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ABSTRACT

Humanity has enough knowledge and resources to respond effectively to the environmental and related global crises, and large international coalitions of scientists and religious leaders urge humanity to immediately and dramatically change our relationship with nature. Although many individuals express agreement with these recommendations, the "will" to respond to the environmental crisis seems to be lacking. The same worldview held responsible for creating the environmental crisis, has also affected people such that their will to respond to the environmental crisis is blocked. Although the central theme of environmental education has been to achieve widespread responsible environmental behavior, environmental education scholars have neglected to explore the concept and process of will. They have predominantly assumed that information alone will lead automatically to responsible environmental behavior. This thesis explores the problem of will in environmental education, especially in light of contemporary constraints on will, and it identifies some practical implications for curriculum. (Author)

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THE PROBLEM OF WILL IN ENVIRONMENTAL EDUCATION AND ITS IMPLICATIONS FOR CURRICULUM

by

Jennifer J. Litzgus-Sianchuk

Thesis presented to the School of Graduate Studies of the University of Ottawa in partial fulfilment of the requirements for the degree of Masters of Arts in Education.

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DEDICATION

There are five people to whom I owe a special debt of gratitude and to whom this thesis is dedicated. Dr. Janice Ahola-Sidaway's guidance was invaluable to producing this thesis. As an advisor, she has shown methodological skill; political sensitivity; dedication in the face of tremendous personal obstacles and stresses; and she has been consistently courteous, thoughtful, open-minded, professional and patient. Ultimately, she has improved greatly my research, writing and presentation skills. There are no words that can adequately express my thanks to her. In addition to Dr. Ahola-Sidaway, my husband Mike Sianchuk-Litzgus has shown enduring patience and unfailing moral and financial support throughout the thesis process. He also has provided valuable critical comments that helped to shape the final product and has continually supported the realization of the theme of personal transformation addressed by the thesis in my own life. Also, I would like to dedicate this thesis to my parents, Hazel and Bill Litzgus, who always encouraged me to seek education. In particular I would like to thank my mother for having taught me to follow my heart, for without this basic belief, I would not have found the determination to finish this work. This thesis is dedicated also to my grandmother, Emmaline Isadora Ball, who, as a one-room schoolhouse teacher, provided a family role model for me to follow. In addition to these special people, this thesis is dedicated to the Prophet-Founder of the Bahá'í Faith, Bahá'u'lláh, who speaks to the needs of our day. A letter written on behalf of the Guardian of the Bahá'í Faith, Shoghi Effendi, expresses the central thesis of this study:

> *We cannot segregate the human heart from the environment outside us and say that once one of these is reformed everything will be improved. Man is organic with the world. His inner life moulds the environment and is itself also deeply affected by it. The one acts upon the other and every abiding change in the life of man is the result of these mutual reactions.*[1]

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The responsibility for this thesis is mine alone. Nevertheless, there are numerous people who deserve thanks. I would like to express appreciation, in no particular order, to: Dr. Phil Cohen, Ruth Watson, Hope MacLean, Francis Cosstick, Roxanne LaLonde, Maury Miloff, David Burhoe, Paul Bilodeau, Keith Jenkins, Dr. Ruth Whitehead, Dr. Ruth Wright, Father Jacques Croteau, Andy Tamus, Anne Camozzi, Beverly Lock, Stephen Hanks, Leslie Laskarin-Hanks and Dr. Alistair Robertson. In addition, I would like to thank Dr. Harold Jakes and Madeleine Lalande for their generous and excellent administrative support, and to the University of Ottawa library staff whose professional skills and helpfulness were invaluable to me. I also would like to express gratitude to Dr. Elizabeth Dodson Gray, Dr. Bill Devall and Dr. George Sessions, as well as the other four key scholars (who agreed to be consulted on the condition of anonymity). Although it might have been better to consult with them earlier and with less structure to allow a more direct discussion, nevertheless, these consultations were very helpful. Finally, I have expressed my gratitude for the trees taken to produce the vast amount of paper used in producing the thesis by arranging regular donations to the *Friends of the Earth* tree planting project. The trees are planted by individuals in their own communities across Canada, and training and support is provided to planters to improve the trees' chances for survival. This measure does not fully account for the burden on the earth of producing paper, but it helps. If nothing else, I have found that by attempting to take responsibility for my garbage and resource use, I feel burdened myself, making the reduction of my consumption a relief rather than a deprivation.

ABSTRACT

The Problem of Will in Environmental Education and Its Implications for Curriculum

Responsible environmental behavior is the ultimate goal of environmental education, and although many environmental scholars complain that the will to respond to the environmental crisis is lacking, there seems to have been no attention in environmental education to understanding the concept of will and its role in responsible environmental behavior. This thesis explores the problem of will in environmental education through an examination of 11 key references, and it identifies some implications for curriculum by applying a framework of curriculum questions derived from Tyler and Kliebard.

Most of the attention in environmental education has been on how to use information to get people to behave in responsible environmental ways. Nevertheless, there is ample evidence that this information approach has not worked. The literature review documents the history of environmental education's attempts to achieve responsible environmental behavior, and the failure of the rationalistic information approach.

The literature review also suggests that the same orientation toward the human-nature relationship, held by many environmental educators to be responsible for leading to the environmental crisis, also has affected human beings such that their will to respond to the environmental crisis is blocked. Therefore, the research question is: "How is the will to act in environmentally responsible ways affected by the human relationship to nature?" The tendency in environmental education is to focus on how *human beings* can affect the human-nature relationship. This study explores the neglected area of how the human-nature relationship *affects people*, and, *ultimately*, their will to act in environmentally responsible ways.

This thesis brings together Yalom's work on willing from the field of psychology with environmental literature. Yalom's model is limited to will in general; it does not address what factors

ABBREVIATED ABSTRACT FOR MASTERS ABSTRACTS INTERNATIONAL

Humanity has enough knowledge and resources to respond effectively to the environmental and related global crises, and large international coalitions of scientists and religious leaders urge humanity to immediately and dramatically change our relationship with nature. Although many individuals express agreement with these recommendations, the *will* to respond to the environmental crisis seems to be lacking. The same worldview held responsible for creating the environmental crisis, has also affected people such that their will to respond to the environmental crisis is blocked. Although the central theme of environmental education has been to achieve widespread responsible environmental behavior, environmental education scholars have neglected to explore the concept and process of will. They have predominantly assumed that information alone will lead automatically to responsible environmental behavior. This thesis explores the problem of will in environmental education, especially in light of contemporary constraints on will, and it identifies some practical implications for curriculum.

influence the *type* of will expressed. The environmental references add to Yalom's model the idea that it is worldview, and, in particular the sense of human identity in relation to nature, which influences what kind of will gets expressed. In addition, these references suggest that it is when people have a sense of personally meaningful interconnectedness with nature, or, in other words, when they perceive that their own physical and mental well-being is rooted in an ecologically healthy relationship with nature, that they act in environmental responsible ways, or what has been labelled *eco-will* in this thesis.

This research builds on earlier environmental education models of how to achieve responsible environmental behavior. The two earlier models which seem to represent the best of environmental education understanding of how to achieve responsible environmental behavior are the *Behavior Flow Chart: Major and Minor Variables Involved in Environmental Citizenship Behavior*, by Hungerford and Volk, and the *Hines Model of Responsible Environmental Behavior*, by Hines and colleagues. These two models are integrated into the *Eco-Will Model*, which summarizes the thesis argument, creating a *Refined Eco-Will Model.*

This refined model contributes to the earlier ones in several ways. It transforms the earlier models from linear models of behavior change to a circular or spiral process; essentially, the *Refined Eco-Will Model* adds a feedback loop to the other models. It addresses not just how humans can affect the human-nature relationship, as the earlier models do, but also how the human-nature relationship affects human beings and ultimately their eco-will.

Another contribution of the *Refined Eco-Will Model* to the earlier models is increased conceptual clarity. Although moving people from awareness to responsible environmental action has been the central thrust of environmental education, there has been no term to describe the awareness to action process, or even much evidence of consciousness that there *is* a process between awareness and action. The dominant assumption has been and still is that information will automatically lead to responsible behavior. The term 'will' is an appropriate label for the awareness to action process because Yalom defines will in precisely that way. Thus, for the first time there is at least one conceptual handle for this central environmental education problem. Furthermore, this study has created a specific term, *eco-will*, to describe the kind of will that is associated with responsible environmental behavior in particular.

Another contribution of the *Refined Eco-Will Model* is its addition of many factors that are relevant to the will process, which were left out of the earlier models. The earlier models pay no attention to what would be considered by Yalom to be the first stage of willing, *desire*. Nor do they address decision-making processes, which are inherent to the second stage of willing, ***commitment to a** path of action*. They do have some commitment related factors, but no decision-making factors. Thus almost all of what Yalom has described as the will process is an addition to the earlier models.

The *Refined Eco-Will Model* also strengthens the relationship among factors listed in earlier models. Hungerford and Volk express concern that they did not portray sufficiently the interrelationships among the elements of the behavior change process, whereas the *Refined Eco-Will Model* describes an integrated process of interrelated factors.

The contributions of the *Refined Eco-Will Model* to the earlier models can also be seen as an evolution of the worldview foundation for environmental education thinking on this topic. The *Refined Eco-Will Model* shifts the earlier models from the traditional Western scientific worldview to the emerging ecological worldview. It shifts them from a singularly rationalistic focus to a holistic focus which takes into account the whole person.

In addition to having described a generalized eco-will process, this thesis has also described how eco-will may be blocked and how it can be facilitated in contemporary North American society, and so it has contextualized the theoretical discussion. For example, on a widespread basis, people's in affluent societies feelings are deadened, and, therefore, the feeling-based stage one of willing, desire, is impeded.

This thesis also identifies some implications for curriculum. Most of environmental education has been non-formal in nature, and usually communications and media or advertising strategies, rather than educational strategies, have been applied to the problem of moving learners from awareness of ecological problems to taking responsible action on them. Thus the curriculum framework used by this thesis is itself something valuable for environmental education. In addition, the specific implications identified provide enough substance that a pilot project could be developed.

The thesis also contributes to the development of methods for constructivist textual analysis. The methodological challenge of this research was that the meaning of data shifted as the argument line developed, and this was exacerbated by the fact that this topic area is relatively new. Lincoln and Guba, whose methods were followed, assume that meaning needs to be assigned only once to a piece of data; and they also assume that it is possible to integrate data 'objectively,' that is, without any starting framework. These assumptions contradict their emergent design process, as well as their constructivist epistemological stance, which asserts that nothing can be known in isolation from an interpretive framework. A methodological process is suggested where a tentative line of argument is developed *before* data are collected. The advantage of this step is that the shifting of individual pieces of data should be significantly reduced, resulting in better manageability of data so that greater complexity can be accommodated, and more clarity achieved. Also, by proposing a method which makes visible the sources for the development of the tentative argument line, the starting interpretive framework is more explicit and traceable. This advantage means that the research is more accountable.

