles in the abstract, but we must know what we are doing. If we are out to foster a mutualistic relationship with the individual animal, this is not the proper educational method to use. If we are interested in turtles as a population, or species, then such an approach may have its place, but the teacher and students should also consider the effect of that death upon the population as a part of the educational activity.

Many schools are examining the role of animal experimentation in their curriculum, both for humanitarian and political reasons. We should also examine the role of animal experimentation from the perspective of education for Mutuality. There is positive and negative pedagogic value in both participating in and refraining from such experiments. It is important that we be aware of what are our educational objectives and whether our methods are in harmony with them. The same can be said of all of our other teaching methods.

People are not likely to become interested in promoting the welfare of their non-human environment until they have direct, positive experiences of that environment. The same can be said of their relationship with their human environment. However, most approaches to experiential EE and ES emphasize the experience of nature, to the exclusion of the urban and suburban environment. This is a serious problem, because the human environment is not just sparkling rivers, trackless forests, and pure mountain air. Many people in EE tend to disregard or be hostile to the urban environment; the environment in which the majority of people are located and which, despite its serious problems, many find to be of positive value. We need to find ways of facilitating direct, positive experiences of the urban environment, as well as of the non-human environment. We need to find ways to help students to recognize not only the disfunctional aspects of the urban environment, but also its healthy, and socially and individually fulfilling roles in human life and history.

The Boston Children's Museum developed two urban EE projects, which were designed to focus participants' attention upon the physical and social environment of the city.[34] One was an imaginative workbook called, Citygames. Employing an exciting children's gamebook formate, Citygames leads the participants on a scavanger hunt throughout Boston. The second project was a combined museum exhibit and street fair focussing upon the environment of Center Street, a main street in Jamaica Plain, Massachusetts. It attempted to turn three storefront blocks along the street into a learning tool. During the one-day fair specialized exhibits were placed in stores, merchants taught an aspect of their trade, and the Museum staff conducted participatory educational demonstrations on the sidewalks. This was complemented by a major exhibit in the Museum. Both of these projects portrayed the city not as a place of environmental horrors, but as an arena of human interactions and creativity.

It is important that EE and ES deal with the full human environment; the built, social, and natural environments.[35] We can find both positive and negative elements in each, and none should be rejected or ignored. We cannot foster an environmentally mutualistic ethos by ignoring the positive aspects of the environments which we create. Global studies, or "Education for Global Survival," provides an important model for such an integrated approach.[36] The Global Survival Freshman Year Program, which was rooted in this approach, focussed its curriculum upon issues involving natural resources, environmental deterioration, peace and war, cross-cultural communication, and population. It fused the agendas of a number of educational movements, including environmental education, peace studies, and international education. It was a rare model of EE as envisioned in the Belgrade Charter.

There is a good deal of data available which demonstrates that the Program was quite successful in meeting its educational objectives. Nevertheless, it was suspended at the end of the 1976-77 academic year, after four years of operation. One of the main reasons for this was that the University administration and Program staff were unable to generate enough support in the form of adjunct faculty from the academic departments. However, the issue goes deeper than this, to the political and institutional structure of the University. Throughout higher education there are factors, such as faculty reward systems, departmental structures, and disciplinary specialization, which make it very difficult for any interdisciplinary or pedagogically innovative program to survive.[37] It is very easy for individual teachers to introduce some degree of Mutuality into what and how they teach. However, before this can be done on a large scale, we must find ways of dealing with these major institutional problems.

Directions for Further Research

In this dissertation I have explored the philosophical foundations of education for environmental Mutuality. The next step is to develop the tools necessary to do and evaluate this sort of education. The following questions point to specific research problems, the solutions of which will help us progress in this direction.

How can we evaluate a student's value orientation? We need to develop methods of pre-testing and post-testing, which will help us to determine what students' value orientations are, and what value orientations they are learning. Kluckhohn's and Strodtbeck's anthropological research instrument[38] may provide an important model for the kinds of educational research instruments which we need to develop.