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CHAPTER 1

INTRODUCTION

Recently 1680 senior scientists from 71 different countries, including 104 Nobel laureates, signed the *World Scientists' Warning to Humanity*.[1] The statement describes the stress that human activities have created on six areas of the environment, and it outlines the human population problem. The statement issues the following warning:

> We the undersigned, senior members of the world's scientific community, hereby warn all humanity of what lies ahead. A great change in our stewardship of the earth and the life on it is required if vast human misery is to be avoided and our global home on this planet is not to be irretrievably mutilated.[2]

The statement also goes on to suggest what must be done to bring humanity's environmentally damaging activities under control. The scientists' recommendations include the elimination of poverty, since, in addition to addressing poverty for the sake of the people who suffer it, it is also an important contributor to environmental destruction.

The world's religious leaders at the 1993 Parliament of World's Religions[3] also have made a declaration "warning that the world is in the throes of pervasive economic, environmental and political crises."[4] On September 4, 1993, representatives of the world's largest and smaller religions signed "an unprecedented declaration of global ethics to guide human behavior into the new millennium."[5] This declaration is "an attempt to find values common to the world's religions."[6] It is the first time the parliament has met since its beginning in 1893, and the declaration "comes at a time when religious, scientific, political and environmental leaders are talking of a 'paradigm shift' toward the development of a 'global consciousness'--the realization that all things are interconnected."[7]

These scientists and religious leaders are telling us that we know what the problems are, and we know how we can make substantial progress in solving those problems. For example, Russell (P.) says:

> We do not lack the science and technology to tackle most of the problems facing us. In almost every area we know what needs to be done to restore the environment and keep it in a healthy state; and where we do not yet have the necessary means, we know how to set about developing it. Nor are we short of the money needed to mend the world. The WorldWatch Institute in Washington D C. has estimated that the total cost of a six-year program to protect the soil, reforest the land, reduce population growth, retire the debts of the developing countries, raise energy efficiency, and develop renewable sources of energy would amount to around $750,000 million. A lot, yes; but no more than the world currently spends on arms in just *one* year! All that we lack is the will.[8]

Perhaps the most significant question is *"will we act?"* Clearly, these scientists and religious leaders believe that by informing humanity, they perhaps can startle us into a constructive response. Yet there has been no shortage of good information and of warnings from reputable scientists and religious leaders. We have had over thirty years of environmental education and warnings from scientists as individuals[9] and in groups[10], and from religions,[11] but humanity has not come forth with enough action to be significant; overall the problems are getting worse, not better.[12] Information does not seem to be enough.

As the environmental and related global problems increasingly dictate humanity's agenda, we find ourselves with less and less choice and an ever-growing knot of crises tightening around us. Consequently, environmental education's ultimate goal of achieving a significant response to the environmental and related crises is increasingly important for society as a whole, and society is looking to the education system to respond. Much of society's and education's response to the crises is still aimed at, and directed by, the ideals which some argue have brought those crises about in the first place.[13] Nevertheless, some parts of society and the field of education are turning to environmental education for leadership. The awareness is slowly dawning that environmental education is not just new curricular material to be absorbed into the curriculum by treating it as a separate subject or by integrating it into existing subjects; rather, it is the leading edge in a fundamental evolution of education from an era of Western[14] civilization which peaked with the industrial age to a new era of global civilization which some have labelled the "ecological age."[15]

Yet, if environmental education is seen to hold promise for facilitating the transformation from an industrial to an ecological age, can it deliver? As will be discussed later in the literature review, similar to the scientists and religious leaders who were mentioned earlier, environmental educators have assumed that simply providing people with information will lead to the desired response. This approach has not succeeded; after three decades, environmental education has not achieved the response to the environmental and related crises which it set out to achieve. Experience has shown that people are not moved to action by information alone. Environmental education must move beyond the delivery of information if it is to be a source of effective educational leadership for this time of transition.

Nature of the Study

The general purpose of this study is to explore the problem of how people go from merely being aware of, or informed about, environmental and related problems to taking responsible action on them, as individuals and as a society. This problem has been the central focus of environmental education since its conception, and one way to look at this problem is as a problem of 'will.' More specifically, this study addresses issues raised by the review of literature: that people are dependent upon nature for physical health, that individuals develop their own sense of identity through distinguishing themselves from nature, that nature is the meaning-giving context for human existence[16], and that this nature-based sense of physical and mental well-being also leads to responsible environmental behavior. This suggestion of mutual well-being between people and the planet leads to the research question: "How is the will to act in environmentally responsible ways affected by the human relationship to nature?" The research has two objectives. The first objective is to reply to the research question, and the second is to identify the implications for curriculum.

Organization of the Thesis

Chapter 2, a review of the literature, explores how environmental education has unsuccessfully tried to move learners from awareness to action using information. The literature review argues that this approach is enmeshed in the same *reason dominating nature* assumptions of the Western worldview which many environmental educators criticize for leading to the environmental crisis. The literature review identifies what seems to be an important but neglected relationship between humanity and nature. Usually the focus is on the antagonistic dimensions of the human-nature relationship, but the literature suggests that there is also a dimension of mutuality, where human health, identity and life meaning are rooted in an ecologically healthy relationship with nature. The literature review explores the thwarting of this relationship of mutual benefit, and examines how negative environmental behavior has also been accompanied by physical health problems, and mental health crises in precisely the areas of identity and meaning. Furthermore, the review of literature explores how the effects of the human-nature relationship on people may be disabling their response to the environmental crisis. The literature review chapter concludes by identifying the research question and specific objectives.

Chapter 3 addresses the theoretical framework and methodology used for the research. The chapter is divided into three parts. The first part describes the constructivist epistemological orientation underlying the research. Part two describes the theoretical underpinnings of how the research question was explored, and how the implications for curriculum were identified. Yalom's theoretical work on willing was used as the structure for exploring the research question on how the will to act in environmentally responsible ways is affected by the human relationship to nature. The sources used as theoretical underpinnings for the identification of the implications for curriculum include: Hungerford's and Volk's state-of-the-art work on achieving responsible environmental behavior (including Hines' and colleagues' earlier model), Tyler's model of curriculum development and evaluation, and Kliebard's definition of curriculum. The last part of Chapter 3 is a discussion of the multivocal constructivist textual analysis methodology used to address the research question and to identify the implications for curriculum.[17]

Chapter 4 addresses the first objective, the reply to the research question. This chapter examines the crises associated with the Western human-nature relationship, and how will has been disabled. The chapter also outlines how will in general might be re-enabled, and how, in particular, the will to respond constructively and creatively to the environmental and related global crises can be re-enabled. This kind of will has been called *eco-will* in this study: the desire and ability to act in ecologically and socially responsible ways. This definition is rooted in the notion of 'biocommunity,' which embraces humanity and its social functions as a part of nature as a whole. The view that humanity is separate from nature has been associated in environmental education literature with ecologically destructive behavior, and a new view is emerging that humanity is a part of nature.[18] Chapter 4 also identifies the Western worldview biases which are the greatest obstacle to re-enabling eco-will, and what we stand to gain from replacing our unthinking biases with critical exploration, thereby beginning to participate in the exciting blossoming of our potential--personally, socially, and environmentally. The argument closes with an assessment of the hopeful and challenging place where humanity stands at this moment. A model is presented which summarizes the key factors and process identified in the argument as leading to responsible environmental behavior.

The second research objective, the identification of the implications for curriculum, is addressed in Chapter 5. A model is presented that synthesizes the *Eco-Will Model*, which summarizes the thesis argument, with Hungerford's and Volk's, and Hines' and colleagues' models of how to achieve responsible environmental behavior. This *Refined Eco-Will Model* serves as a reference point for discussion of how this study contributes to refining

Hungerford's and Volk's, and Hines' and colleagues' earlier work in this area. This chapter also identifies the implications of the model for curriculum by applying a set of questions drawn from Tyler's model of curriculum development and evaluation and Kliebard's definition of curriculum.

Finally, the last chapter provides the summary and conclusions of the study. The conclusion contains some methodological suggestions for future constructivist textual analysis, identifies the contributions of the study, and makes some recommendations for future research directions.

CHAPTER 2

LITERATURE REVIEW:

APPROACHES TO ACHIEVING RESPONSIBLE ENVIRONMENTAL BEHAVIOR

This study addresses the central environmental education problem of how to move learners from awareness of environmental and related problems to taking responsible action on them. Environmental education literature is examined in this chapter to see how this awareness to action problem has been addressed in formal and non-formal environmental education. The chapter is divided into three parts: the first part explores the awareness to action problem; the second addresses issues around conceptual development; and the third presents the research question and objectives.

Exploration of the Problem

The discussion of how environmental education has addressed the problem of achieving responsible environmental behavior is divided into four sections. The first section describes the unsuccessful traditional approach of providing learners with information and expecting their behavior to change. The second section raises the issue that people's health, identity and life meaning are affected by their relationship to nature, and that these factors influence their environmental behavior. The third section describes the parallel human and environmental crises. The final section explores the possibility that the impoverished physical and mental well-being associated with Western cultures may be impeding individual and societal responses to the environmental crisis.

The Information Approach and its Failure

Environmental education arose from scientists' recognition that the ecological problems they were observing originated in human behavior. These scientists turned to mass media and the communications field to disseminate information about the problems and necessary solutions, assuming that individuals would see the reason of the information and change their behavior.[1] From the beginning, environmental education has had as its ultimate goal the changing of learners' behavior toward nature. Whether one likes that behavioral goal or not, it has been the dominant preoccupation of environmental education, its 'raison d'etre.'[2] This behavioral goal has proven to be much more elusive than educators had anticipated. Iozzi, a scholar who has studied trends in environmental education, argues that during the three decades since the *environment* has become an important and popular concern in North America, we have made "relatively little progress toward action."[3] He says that "we seem to have stalled at the 'awareness' stage" regarding environmental issues.[4]

When information about ecological problems originally disseminated by concerned scientists did not result automatically in the desired behavior changes, attention shifted to using information to influence learners' ecological values and attitudes.[5] Over half of environmental education research during 1971 to 1981 was directed toward achieving ecologically healthy values and attitudes.[6] These researchers found, however, that just as information did not result directly in behavior change, information also was not necessarily sufficient to achieve value and attitude changes.[7] Ramsey and Rickson discovered that as knowledge about environmental issues increased, environmental attitudes were increasingly moderated; thus some extremely ecologically-minded people became less so.[8] Results from two other studies showed that increased knowledge may actually *augment* resistance to local pollution control measures.[9] Tichenor's and associates' study led to the conclusion that if personal or community interests were compromised, there was no support for pollution control.[10] Correspondingly, a psychological study revealed that attitude changes in response to information about an environmental issue tended to be based more on "self-interest than altruism."[11]

In addition, Baker and colleagues identified hierarchies of values at work so that ecological values could be overridden by other values of higher priority to the individual.[12] For example, it may well be that personal convenience is of higher priority to many individuals in our 'stressed-out' society than environmental concerns. Tichenor and associates, who took data from national (U.S.), state, and University of Minnesota studies, determined that although the U.S. public was aware of ecological issues and expressed a belief in the importance of the issues, they resisted making any changes to their behavior,[13] presumably because there were other things of higher priority to them.