How can we determine the extent to which an educational environment is mutualistic? We need to develop methods of evaluating institutions, curricula, educational materials, teaching methods, and other factors in the educational environment for the presence of the three elements of Mutuality. As a part of this effort, we may need to develop a list of the elements of Domination and Submission, and determine the extent to which they are also present.

To what extent is the present educational environment mutualistic? Employing these evaluation methods, we need to determine what value orientations our present institutions, curricula, materials, and methods are teaching. This will involve a major reexamination of education. A study of specific adventure education methods and programs, for example, would resolve the debate over the extent to which they are fostering domination of the environment.

What, in our total life experiences, are the most influencial factors in determining what value orientations we will learn? I expect that formal education has a relatively limited role in shaping our value orientations. What are the most important factors? The answers to this question will help us to decide where we can most effectively direct our educational efforts. If, for example, we discover that our early home environment has a profound and perhaps life-long influence, we might want to put a good deal of our resources into teaching mutualistic methods of parenting.

Are there periods in our psychological development during which we are most likely to aquire our value orientations? The answers to this question will also help us to decide where to direct our educational efforts.

What are the underlying economic, political, institutional, and social structures within our schools and society which promote and hinder education for Mutuality? We live in a culture which is primarily oriented to Domination. The creation of a mutualistic learning environment will involve changes in our institutions and society, as well as in our pedagogy. We need to discover what specific changes must be made.

What acts are environmentally mutualistic? Throughout this dissertation I have focussed upon the ways in which we should decide how to act, avoiding specific proposals of what acts are mutualistic. We need, however, to identify specific decisions, policies and actions which are clearly mutualistic and use them as case studies in environmental education programs.

How does one teach for environmental Mutuality? I know of no programs which have been designed with the specific objective of teaching for environmental Mutuality. We need to experiment in this direction. We need to develop the curricula, materials, and methods which will effectively achieve this educational objective.

What are the limitations of Mutuality? I have not argued that mutualistic approaches to problems are invariably the most appropriate means of dealing with them. Under what circumstances would Submission or Domination be appropriate?

To what extent will we have to move outside of the formal school system in order to successfully educate for Mutuality? One of the ways of dealing with the political and institutional resistances to education for Mutuality in our schools is to sidestep the problems and teach elsewhere. Non-formal education has played an important role in environmental education, and many public and private agencies have already made a commitment to it. These include non-profit educational organizations, philanthropic foundations, UNESCO, foreign aid missions, the World Bank, and a number of labor unions (such as the United Auto Workers) and private businesses (such as Weyerhaeuser). We need to find ways in which to make effective use of this approach to education.

How can we develop systems which are supportive of people who are trying to teach for Mutuality. Introducing a strong values position into one's teaching can create a potentially explosive political situation. Teachers, administrators, school committee members, anyone involved in education for Mutuality, need to be mutually supportive of each other in their efforts to teach effectively, and to respond to pressures which make this difficult.

How can we involve the full community in planning these programs?[39] Education for Mutuality should be guided by this value orientation in its planning process. Ideally, the process should include the teachers, students, adminstrators, parents, and other members of the community who will be affected. We need to explore ways in which, and the limits to which, this can be accomplished.

Footnotes

[1] For an introduction to the philosophy and methods of environmental education see: James A. Swan and William B. Stapp, eds., *Environmental Education: Strategies Toward a More Livable Future* (N.Y.: John Wiley & Sons, 1974); and Noel McInnis and Don Albrecht, eds., *What Makes Education Environmental?* (Louisville, Kentucky: Data Courier, 1975).

[2] For an introduction to the philosophy and methods of environmental studies see: Ralph W. Richardson, Jr. and Roderick Nash, eds., *Four Universities: Achieving Environmental Quality through Environmental Education and Research* (N.Y.: Rockefeller Foundation, n.d.); and Walter J. Herrscher and Robert S. Cook, eds., *Environmental Responsibility in Higher Education: Processes and Practices* (Univ. of Wisconsin-Green Bay, 1973).