Some attention then was directed away from trying to influence particular values and attitudes through information, to the whole process of moral development.[14] In these efforts, Kohlberg's theory of moral development was widely recommended.[15] Nevertheless, this traditional approach has been criticized by Kazemek for being a cognitive model of moral education based on "abstract moral reasoning," once more a rationalistic, information approach.[16] Kazemek suggests that this kind of approach ignores moral development "within very specific contexts and relationships within the real world";[17] in other words, it is a generalized, objective approach to moral development rather than one in which moral development is a specific and subjective response to a living situation.

Some of the scholars working on moral development came to see that moral development happens within a cultural and gender context, and that moral development

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theories were biased toward caucasian males. For example, Kohlberg's theory of moral development is based only on a study of 75 boys from a similar cultural background, and, therefore, one could argue that it is only a fair representation of male moral development from the perspective only of one culture. Kazemek calls Kohlberg's approach to moral development a "male model."[18] Some attention in environmental education has shifted to a focus on culture and gender, and some scholars have come to the view that the root of contemporary destructive ecological behavior lies in what has been described as the masculine orientation[19] of the Western worldview associated with modern industrial-scientific cultures.

This masculine Western perspective sees the world objectively. The Western worldview sees humanity as independent of nature, and nature as spiritless matter.[20] This view has led to a sense of freedom from ecological and moral constraints.[21]

According to several scholars, a shift in worldview is occurring toward a more ecologically sustainable worldview.[22] Once again, environmental education scholars have focused on information; they have compared differing levels of environmental knowledge among holders of opposing worldviews, assuming that knowledge leads automatically to action.[23] Although there was a positive association between the ecological worldview and environmental knowledge[24], individuals were found to be able simultaneously to hold contradictory beliefs from both worldviews.[25] The utility of this focus on the association between ecological worldview and environmental knowledge is questionable in light of the research results mentioned earlier that indicated that knowledge or information was insufficient to achieve the behavior change goals of environmental education.

In sum, it can be argued that an information approach has predominated in environmental education, and that it has not succeeded in changing ecological values, attitudes, level of moral development, or beliefs, such that the desired changes in environmental behavior have occurred.[26] In spite of three decades of environmental education, most individual and societal behaviors are still dangerously ecologically destructive. There is a growing recognition among environmental educators that the path from "awareness to action" is more complex than anticipated, and that environmental education, for the most part, has not moved past "the awareness stage."[27] That we "seem to have stalled" at the awareness stage is not surprising considering the predominant emphasis on information.[28]

The environmental education preoccupation with information can be viewed as an expression of the Western worldview's tendency to value rational knowing over all other kinds of knowing, just as human beings have been considered by this view to be separate from and superior to the rest of nature by virtue of their rational faculty. Some worldview and environment scholars finally have moved beyond simply trying to influence the learner, to trying to understand the dynamics between worldview, the learners, and the environmental crisis, and, in so doing, they have taken a first step beyond the boundaries of the problematic, and what some have called the control-obsessed Western worldview.[29] Environmentalists criticize the Western tendency to control nature, insensitively shaping it to human ends, and contrast it to the traditional Eastern tendency to participate in nature, where human use of nature is sensitively integrated into the ways of nature.[30] Yet environmental educators' information approach has been a focus on *knowledge for control* of learners' environmental behavior and getting them to *manage* nature, rather than a focus on *knowledge for participation*, or understanding the *two-way* dynamics of participation between people and the planet, and how to live within nature's ways.

Some environmental education scholars have turned their attention to the dynamics of participation between people and the planet. They have identified that peoples' health, identity and life meaning are affected by their relationship to nature, and that their environmental behavior is affected by these factors. Essentially they suggest that there is a relationship of mutuality or reciprocity between people and the planet; a relationship of personally meaningful interconnectedness with nature is physically and mentally better for people and leads to environmentally responsible behavior, while an alienated relationship with nature, where people feel separate from nature, is physically and mentally unhealthy and leads to environmentally destructive behavior. This important aspect of the problem of moving learners from awareness to action is explored below.

Physical and Mental Well-Being as Rooted in Healthy Relationship to Nature

The relationship between human physical health and the environment is obvious. Although it is difficult, due to the number of variables involved, to directly link human health issues to the condition of nature, it is clear that human beings are physically dependent upon a clean and diverse environment.[31] In regard to mental well-being, some environmental education scholars assert that individuals develop their sense of identity and life meaning within the context of their relationship to nature. For example, Brownell says that nature is the meaning-giving context for human existence.[32] He says that to develop our particular identity in relationship to nature is to fulfil ourselves.[33] Furthermore, this sense of ourselves is not only fulfilling, it also leads to respect for and constructive behavior toward nature.[34]

Psychologist Rollo May confirms that human beings need to develop this sense of personal identity in relationship to nature because it distinguishes them from it. According to him, our sense of distinct identity protects us from the "profound threat of nothingness or non-being" which we face when we confront our relationship to the silent, inorganic dimension of nature.[35] He says that "one must be able to affirm his [or her] own person despite the impersonality of nature, and to fill the silences of nature with his [or her] own inner aliveness," and that it takes a "strong self--that is, a strong sense of personal identity, to relate fully to nature without being swallowed up."[36] Individuals' development of their relationship to nature seems to be the crystallization or flowering of their own individual identity, self-definition, or fulfilment of their own nature; in other words, 'I' is known through its contrast to 'not I.' Roszak suggests that in finding one's relationship to nature, one finds one's "authentic identity."[37]

In addition, just as the relationship to nature contributes to human physical and mental well-being, this experience of nature leads to responsible environmental behavior. Roszak suggests that in finding one's relationship to nature and, correspondingly, one's "authentic identity,"[38] one realizes that one's own well-being is interwoven with the well-being of the planet. He sees a movement toward a "personalist paradigm that unites the knower and the known in a vital reciprocity."[39] He says that today "the needs of the planet and the needs of the person have become one,"[40] and that humanity will come to understand the "subtle interrelationship" between people and the planet.[41] He says that he has "little doubt that, within the next generation, there will emerge a well-developed body of ecological theory that illuminates...the evolutionary continuities that relate mind to matter, human consciousness to the basic chemistry of life in ways that are augmentative rather than reductionistic."[42] According to this perspective, self-knowledge would be a starting point for development of ecological concern, and ecologically-wise behavior.

Correspondingly, the new curriculum orientation *ecological-integration* sees human fulfilment as emerging from the individual's relationship with nature and as pivotal to responsible environmental behavior. One of the key characteristics of this orientation is that curriculum should be aimed at facilitating the learner's search for personal meaning in relationship to nature.[43] Steffenson also calls for attention in environmental education to life meaning. He says that environmental education tends to rely on the refuge of "in order to survive we must...," but that survival alone is an insufficient motivation for survival.[44] He says that it is the meaningfulness of survival which is important, in other words, "survival for what?"[45]

Making a related point, Lubbers calls on education to become more relevant and personalized in order to confront effectively the environmental crisis[46], and Brennan stressed in 1974, and again in 1986, that environmental education cannot be successful unless it addresses the "inner environment" of individuals.[47] He says that if learners are suffering, materially or inwardly, "they cannot be expected to be concerned about other environments, other lands, other peoples."[48]

Jardine says that this attention to the inner, subjective dimension may require attending to those dimensions of ourselves that have been taboo.[49] Along this line, Williams proposes that a Freirian approach to environmental education be investigated, where educators start from the oppression typical of our society, such as our society's despair over "consumerism, anxiety about the future and the lack of responsiveness or joy in human relations."[50] Williams suggests that this despair is individuals' yearning for wholeness, or reunion with nature,[51] and wholeness is the essence of environmental education, with its underlying ecological principle that all things are interconnected.[52] Thus, these environmental educators see "personal wholeness" as related to "environmental wholeness."

This belief that humanity is interconnected with nature underlies the calls for environmental education to address the area of how human physical and mental well-being are rooted in the human relationship with nature. MacGregor states that "ecological learning reintegrates human processes with life processes and earth processes."[53] Similarly, Swan asserts that "in planning educational programs, it is very important to understand the organic nature of human potential."[54]

In accordance with this belief in the organic interconnectedness between humanity and nature, some environmental educators see humanity's destruction of nature as indicative of a human lack of self-knowledge.[55] Education for self-knowledge is seen by these scholars as an essential part of environmental education. To paraphrase Dansereau "the quality of our landscape is finally determined by the quality of our inscape,"[56] and, in Roszak's words, "what we know of ourselves 'inside' is ultimately what we will allow ourselves to know of nature 'outside'."[57] What's more, says Roszak, in light of arriving at an "authentic identity" through a relationship to nature, and in light of the environmental crisis and the need to re-establish a healthy relationship with nature, "the adventure of self-discovery stands before us as the most practical of pleasures."[58]

Thus, according to some scholars there is a relationship of mutual influence between human physical and mental well-being, and the human relationship to nature.[59] If people have a good relationship with nature, their health is better, and if they have a strong identity in relationship to nature, they discover meaning and experience fulfilment. Correspondingly, these human beings recognize that their own well-being is interwoven with the well-being of the planet, and, therefore, act accordingly. Their sense of self is extended.

Nevertheless, just as human and planetary well-being can be mutually reinforcing, they can also be mutually destructive. What is particularly troubling now is that there are both human and planetary crises, and each may be operating to aggravate the other. An exploration of these two areas of crisis, and their relationship to each other, is presented below.

Parallel Human and Planetary Crises

Currently, there is evidence to suggest that both people and the planet are in crisis. On the one hand, there is a growing belief that the contaminated environment is affecting people's physical health,[60] and also, there is a widespread mental crisis which has been addressed by artists for decades and, more recently, has been described by psychological studies. This mental crisis has been labelled broadly as modern *alienation*.[61] On the other hand, there is an environmental crisis about which a great deal of descriptive and diagnostic information has been developed, especially over the last thirty years.

Although an adequate response to the environmental crisis is lacking, it is at least widely acknowledged that an environmental crisis exists. The health and alienation crises, on the other hand, are less commonly recognized. First, it is difficult to make concrete links between health and the environment due to the number of variables involved,[62] and, in regard to the alienation crisis, it is camouflaged behind a wide variety of symptoms. Alienation refers to the sense of *homelessness* or *rootlessness* typical of people living according to the Western worldview. This alienation is an *identity* crisis, or a crisis about who we are as human beings and how we fit into the larger story.[63] This homelessness is painful, and some of the symptoms include: "meaninglessness" of life,[64] loneliness,[65] depression,[66] apathy,[67] numbed feelings,[68] hectic but empty activity,[69] despair,[70] anxiety,[71] high rates of addiction,[72] and high rates of suicide.[73] Each of these symptoms is considered to be so widespread as to be a common cultural experience for people living in cultures which champion the Western worldview.[74] If individuals have not suffered one or more of these symptoms themselves, they likely know someone who has. It is not that any experience of these problems can be explained in a facile way, nor that every experience of these symptoms is rooted in a worldview or identity problem; it is simply to point out that some scholars are making associations between what have seemed to be separate problems, and suggesting that they are all part of one society-wide crisis.[75] The symptoms can be broadly summed up as a deadening of feelings, both physical and emotional. These scholars are suggesting that rather than these symptoms being manifestations of sick individuals, in many cases they may be healthy and natural responses to a sick society.