[3] Gary D. Harvey, "A Conceptualization of Environmental Education," in *The Report of the North American Regional Seminar on Environmental Education*, ed., James L. Aldrich, Anne M. Blackburn and George A. Able (Columbus, Ohio: SMEAC, 1977), p. 67.

[4] Ibid. The entire article is useful. See also his unpublished dissertation, "Environmental Education: A Delineation of Substantive Structure," Diss. Southern Illinois Univ. 1976.

[5] "The Belgrade Charter," in *Connect: UNESCO-UNEP Environmental Education Newsletter*, I (January 1976), 1-2. Reprinted in Aldrich, *et al.*, *The Report of the North American Regional Seminar*, pp. 61-62.

[6] See: B. S. Bloom, et. al., *Taxonomy of Educational Objectives--Handbook I: Cognitive Domain* (N.Y.: David McKay, 1956); D. R. Krathwohl, et al., *Taxonomy of Educational Objectives--Handbook II: Affective Domain* (N.Y.: David McKay, 1964); and A. H. Harrow, *A Taxonomy of the Psychomotor Domain* (N.Y.: David McKay, 1972).

[7] G. E. Moore, *Principia Ethica* (Cambridge: Univ. Press, 1903).

[8] Louis E. Raths, Merril Harmin and Sidney B. Simon, *Values and Teaching: Working with Values in the Classroom* (Columbus, Ohio: Merril, 1966), p. 30. Also see Sidney B. Simon, Leland W. Howe and Howard Kirschenbaum, *Values Clarification: A Handbook of Practical Strategies for Teachers and Students* (N.Y.: Hart, 1972), for specific methods.

[9] Rodney F. Allen, *Teaching Guide for the Values Education Series* (Evanston, Illinois: McDougal, Littell & Co., 1975), p. 8.

[10] Ibid.

[11] For a clear statement of this assumption in relation to values clarification in environmental education, see James A. Swan, "Some Human Objectives for Environmental Education," in *Environmental Education*, ed., Swan and Stapp, pp. 37-38. Values clarification is rooted in humanistic, or Third Force psychology. For examples of the writing of one of the key figures in this movement, and extensive bibliographies, see the following books by Abraham Maslow: *Toward a Psychology of Being*, 2nd ed. (N.Y.: Van Nostrad, 1968); *The Farther Reaches of Human Nature* (N.Y.: Viking Press, 1972).

[12] Allen, p. 30-32, as abstracted with minor changes. The following abstract from Lawrence Kohlberg, "Moral Education in the Schools: A Developmental View," *School Review*, 74 (1966), 8-9, provides a more concrete example. In this case, Kohlberg is examining the basic moral worth of human life as it might be reasoned in each of his stages.

> Stage 1. The value of a human life is confused with the value of physical objects and is based on the social status or physical attributes of its possessor.

> Stage 2. The value of human life is seen as instrumental to the satisfaction of the needs of its possessor or of other persons.
>
> Stage 3. The value of a human life is based on the empathy and affection of family members and others toward its possessor.
>
> Stage 4. Life is conceived as sacred in terms of its place in a categorical or religious order of rights and duties.
>
> Stage 5. Life is valued both in terms of its relation to community welfare and in terms of life being a universal human right.
>
> Stage 6. Belief in the sacredness of human life as representing a universal human value of respect for the individual.

[13] Lawrence Kohlberg, "Moral and Religious Education and the Public Schools: A Developmental View," Religion and Public Education, ed., Theodore R. Sizer (Boston: Houghton Mifflin, 1967), p. 180.

[14] Lawrence Kohlberg, "Indoctrination versus Relativity in Value Education," Zygon, 6 (1971), 293.

[15] Ibid., p. 294.

[16] Allen, pp. 54-63. This book provides an excellent general overview of values education and a detailed discussion of Allen's approaches.

[17] Herbert C. Kelman, "Compliance, Identification, and Internalization, Three Processes of Attitude Change," Journal of Conflict Resolution, 2 (1958), 51-60.

[18] Kohlberg (1967), pp. 165-166.

[19] Maslow (1974), pp. 159, 163.