Accompanying the undesirable symptoms, there is a corresponding society-wide search by individuals for a more satisfying or fulfilling way to live. The New Age Movement is an example of this trend. Although there may be some dubious approaches in the New Age Movement, Roszak argues that it is nevertheless indicative of a genuine underlying human need. He warns us not to confuse the sometimes inadequate responses with the authenticity of the need.[76]

According to some scholars, the identity and the environmental crises both stem from the Western view of the human-nature relationship.[77] The Western scientific worldview has denied the importance and reality of subjective experience (aside from thinking), and has over-emphasized objective reality. Bugental says that "subjective or experiential processes such as values, purpose, ideals, intention, dreams, fantasy, ... courage, ... dread,"[78] and "beauty and ugliness, love and hate, passion and fulfilment, [and] salvation and damnation"[79] are reduced by the Western scientific view to unreal inner fantasies and illusions projected upon real mechanical, outer events.[80]

Embedded in the Western objective and mechanistic view of the world is the assumption that we observers "can be isolated from the experiments and the world we are studying."[81] The objective "mind-matter" dichotomy, and the ignoring of the "mind" side of the dichotomy[82], has led to a split "between thinking and feeling, the ego and the body, man and nature."[83] Ruether says that this objective "dualistic mode of perception...is substantially responsible for constructing the very world of alienation from which we seek liberation."[84] Bugental says that "when the subjective experience came to be ignored," everything that makes life "meaningful" was "consigned to oblivion."[85] In addition, Sheldrake says that "the idea of nature as mechanical, inanimate and essentially dead alienates us from our own living experience, and so does the idea that science can only be understood by a kind of detached, disembodied reason."[86]

Bugental asserts that the subjective relationship with the world is the distinguishing feature of human existence: "the very essence of being human is the capacity for subjectivity, for inner living, inner experiencing, and inner intending."[87] This statement may have interesting social and, in particular, educational implications, considering the impact of the Western world's contemporary assumption that humanity is distinguished solely by humans' rational faculty. Environmental educators blame the Western exploitation of nature on the Western belief that human beings are separate from and superior to nature by virtue of their rational faculty. Education has followed suit and focused above all on educating the rational intellect while ignoring the body, emotions, and spirit.[88] A shift from seeing humanity as distinct from nature because of its rational intellect, to seeing humanity as distinct for its whole range of subjective processes could have dramatic implications for education and the human-nature relationship.

Bugental reminds us of Paul Tillich's words that "man resists objectification, and if man's resistance is broken, man himself is broken."[89] The description of the widespread symptoms of the identity crisis, and the fact that this crisis is typical of individuals living in societies which have operated according to the Western objective view, lends legitimacy to Tillich's claim. It seems that succumbing to objectification has indeed broken the spirit of many people.

Not only are the human health and identity crises associated with the Western worldview, but the environmental crisis also is attributed to it by a wide range of scholars.[90] According to that view, as mentioned earlier, human beings are superior to and the rightful masters of nature, and therefore, are exempt from ecological constraints.[91] What's more, nature is considered to be like a machine, each part relatively independent from the rest,[92] and without spirit.[93] Consequently, humans with this view have treated nature as a 'thing' without spirit, and therefore not deserving of respect, a mere resource to be used for human ends.[94] Nature could be fragmented and used, without consequence, since there was no concept of ecological balance or moral constraint on the use of the environment.[95] The result of operating without any sense of constraints is the environmental crisis.[96]

In sum, some scholars associate both the human and environmental crises with the Western view of the human-nature relationship. The relationship between the human and environmental crises takes on additional importance if one considers that the widespread identity crisis in Western industrial cultures may be disabling a response to the environmental crisis.[97] The next section explores the possibility that a response to the environmental crisis is hindered by the identity crisis.

Identity Crisis as a Possible Impediment to Environmental Response

Some of the symptoms of the identity crisis are described as being of epidemic proportions in cultures championing the Western worldview.[98] A danger may exist that so many people in Western cultures have been deadened to their feelings by the identity crisis that individual and societal responses to the environmental crisis are dampened. Since a main goal of environmental education is to catalyze a response to the environmental crisis,[99] the identity-natural environment relationship thus becomes especially important for environmental education. Swan asks, "how can we ever expect to assist people in living in harmony with nature if they are dead to its existence, both within themselves and without?"[100]

Supporting the legitimacy of this concern is psychologist Lowen's statement that depression in Western objective view-based societies is so common that it is considered statistically "normal," and that depressed people tend to be unable to respond to the demands of life.[101] In addition, referring to the environmental crisis, Steffenson says that "meaningless private hedonism and drifting consumerism" deaden us to the devastating implications of the environmental crisis.[102] Thus, according to these authors, some of the symptoms of the identity crisis seem to threaten to disable a response to the environmental crisis.

Adding to the idea that the deadening of feelings associated with the identity crisis may block a response to the environmental crisis is Yalom's work on "will."[103] Yalom is a psychiatrist who has investigated the process lying between becoming aware of something and taking action on it. He says that between awareness, say, of an ecological problem, and taking action on it, comes willing. In order to will, first one has to desire to respond, and, second, one has to commit to a path of action. The problem, he says, is that many people in Western view based societies are numb to their feelings, and thus cannot fulfil the first step of willing, desiring to respond.[104] Rollo May elaborates on this point:

> The chief problem...is *emptiness*. By that I mean not only that many people do not know what they want; they often do not have any clear idea of what they feel.[105]

Laszlo also addresses the problem of will, stating that the "most urgent and serious" obstacle to the reforms needed for humanity's survival of the environmental and other global crises is the "crisis of international political will."[106] The original Club of Rome book in which he participated, *The Limits to Growth*,[107] had far reaching international effects on the degree of consciousness about the immediacy, urgency, and interrelatedness of global problems. This book stressed that the pivotal factor to addressing the global problems lay in the domain of will. Laszlo reinforced this orientation by writing a second book, sponsored by the Club of Rome, *Inner Limits to Mankind*, because he felt that the idea that there is a crucial *internal* process having to do with will had been overlooked.[108] Instead, a materialistic, *outer*, information-oriented focus has dominated.[109] Swan, Steffenson, and Lowen provide support for the idea that the identity crisis may be blocking a response to the environmental crisis, and Yalom and Laszlo suggest that there is a need to focus on the problem of will.

Confirming that will is a useful focus is Hungerford's and Volks' 1990 multi-disciplinary study on behavior change literature.[110] They confirm that traditional thinking in environmental education has been that information alone automatically leads to awareness, then attitudes, and finally to action.[111] They also confirm the lack of success in achieving responsible environmental behavior, or environmental citizenship, using that approach.[112]

In sum, the problem area addressed by this study is the central environmental education dilemma of how to move learners from mere awareness of ecological problems to taking responsible action on them. The main way in which environmental educators have attempted to achieve this goal has been by providing learners with information and expecting their behavior to change automatically, but the process of willing that is the bridge between awareness and action has been ignored. The shallow information approach has failed. Furthermore, the literature suggests that there is an important relationship between human and planetary well-being. It seems that human health, identity and life meaning are fulfilled through a relationship of mutual well-being with nature; people who experience physical well-being, and who receive a sense of identity and life meaning through their relationship with nature, correspondingly respect and protect it. Nevertheless, the relationship of mutual well-being between people and the planet also can be one of mutual destruction. The effects of the Western orientation toward the human-nature relationship seem to have affected people such that the *will* to act in environmentally responsible ways is impeded.

Although there are calls in environmental education to address this general area of the mutual well-being of people and the planet, conceptual development on this topic area is lacking in North American environmental education. The next section discusses issues around conceptual development on this topic.

Conceptual Development Issues

This part of Chapter 2 addresses the importance of conceptual development in regard to: how human well-being is affected by the human relationship to nature; the effect on environmental behavior; the obstacles to conceptual development on this topic area in education, and; a constructive way of viewing those obstacles.

Importance of Conceptual Development

In spite of the longstanding and multiple calls in environmental education to investigate the relationship of mutual influence between the well-being of people and the well-being of the planet, little has been done in environmental education to explore this area.[113] Nevertheless, at least five practical curriculum activities for, or approaches to, pursuing personal development, well-being or self-knowledge in relation to nature, as an avenue to responsible environmental behavior, were identified in the literature. They include:

- the incorporation of personal growth and development activities in environmental education;[114]
- the use of creative imagery, and exploration of Native American sacred places;[115]
- outdoor sports like skiing and surfing which require a "balance" with the earth;[116]
- currere, a method used by a doctoral student to explore the relationship of her own life meaning to nature, and;[117]
- a university professor who asked his students to record their feelings, on an ongoing basis, about ecological issues being raised in class.[118]

These curriculum approaches are not explicitly based on any formal conceptualization of the relationship between human and planetary well-being. Garb points out that although the public increasingly receives information about the severity of ecological issues, *very little is known about how people encounter and assimilate that information.*[119] The environmental education curriculum approaches mentioned above appear to be mostly intuitive responses to the need to explore how human well-being is affected by the human relationship to nature, and the ultimate impact on environmental behavior.[120]

Weibel says that *most* of the development of environmental education has been "intuitive."[121] Intuition is a valid starting point, but there is still a need for conceptual development. Several scholars call for general theoretical and methodological development in environmental education in regard to the human-nature relationship,[122] and, in particular, in the area of how human well-being might be rooted in an ecologically healthy relationship with nature.[123]

It is important to investigate and conceptualize how human well-being is associated with the human relationship to nature, and the ultimate impact on environmental behavior, and to proceed only cautiously with experimental approaches, because, as Swan says, the experiences of human development "must come at the right time, otherwise they become more damaging than beneficial."[124] Considering that the literature on the contemporary widespread 'inner' malaise associated with the identity crises suggests a particularly fragile and vulnerable inner condition, it may be especially important to learn more about how human well-being is related to the human relationship to nature, and ultimately how this relationship affects environmental behavior, so that environmental education approaches will be beneficial and not harmful to the learners. Nevertheless, from an environmental perspective, conceptual development cannot advance solely on the basis of *a priori* theory, or reason. It also is essential to take some risks and experiment with possible approaches. That said, caution is still in order because the environmental crisis raises deep existential concerns. When Garb's students recorded their feelings on ecological issues, he found that these issues had a profound psychological impact and caused "intensive existential and moral soul searching."[125]

Obstacles in Education to Conceptual Development

To pursue an exploration of how human well-being is influenced by the human relationship to nature, and ultimately how environmental behavior is affected, means confronting the resistance to such a focus in light of the still dominant Western worldview that permeates educational endeavours. The main obstacle in education to addressing the particular problem of how the will to act in environmentally responsible ways is affected by the human relationship to nature, is that education itself is enmeshed in the same problematic Western worldview which has ignored the significance of the subjective processes, except for thought, and which has given us the very identity crisis which currently seems to block the will to respond to the environmental crisis. To explore how the human relationship to nature affects people, and ultimately their will to act in environmentally responsible ways, involves exploring the neglected mind-side, or subjective side, of the mind-matter dichotomy of the objective, or matter-obsessed Western world.

According to Disinger, educators still largely favour the Western objective paradigm[126], and, according to Bowen, most decisionmakers' background is the objective view, and these decisionmakers would include educators themselves.[127] Also, Doll suggests that most of present day curriculum is based on the Western objective paradigm.[128] According to Hargreaves, "60% of the [Ontario] curriculum is made up of academic subjects 'rooted in the 19th century'," the century considered to be the peak of the Western view before it began its now widely documented descent.[129]

According to Steffenson, the Western objective view expresses itself in education as a compartmentalized, "vertical," "hierarchical," "competitive" and over-rational structure which he says produces "loneliness," "alienation," "exploitation" and environmental problems.[130] In other words, according to Steffenson, Western education contributes to both the identity crisis and the environmental crisis. G. Smith criticizes that "through their induction of children into a set of institutional regularities" schools encourage the Western scientific view's fundamental objectivist assumption that human beings can "detach themselves from the physical and social environments in which they are embedded."[131] In addition, Swan says that "the major criticism which can be made of education today is that it tends to deaden and delude the mind and body,"[132] because the rational intellect tends to be developed in isolation from the physical, emotional, and spiritual dimensions of the learner in Western education. Simply inserting more liberal arts or humanities courses will not solve the problem since they are "deeply implicated in the global environmental crisis."[133] Sessions cites Huxley who says that the humanities "merely educate the symbol manipulator and leave the rest of the living mind-body in its pristine state of ignorance and ineptitude."[134] In addition, the split between the humanities and the natural sciences exemplifies the human-nature split of the objective view.[135] Swan states that in order to awaken people to nature, contemporary education must change so that it addresses the whole person, but that alternative forms of education are "like entering a wilderness area for most people."[136]

Environmental education has evolved "in a manner largely isolated from both the teacher education curricular mainstream and the humanities and science disciplines."[137] Environmental education has not evolved from within the school system, but rather is entering it from without. In regard to environmental education's disciplinary roots, although it can be said to have emerged from the natural sciences and the study of ecological problems, it has largely adopted a communications rather than educational approach, it has been carried out as mostly non-formal education, and it is critical of the Western objective scientific paradigm from which it originated.[138] Thus, in a sense, environmental education has been an outsider to the formal education systems, and to academia as a whole.

According to Sessions, paraphrased by Devall, "the dominant themes in American [U.S.] education, including most of what passes for environmental education are militantly opposed to ecological education."[139] In other words, in his opinion, even what has been called "environmental education" in U.S. schools, promotes an orientation which is ultimately ecologically destructive. Some scholars indicate that there is support for environmental education in the schools[140] and support for the inclusion of societal values in the schools.[141] Nevertheless, the infusion of environmental education into the formal school system is not happening;[142] it has not been successfully established.[143] According to MacGregor, the problems with establishing environmental education in the formal system stem from the formal system being just another expression of the Western objective-oriented worldview, which is inherently anti-ecological in its fundamental presuppositions about the human-nature relationship.[144]

According to the literature, a barrier to environmental education in the formal system has been the tendency to class environmental education as a separate subject, whereas environmental educators tend to feel that environmental education should be infused into all subjects.[145] It is interesting to note that some formal systems seem to be endeavouring to integrate it into existing subjects for pragmatic rather than philosophical reasons. Integrating environmental education helps to avoid increasing the curriculum burden for teachers. Nevertheless, neither the separate subject nor integration approach to dealing with environmental education in the formal systems reflects a recognition of its true value for education. Environmental education offers a more comprehensive, complex educational vision, one that reintegrates the abstract, intellectualized, and alienated Western education into the whole person and into nature as a whole.[146] Furthermore, some of the educational principles being identified by environmental educators as new educational fundamentals, are being confirmed by educational research as leading to more effective learning.[147]

Yet, as critical as environmental education scholars may be of traditional Western education, environmental education itself is not free from Western objective worldview biases. Since environmental education emerged out of the "natural" sciences, it has shared the biases that have lead to the identity and environmental crises. Although, as a rule, neither the human nor natural sciences address the subjective dimension of human beings, aside from thinking processes, (even psychology has traditionally been mostly reason and information oriented),[148] the natural sciences are particularly strict and rigid about adhering to traditional Western worldview tenets. Therefore, environmental educators themselves may be among those most uncomfortable with a research focus that explores a fuller measure of human identity, one that enters the forbidden subjective zone.

Another difficulty in getting a grip on an area which goes beyond the current worldview is that no adequate and commonly accepted vocabulary has been developed to talk about the topic. Nearly all terminology for the subjective dimension is uncomfortable, awkward, or unclear.[149] Compared to the matter side of the mind-matter division, where all kinds of vocabulary have been developed to talk about the subtleties of matter, the vocabulary to talk about the mind side of the division sadly reflects our lack of attention to it. Ecological studies, especially those oriented toward study in the subjective dimension, are weighted down by the fact that they go beyond the boundaries of the Western worldview and imagination.[150]

Obstacles as Part of the Conceptual Development Process

For many educators, a topic which involves an exploration of the subjective dimension is understandably awkward and uncomfortable since it pushes past the limits of the traditional objective Western worldview. Yet all these obstacles are part of a normal transition process toward a fundamentally evolved worldview which acknowledges both objective and subjective reality.[151] The field of education itself is undergoing a worldview shift along with society at large.[152] Kuhn's *Structure of Scientific Revolutions* provides a constructive way of understanding resistance in education to addressing the inner, subjective realm.[153]

According to Kuhn, science cannot progress without an underlying worldview, or set of basic beliefs, which provides rules for the "puzzle-solving" process of scientific investigation.[154] Thus when a worldview begins to show its limitations by failing to explain newer findings, rather than discard it, exceptions are made until a new worldview is firmly established. Otherwise, scientific investigation would be paralysed for lack of a set of guiding basic assumptions. During this process, the new worldview is developed through testing it, not only against the reality it is supposed to describe, but also against the old worldview which it is supposed to replace.[155] Scholars ask themselves which worldview better explains things, and whether or not the old worldview needs only minor modifications or the whole worldview needs transformation. Resistance is healthy and can be appreciated as a constructive part of the process of transition, rather than an enemy of change, because it serves to test and refine the new worldview. Following Kuhn's theory of scientific revolution, these obstacles will disappear rapidly once the alternative view is clearly delineated. In the meantime, within environmental education, it is precisely work which elucidates the relationship between humanity and nature which will contribute to delimiting the emerging view. As Swan stresses, in order to further our understanding of how to move people from environmental awareness to action, the unfamiliar terrain of inner, subjective life must be explored.[156]

Current trends in science confirm a shift toward addressing this neglected area. There is a shift from focusing on the categories of humanity and nature to a focus on the relationship between them.[157] Laszlo says that there is increasing recognition in science that humanity and nature are part of one organic process.[158] He argues that:

> in the developmental psychology of Piaget and Bruner; in the transactionalist theories of perception of Gibson, Ames, Platt, and Werner; in the theories of learning of Thorpe, Lorenz, and Mowrer; in the organismic psychologies of Maslow and Allport; and in the systems perspectivism of von Bertalanffy, the world as known and the human being as knower form one ongoing developmental process....[159]

The traditional categories of humanity and nature have dissolved into a broader focus on the relationship between them[160] and, according to Rouner, the "leading edge" focus of contemporary science is on this relationship "between humanity and the rest of nature."[161]

Furthermore, there is a more specific focus on the relationship between individuals' subjective experience and nature. Laszlo says that, in light of our new understanding of interconnectedness, "the most that we can do to keep these notions [of individual and environment] apart is to speak of a 'milieu intérieur' and a 'milieu extérieur,'" and "the interface of the two milieus...constitutes our private experiences."[162] In other words, according to Laszlo, the interconnectedness between humanity and nature is experienced in the subjective dimension. Thus, the subjective dimension of the human-nature relationship takes on central importance in the general scientific focus on the human-nature relationship.

As the subjective dimension of the human-nature relationship is being recognized as a vital area of contemporary concern, the fields of psychology and environmental education are overlapping. In the field of psychology, Robinson[163] and Fox (W.)[164] express the need for education to address human inner development in order to survive the environmental crisis. Also, psychology which has had a traditionally very strong objective focus, is now beginning to adopt a subjective, or perspective-valuing, orientation. Levy-Leboyer says that there is a shift in environmental psychology from studying the physical environment to studying "the environment as perceived, evaluated and relevant to each individual."[165] Similarly, in the environmental field, Roszak has published a book entirely focused on a critique of psychology. He proposes an "eco-psychology,"[166] where human sanity is defined in light of ecological patterns. Thus the field of psychology and environment are showing signs of merging.

In sum, the effect of the human-nature relationship on people seems important to environmental behavior. There is a call in environmental education to explore how the human-nature relationship affects human well-being, and ultimately impacts on environmental behavior, and there is a lack of conceptual development in this area. The obstacle to exploring this topic in education is that it requires exploring the neglected subjective dimension, or mind-side, of the mind-matter dichotomy typical of the Western worldview. Since education, including environmental education, suffers from the Western objective bias, there is an obstacle to exploring a topic which involves the ignored subjective dimension. Nevertheless, education is involved in a Kuhnian-like revolution where resistance to the topic can serve to sharpen and refine new conceptual development. Therefore, from many perspectives it seems important to explore how the human-nature relationship affects human well-being, and ultimately environmental behavior. To study this area will contribute to conceptual development on the central environmental education problem of moving learners from awareness to action, and it will contribute to the general scientific trend to explore the relationship between humanity and nature.

Research Question and Objectives of the Study

In order to contribute to understanding on the crucial environmental education problem of moving learners from awareness of ecological and related problems to taking action on them, this research will explore the following question:

> "How is the will to act in environmentally responsible ways affected by the human relationship to nature?"

This question emerged out of the review of literature where it was suggested that humans' relationship to nature plays an important role in human health, the fulfilment of human identity, and discovery of life meaning, and that this physical and mental well-being corresponds to responsible environmental behavior. There are two specific objectives. The first objective is to respond to the research question about how the will to act in environmentally responsible ways is affected by people's relationship to nature. The second objective is to identify the implications for curriculum.

CHAPTER 3

THEORETICAL FRAMEWORK AND METHODOLOGY

This chapter is divided into three parts. The first part presents the basic orientation of the study. The second part describes the theoretical framework, and the third part focuses on the methodology used to address the research objectives.