[20] Harvey Cox, Seduction of the Spirit: The Use and Misuse of People's Religion (N.Y.: Simon and Schuster, 1973), p. 9.

[21] Herrscher and Cook, *Environmental Responsibility in Higher Education*, p. 29.

[22] Lawrence S. Kubie, *Neurotic Distortion of the Creative Process* (N.Y.: Noonday Press, 1961), p. 133. Chapter three, "Education for Preconscious Freedom and its Relation to Creativity and the Process of Maturation," is particularly relevant to this discussion.

[23] By "psychological education" I mean education for personal psychological insight and development, not the academic discipline of psychology as it has traditionally been taught.

[24] Maslow (1974), pp. 153-154.

[25] Taught by Prof. David Smith of Hampshire's School of Humanities and Arts.

[26] Cox, p. 106.

[27] For a brief description of these programs see, Ralph H. Lutts, "Environmental Studies in the Five Colleges," *Environmental Education Report*, 3, No. 5 (1975), 3-5. Additional information about the Global Survival Freshman Year Program can be found in two papers by its Director, Stephen Guild: "What Happens After High School," *Trend* (Fall 1974), pp. 21-23; and "Report on Global Survival Freshman Year Program: 1973-1975, Univ. of Massachusetts, Amherst.

[28] I have often heard people try to link our desire to control the world around us with a personal, unconscious fear of death. If this is true, perhaps death education can play a role in EE and ES. Life and death are integrally connected with each other--two sides of the same coin. Perhaps we cannot fully embrace the values which are condusive to life without also embracing the inevitability of our own death.

[29] Rachel Carson, *The Sense of Wonder* (N.Y.: Harper & Row, 1965).

[30] Edward Abbey, *Desert Solitaire: A Season in the Wilderness* (N.Y.: Ballantine, 1971), pp. 41-42.

[31] Steve Van Matre, *Acclimatization: A Sensory and Conceptual Approach To Ecological Involvement* (Martinsville, Indiana: American Camping Assoc., 1972), p. 10.

[32] Larry Buell of Greenfield Community College, Massachusetts, is preparing a leaders' manual for the 24-hour experience.

[33] For an introduction to these educational approaches see: *Teaching Through Adventure: A Practical Approach* (Hamilton, Mass.: Project Adventure, 1976); and Donald R. Hammerman and William M. Hammerman, eds., *Outdoor Education: A Book of Readings*, 2nd ed. (Minnesota: Burgess, 1973).

[34] *Citygames* (Reading, Mass.: Addison-Wesley, 1975); and *Center St.: An Exhibit and Fair* (Jamaica Plain, Mass.: Boston Children's Museum, 1975).

[35] See Russell M. Agne and Robert J. Nash, "Environmental Education: A Fraudulent Revolution?," *Teachers College Record*, 76 (1974), 304-315, for a critique of the problems of environmental education in this area.

[36] See: Stephen Eves Guild, "'Education for Global Survival:' An Examination of a Curriculum Concept," Diss. Univ. of Mass., Amherst 1973; and "Education for Global Survival," a special issue of *Trend* (Fall 1974).

[37] For examinations of some of these problems in relation to environmental studies programs see: Richardson and Nash, *Four Universities*; and M. Gordon Wolman, "Interdisciplinary Education: A Continuing Experiment," Science, 198 (1977), 800-804.

[38] Florence R. Kluckhohn and Fred L. Strodtbeck, *Variations in Value Orientations* (Illinois: Row, Peterson & Co., 1961), pp. 80-90.

[39] This question has been of concern to William B. Stapp, who has tried to include community representatives in the process of planning local environmental education programs. As the first Director of the Unesco/UNEP Environmental Education Program, he attempted to do this on an international level. See his papers: "An Instructional Program Approach to Environmental Education (K-12)--Based on An Action Model," in *Environmental Education*, ed. Swan and Stapp, pp. 50-90; and "Environmental Education: A Major Advance," in *The Report on the North American Regional Seminar on Environmental Education*, ed. Aldrich, et. al., pp. 36-38.

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