A Constructivist Orientation

All methodologies are based on assumptions about how we can best know things and what's important. The methodology of this study is based primarily on the assumptions underlying Heinz von Foerster's version of the "constructivist" orientation.[1] His constructivism is grounded in two themes: 1) how we know what we know, and 2) concern for "the present state of the world and its humanity."[2]

For the constructivist, the projections of reason onto the world, or our "dream of reality," is our desire for a reality that exists independently of us, is discoverable, and has certainty or predictability.[3] Constructivists would say that there are no observations that are independent of the observers, and that the lawfulness and certainty of natural phenomena reflect as much, or perhaps more, the properties of the describer than the described.[4] They would argue that "to understand the world we must begin by understanding ourselves," the observers.[5]

The difficulty in understanding our own perception is that traditional scientific methods forbid self-reference in order to preserve objectivity. Yet, in order to understand perception, observers must be able to account for their own ability to perceive. Thus, constructivism values self-reference and reflection, and recognizes the interpretive nature of knowing.[6]

Since constructivism perceives a mutual shaping of the observer and the observed, it is associated with a worldview which sees human beings as embedded in the world. Constructivism, therefore, focuses on human responsiveness to the world. This view values cooperation over competition, and the notion of objectivity is replaced with responsibility. Thus, it is no surprise that a constructivist orientation leads to a sense that it is important to respond to the great problems of our time, which some constructivists view as the "monsters of reason--fascism, genocide, nuclear war, and totalitarianism."[7] Constructivism strives to transform these monsters "by revealing the nature of the dreamer."[8]

Constructivism is the orientation underlying the present study. This basic epistemological perspective has affected all aspects of the research, including the choice of theoretical framework and methodological approach.

Theoretical Framework

Theoretical frameworks are like lenses; they help to focus the meaning or significance of the data. The same methods can be used to arrive at any number of conclusions--it is the theoretical framework, or the way in which one looks at the data, which shapes the conclusions.[9] As noted earlier, this research is intended to address two inter-related objectives: to explore how the human-nature relationship affects people's will to act in environmentally responsible ways, and to identify the implications for curriculum. The theoretical framework is presented in two sections which correspond to the two objectives. The first section addresses the theoretical underpinnings of the approach to exploring the research question, and the subsequent discussion addresses the theoretical approach to identifying the implications for curriculum.

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Objective 1: Will

Yalom's work on willing was used as the theoretical framework for the exploration of objective one, how the will to act in environmentally responsible ways is affected by the human relationship to nature. This section is divided into five sub-sections: 1) the definition and process of will; 2) the centrality of will to the research problem; 3) Yalom's theory of willing as an especially appropriate framework for the argument; 4) the neglect of will, and 5) the lack of conceptual development on will.

Definition and Process of Will

The theoretical framework used to address the specific problem of how the will to act in environmentally responsible ways is affected by the human relationship to nature is Yalom's theory of willing. The popular superficial view of will as "teeth-gritting" resolve is an impoverished view of will; it is will without wish.[10] According to May, "without wish, will loses its life-blood, its viability, and tends to expire in self-contradiction."[11] If you have will without wish, you have "the driven, unfree, infantile person who, as an adult-remaining-an-infant, may become the robot."[12] Further, Yalom suggests that if one's wishes are based on something other than feelings, such as on rational deliberation or moral imperatives--then they are no longer wishes, but "shoulds" or "oughts" and one is "blocked from communicating with one's real self."[13] Correspondingly, as mentioned earlier, Yalom states that will cannot be created, only disencumbered.[14]

The history of the term will, is replete with attempts to define it. There have been 2000 years of theological and philosophical polemic around this controversial term, giving rise to multiple and conflicting definitions.[15] Having considered the history of thinking about will, and in light of clinical experience and research, Yalom suggests that will is "a force composed of both power and desire."[16] Will is the "trigger of effort,"[17] the "mainspring of action,"[18] "the mental agency that transforms awareness and knowledge into action."[19] Will, according to Yalom, "is inherent in the very act of change."[20] In other words, between awareness and action comes willing.[21] Willing that does not result in action is, according to Yalom, a failure of will.[22]

According to Yalom, will is about taking responsibility for acting on awareness.[23] Will, he says, is "response-ability."[24] Thinking, therefore, according to his definitions, is not considered action. Action involves response, an interaction with one's surrounding physical or interpersonal world, be it overt action or a conscious absence of action.[25] Will involves intent and the acting out of intention.

Yalom suggests that will has two stages. First, one must wish or desire to respond to the information or awareness, and, second, one must commit to a path of action and carry it out.[26] In order to fulfil the first step of willing, to wish or desire to respond, one must have access to one's feelings.[27] It is interesting to note that Plato included will in the emotive part of the soul.[28] Also, Macy refers to "volitional formations" as shaped by our desires and as that which carries forward the energy of the will.[29] According to May (in Yalom), wishes, the initiators of the process of willing, differ from needs in that they are imbued with meaning. May says that wish "gives the warmth, content, imagination, child's play, freshness and richness to will."[30] In addition, according to May, will is not only emotional power, and decisive resolve, will is also potentiality and intention that is "intimately bound up with the future."[31] Wishes involve direction and time,[32] whereas needs may be more present oriented.

The second part of will is commitment to a path of action which will fulfil the wish or desire expressed at the first stage of willing. As the second part of will, commitment gives the self-direction and maturity to wish.[33] Commitment to a path of action requires choice or decision. Decision is a "bridge between wishing and action."[34] According to Yalom, decision must lead to implementation of the wish or desire; otherwise, it is a miscarried decision.[35]

Centrality of Will to the Research Problem

The general problem area of moving learners from awareness of ecological problems to taking action on them can be viewed as a problem of will.[36] Yalom names the pivotal neglected process between awareness and taking action as will, and this label parallels several of the key data sources (discussed in the methodology section) which identify the lack of will to respond to the environmental crisis as the most difficult and crucial obstacle to achieving an environmental response.[37]

Furthermore, will is central both to human fulfilment and to environmental response. On the one hand, will is linked to human freedom,[38] in the sense of free will and the ability to change one's own situation, either outwardly or through a behavior or attitude change. On the other hand, the exercising of will is clearly pivotal to a constructive response to the environmental crisis in light of the common understanding that the environmental crisis stems from human behavior.

Yalom's Theoretical Work on Willing

Yalom's work on willing is especially useful because it answers to a critique in psychology that analysts have unsuccessfully tried to move clients from awareness to action using information and intellectual awareness, which parallels exactly the critique that environmental educators have done the same.[39] The information or intellectual awareness approach to behavior change has failed in both psychology and environmental education.

As environmental educators have discovered, clinical experience in psychology also shows that clients who are well aware of what their problem is and what they must do, can still fail to take action, even if they truly believe that is indeed what they should do. In spite of not necessarily achieving the sought after transformation in clients through intellectual awareness, many analysts still continue to pursue intellectual awareness as the main goal. They assume the circular thinking, according to Yalom, that if the client has not undergone the desired transformation, then not enough intellectual awareness has been achieved, rather than questioning their approach.[40] Nevertheless, intellectual knowing, alone, does not lead to action.[41]

The root of the assumption that information should lead automatically to action probably goes back to the traditional Western scientific view that "mind" is separate from and superior to "matter," and that mind consists solely of reason. Accordingly, we expect and exhort people to change their behavior on the basis of a reasoned argument or convincing information. We even have a saying "give me one good reason," as if a good reason is enough to make us change. Therefore it is incomprehensible to us when the logical change is not forthcoming, especially if the individual is as convinced as we are by the argument.[42]

Environmentalists often fall prey to this approach, either directly exhorting people to change for their own good, or indirectly exhorting them to change through judgmental attacks on what must be their faulty character, since they are not responding to the obvious. Russell (P.) provides a case in point when he says that "what we seem to lack is the will to get out of our seats and try together to avoid disaster. We lack the courage to face the truth. Most of us appear more concerned with defending ourselves against our fellow passengers. Or with making sure that we win our game."[43] Russell's frustration and indignation at our lack of will is a common refrain among environmentalists, but, essentially, it is an indication of environmentalists' lack of understanding of the process of willing. In light of the Western belief that reason is superior to all other human faculties, such a mistake is understandable, but, according to Yalom, exhortation is a "guiless expectation."[44] Will is much more than determined resolve, more than a "teeth gritting" effort in response to some new information.[45]

Neglect of Will

Yalom states that in psychology, where one would expect to see development on the concept of willing, it has been neglected.[46] According to Yalom, the internal process of willing has been so neglected by psychology, that, at the time of Yalom's book, there was not even terminology to describe it. Patients who seek help for disordered will, have been labelled obsessive-compulsive or indecisive, or suffering from an agonizing decision, or some similar label, because will and disorders of will have not been in the standard psychological nosology.[47]

One of the reasons that the interior process of willing has been neglected in psychology is that will has been confused with extrinsic motivation. According to Yalom, in psychology will has been replaced by the concept of "motive;" psychological analysts have aimed at providing extrinsic motivation rather than enabling the will to act.[48] Yet, to have a motive to act, and fail to act, is not a failure of motivation, while to have the will to act, and fail to act, *is* a failure of will. Will is the sole agent, according to Yalom, which links awareness to action.[49]

The distinction that Yalom makes between will and motivation is not to say that "motivational theory" has no value to the problem of will. Indeed, some motivational theories may have very similar substance to Yalom's theory of willing. Nevertheless, Yalom is making a semantic and practically important clarification. He is identifying the process between awareness and action as an *internal process* called "willing," as opposed to a deterministic reaction to some outside force. Some scholars might call the process to which he is referring a motivation process. Nevertheless, in light of the tendency in psychology and environmental education to address motivation as having to do primarily with deterministic reactions to outside stimuli like information, it seems useful for environmental educators to take Yalom's suggestion and refer to this process as 'willing,' rather than 'motivation.' The focus on external motivators aimed at deterministic reactions is in keeping with the materialist 'outer' focus of the Western worldview, while the neglect of the *internal processes* involved in moving from awareness to action, reflects the Western tendency to ignore subjective processes. Therefore, to call the awareness to action process willing rather than motivation, may help to avoid slipping into this Western bias. The term motivation can easily be assumed to mean objectified and externalized motivations, whereas will, although it can clearly be influenced by an external situation, is at least more than, if not completely distinct from, a deterministic reaction. According to Yalom, *will cannot be created, it can only be disencumbered.*[50] Will emerges from within the person. If someone is forced from the outside to respond, that is not will, it is something else. Thus, to use the term will might help to avoid the narrow, deterministic view of behavior change.

Clarification between extrinsic motivators or deterministic reactions and the internal process of willing is something about which environmental educators need to be more aware. The term motivation is used by environmental educators in broad sweeping ways, or interchangeably with will, such that it is not clear whether it is an internal process or a deterministic reaction. Two environmental authors who use the term motivation, and seem to imply that it refers to much more than deterministic reaction, are Dahl and Roszak. Dahl uses the terms will and motivation interchangeably, saying that the will or motivation problem is the "crucial question,"[51] and he goes far beyond deterministic reactions to address the spiritual dimension as key to people's will or motivation. Roszak also suggests that there is more to motivation than the deterministic reactions which environmentalists usually seek. He states that environmentalists' ability to elicit a response befitting the contemporary crises rests on deepening their "poor and short-sighted ideas about human motivation."[52] It is important to uncover the internal process of willing, make it an explicit part of environmental education, and to distinguish it clearly from the determinism typical of the Western worldview which negates people's ability to make conscious changes or exercise their will.[53] Will reaches to the deeper motivational forces within us, and seems to have the potential to lead us to find the deep compatibility between profound personal fulfilment and responsible environmental behavior.[54]

Lack of Conceptual Development on Will

As discussed in the literature review in the previous chapter, environmental education scholars assert the need for conceptual development on the problem of will, but they do not offer any explicit conceptual development on it. Therefore, the application of Yalom's model of willing brings some conceptual grounding to an important problem identified in environmental education literature. Yalom's theoretical work on will is a suggestion for how to move beyond a simplistic and deterministic information approach to an approach based on a more subtle understanding of the interior process of willing.[55]

Since the centrality of the concept of will emerged gradually during the research process, and since Yalom's work on willing is just over 10 years old, a specific search was carried out to identify whether Yalom had updated his work or whether there were any other models of will to choose from. No updates or alternative models were identified, although there were studies on particular aspects of will. That search affirmed that Yalom's model was the most appropriate choice for this study.

In light of the breadth of the grounding for Yalom's work, (his model is grounded in a multi-disciplinary synthesis of the understanding of will throughout history and clinical experience,) as well as its tight fit to the problem at hand, it seems particularly valuable to apply his theory to environmental education. Both analysts and environmental educators seek to motivate a change or transformation in their clients through information or intellectual awareness, yet neither are familiar with the interior process of willing nor trained in how to enable will, the "trigger of effort."[56]

This section has described Yalom's work on willing used for the development of the argument about how the will to act in environmentally responsible ways is affected by the human relationship with nature. The next section describes the theoretical framework used to address the second objective of the study, namely, the implications of the argument for curriculum.

Objective 2: Curriculum Implications

The theoretical framework orienting the approach to identifying the implications of the argument for curriculum is grounded in several sources: Hungerford's and Volk's state-of-the-art work on achieving responsible environmental behavior (including Hines' and colleagues' earlier work), Tyler's model of curriculum development and evaluation, and Kliebard's definition of curriculum.

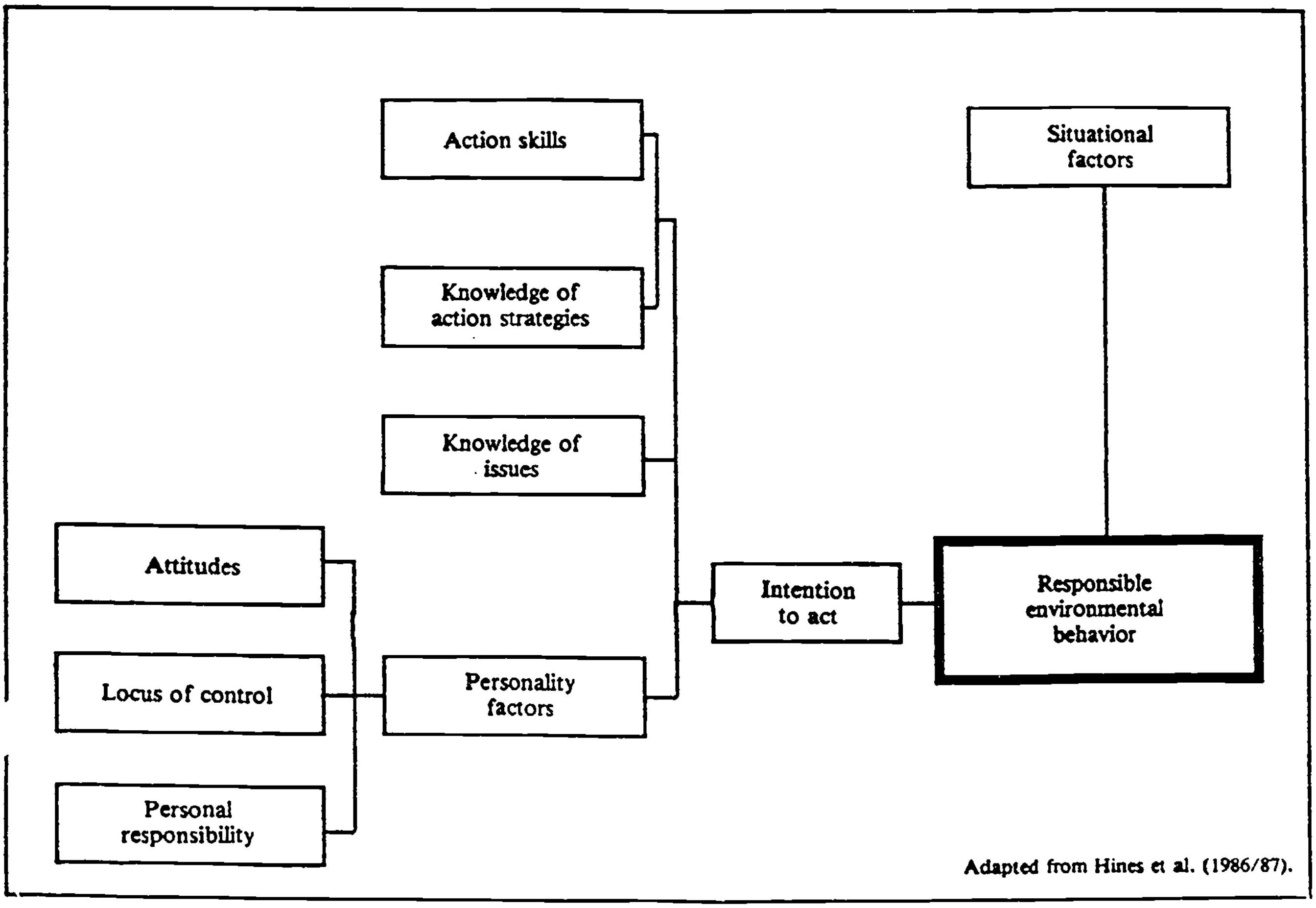
Hungerford and Volk

Hungerford and Volk present an earlier model by Hines and colleagues, as well as their own revised model, of factors influencing responsible environmental behavior. Figure 1 presents *Hines Model of Responsible Environmental Behavior* and Figure 2 presents Hungerford and Volks' enrichment of the *Hines Model.*

In regard to the *Hines Model*, the problem of will falls mostly in Hines' "Intention to act" box. According to Yalom, will has to do with the future tense, as in "I *will* do it," clearly in the realm of intention.[57] The use of will to denote the future tense is related to the nature of will itself, according to Yalom.[58]

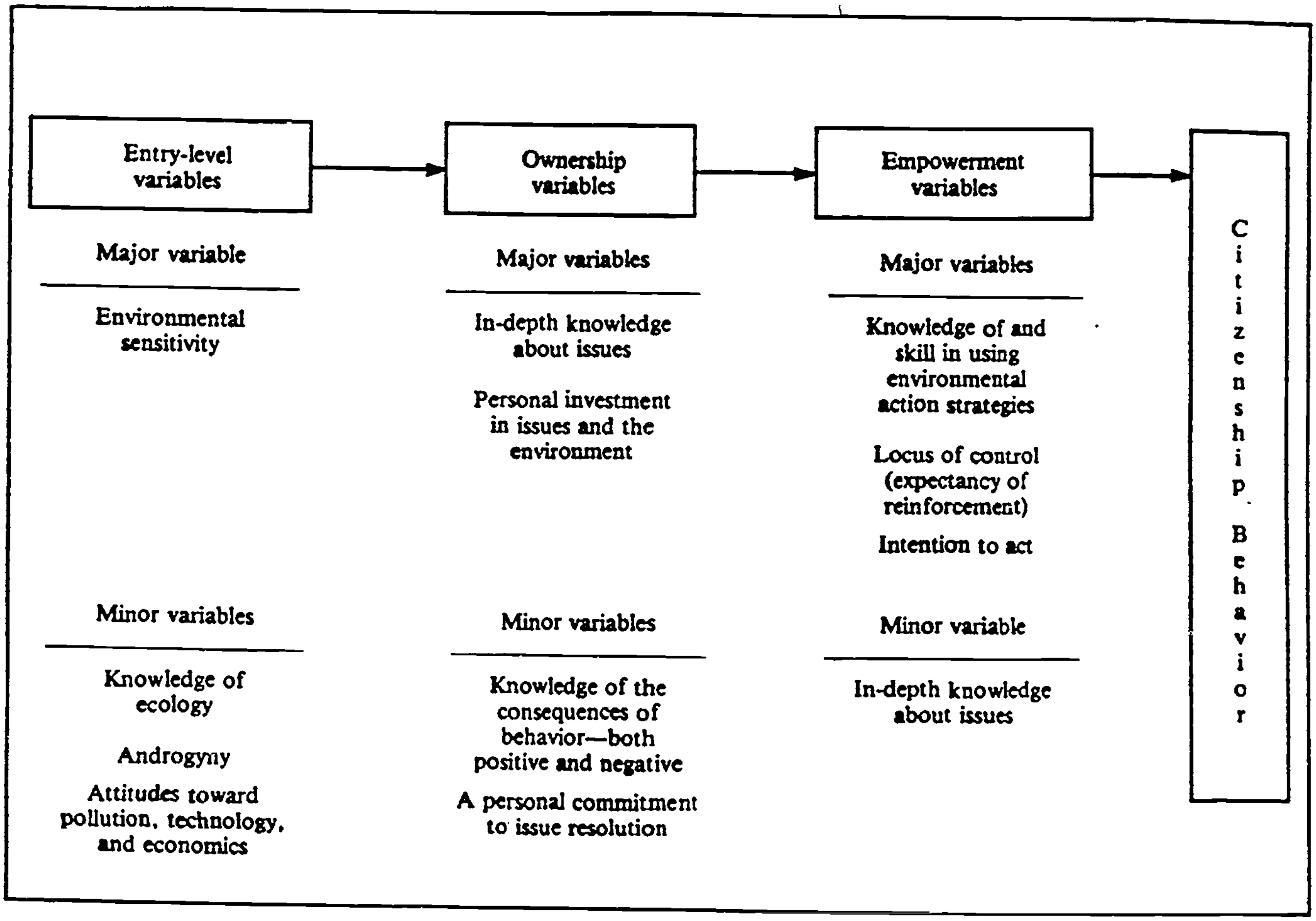
The *Hines Model* is useful because, on the one hand, it shows just how pivotal will is. Without the intention to act (i.e. will), all the attitudes, locus of control, personal responsibility, personality factors, knowledge of issues and action strategies, and action skills are fruitless. For example, it is possible to be deficient in one's attitude or knowledge and so on, and still achieve responsible environmental behavior, but the lack of the will to act, or the "intention," according to this model, means *no* responsible environmental behavior will result. On the other hand, this model serves a humbling purpose because it shows how much more than just willing influences responsible environmental behavior. This model contextualizes will. Although many of the factors identified in this model in addition to intention, may actually be a part of the process of willing, taking intention to represent will in this model serves to reveal the many other factors important to achieving responsible environmental behavior. Will, according to this model, without an adequate base of attitudes, locus of control, sense of personal responsibility, personality factors, knowledge of

FIGURE 1: The Hines Model of Responsible Environmental Behavior[59]


Action skills
Situational factors
Knowledge of action strategies
Knowledge of issues
Attitudes
Intention to act
Responsible environmental behavior
Locus of control
Personality factors
Personal responsibility

Adapted from Hines et al. (1986/87).

FIGURE 2: Behavior Flow Chart: Major and Minor Variables Involved in Environmental Citizenship Behavior[60]


Entry-level variables
Ownership variables
Empowerment variables
Citizenship Behavior
Major variable
Environmental sensitivity
Major variables
In-depth knowledge about issues
Personal investment in issues and the environment
Major variables
Knowledge of and skill in using environmental action strategies
Locus of control (expectancy of reinforcement)
Intention to act
Minor variables
Knowledge of ecology
Androgyny
Attitudes toward pollution, technology, and economics
Minor variables
Knowledge of the consequences of behavior—both positive and negative
A personal commitment to issue resolution
Minor variable
In-depth knowledge about issues

issues and action strategies, and action skills means will without direction or capacity.

The other noteworthy aspect to this model is the "situational factors" box. Although the *Hines Model* limits situational factors to economic constraints and social pressures and opportunities to choose different actions,[61] this category of factors reminds one that individual will is not the only factor. This realization counteracts the anthropocentric Western belief that it is possible and desirable to seek freedom from all "natural and religious limits," or, in other words, freedom from situational factors.[62] Griffin defines the central tendency of Western modernity as "the denial that the human self is internally related to other things, that is, that the individual person is significantly constituted by his or her relations to other people, to institutions, to nature, to the past, even perhaps to a Divine Creator."[63] He and other scholars consider this "individualistic" sense of human identity as the single greatest factor leading to our destructive environmental behavior.[64] It is heartening, therefore, to see a doorway in this model for these natural (including social), and Divine factors to be considered as playing a role. Keeping in mind that human will may not be the sole factor in humanity's response to the environmental crisis, will still is an important focus for the problem of moving learners from awareness to action.

Both Hungerford's and Volk's, and Hines' and colleagues' models emphasize human beings influencing the human-nature relationship, but both models are weak in regard to how the human-nature relationship affects people, and *ultimately* their environmental behavior. Neither model reveals the complementarity between the well-being of the planet *and* people. Nevertheless, these earlier models represent the state-of-the-art understanding of behavior change toward responsible environmental behavior, and, therefore, Chapter 5 will consider how the model developed to summarize this study's argument contributes to refining these earlier models. A refined model will be developed that integrates the argument model with Hungerford's and Volk's, and Hines' and colleagues' earlier models on the key problem of achieving responsible environmental behavior. Furthermore, since the models of responsible environmental behavior factors do not address curriculum processes, a set of curriculum questions derived from Tyler's model of curriculum development and evaluation and Kliebard's definition of curriculum serves to identify the implications for curriculum.

Tyler and Kliebard

Tyler's and Kliebard's works were selected because of their enduring value to curriculum theory. In addition, Tyler and Kliebard are complementary. Kliebard explicitly states his support of the general Tyler model, while at the same time he contributes some constructive suggestions to strengthen that model.[65]

Tyler's Curriculum Questions

Tyler's four fundamental curriculum questions are[66]:

1. "What educational purposes should the school seek to attain?"
2. "What educational experiences can be provided that are likely to attain these purposes?"
3. "How can these educational experiences be effectively organized?"
4. "How can it be determined whether these purposes are being attained?"

The strength of Tyler's model has been proven over the years; it is a widely used model. Since it has been applied for many years and across cultures, it seems to represent a credible base-line describing curriculum. Nevertheless, Tyler's model is a rational-empirical model,[67] and as such, it is typical of the same Western worldview criticized in environmental education literature for leading to the environmental crisis. Therefore, Tyler's model, alone, would simply not be credible from an environmental perspective.

Tyler's model appears to be derived from *a priori* theory, as opposed to being embedded in curriculum experience. Also, his model doesn't acknowledge the value-laden nature of curriculum. These two deficiencies are typical of the Western objective worldview, which has held that the "knower" can know things without participating in a relationship with them, and that it is possible to create conditions of value neutrality.

Kliebard's Curriculum Questions

Kliebard's curriculum questions are highly complementary to Tyler's because they are strong exactly where Tyler's model is weak; Kliebard's questions are grounded in curriculum experience, and they recognize the value-ladenness of curriculum. Kliebard's (paraphrased) curriculum questions are[68]:

1. What should be taught to whom?
2. What rules should govern teaching?
3. Why should certain subjects be studied in school rather than others?
4. How do the components of the curriculum interrelate into an integrated whole which describes what it means to be educated?

He points out that all of these questions require value judgments.[69] He determined these questions through an examination of approximately 70 years of issues raised in curriculum research literature.[70] Thus he has let the issues addressed by research and field experience define curriculum, rather than creating *a priori* questions based on what he thinks curriculum *should* be about. Kliebard's definition is considered a "classic statement" on curriculum.[71]

Limitations of Tyler's Framework

Kliebard criticizes Tyler's evaluation question, "how can it be determined whether curriculum purposes are being attained," as too narrow. Kliebard suggests that evaluation must make a value judgment about whether the program itself is valuable, not just whether or not the particular objectives are met,[72] in other words, is it a *worthwhile* program?

Another criticism of Ralph Tyler's model is its confusion between learning experience and learning activities. Although Tyler's questions refer to experiences, his discussion of them refers to activities. Clearly, the same activity can lead to very different experiences for any two individuals. L.L. Tyler suggests that experiences and activities are two distinct aspects of curriculum.[73]

Curriculum Questions Used in the Study

Considering Tyler's and Kliebard's curriculum questions, a set of curriculum questions were developed to help identify the implications for curriculum. Tyler's first question, "What educational purposes should the school seek to attain?" can be related to Kliebard's first question, "What should be taught to whom?" In light of the environmental education focus of this thesis and the fact that this study addresses formal and non-formal environmental education, they can be combined to read: "What are the purposes of environmental education and whom do they serve?"

Kliebard's third question, "Why should certain subjects be studied in school rather than others?" seems to address the more specific objectives needed to reach the ultimate goals or purposes set out by the first questions. It could be rephrased in a more specific way as: "What skills, values, and understandings should be taught?"

Tyler's third question, "How can these educational experiences be effectively organized?" seems to relate to Kliebard's second question, "What rules govern teaching?" These two questions can apply to organizational and teaching strategies, and therefore a synthesis of these questions could read: "What kinds of organizational and teaching strategies should be used?"

Tyler's second question, "What educational experiences can be provided that are likely to attain these purposes?" addresses the experiences and activities likely to lead to the desired skills, values, and understandings. Since Tyler was criticized for confusing educational experiences and activities, the question can be rephrased: "What educational experiences and activities should be provided?"

Tyler's fourth question, "How can it be determined whether these purposes are being attained?" has been criticized as too narrow. The social worth of the program as a whole is also important. Thus the question is raised: "What should be evaluated and how?"

Finally, there is Kliebard's last question: "How do the components of the curriculum interrelate into an integrated whole which describes what it means to be educated?" This question can stand on its own. One might reasonably argue that it relates to evaluation because its answer ultimately may address the social worth of the program and the purposes of education. Nevertheless, Kliebard's question is broader than evaluation of social worth and program objectives. His question addresses how *all* components of curriculum, of which evaluation is just one, work together to lead to an ideal of what it means to be educated.

In sum, the set of curriculum questions used in this study include:

1. "What are the purposes of environmental education and whom do they serve?"
2. "What skills, values, and understandings should be taught?
3. "What kinds of organizational and teaching strategies should be used?"
4. "What educational experiences and activities should be provided?"
5. "What should be evaluated and how?"
6. "How do the components of the curriculum interrelate into an integrated whole which describes what it means to be educated?"

These questions have been applied to the refined model of how to achieve responsible environmental behavior in order to identify the implications for curriculum. The refined model integrates the model which summarizes the argument, with Hungerford's and Volk's, and Hines' and colleagues' models.

Methodological Approach

Since there has been little to no conceptual development in environmental education on the topic of how the will to act in environmentally responsible ways is affected by the human relationship to nature, it was felt that the methodology should facilitate a broad exploratory inquiry. The general aim of the study is to begin to map a conceptual understanding of the problem. Due to the lack of conceptual development on the topic within environmental education, it was necessary to draw on sources of data outside of traditional environmental education literature.

According to Ogawa and Malen, when there is a lack of conceptual development on a topic, the first step is to begin mapping it conceptually through an examination of relevant multi-disciplinary literature of all types, keeping in mind the level of credibility of the various references and their importance to the topic.[74] They state that this "multivocal" examination of literature is "original research" because it contributes to conceptual development on the topic.[75] Furthermore, there is a call in environmental education literature for multi-disciplinary research[76] based on secondary data, or literature, as opposed to field data.[77] In light of the general theoretical and environmental education view that conceptual development on this topic should begin with an examination of relevant literature, and in light of the constructivist orientation which sees all human knowledge as interpretive or perception based, the approach taken to answering the first part of the research question has been to examine key literature relevant to the topic and to develop an original argument (as opposed to a summative or comparative synthesis) in answer to part one of the research question.[78]

Identification of the implications for curriculum, the second objective, is addressed by using a set of key curriculum questions which were discussed in the previous part of this chapter. The following discussion clarifies: the process of data source selection; data collection, integration and interpretation in regard to objective 1; and analysis of the implications of the argument for curriculum in regard to objective 2.

Selection of Data Sources

Since, according to a constructivist orientation there is no such thing as an objective, interpretation-free literature review, the argument presented in this study is considered to begin with the literature review. The first stage of literature selection was for the original review of environmental education literature on the general problem area of moving learners from awareness of ecological problems to taking action on them. All identified published articles or books which pertained to this problem were examined. Although many databases and indexes were searched, the most useful source for assessing the state of knowledge about moving learners from awareness of ecological problems to taking action on them was found to be the *Journal of Environmental Education*. The broad examination of scholarly environmental education literature served to map the current state of knowledge in environmental education about the problem area. The review of environmental education literature suggested that the key to moving learners from awareness to action lies in how the human-nature relationship affects human physical and mental well-being. This review also led to reading on societal transformation and worldview shift, such as Kuhn's classic work *The Structure of Scientific Revolutions*, and Schwartz's and Ogilvy's *The Emergent Paradigm*[79] which describes the common shift of worldview occurring across disciplines.

The identification of the importance of the relationship between the will to act in environmentally responsible ways and humans' relationship to nature led to a second stage of the reference selection process. This stage involved the identification of references which specifically address the complementarity between human and planetary well-being. References which addressed the *lived* human-nature relationship, even if in a speculative style, were preferred over those which addressed the idealized relationship. There is a tremendous amount of literature on the idealized harmonious relationship, or complementarity, between people and nature, in other words, the kind of relationship that "should" or "ought to" be, but very little on the *lived* relationship of complementarity between humanity and nature. It seemed more valuable for environmental educators to know about the complementarity learners may actually have with nature, than the relationship they *ought* to have, as valuable as that work is in its own right.

Over 51 databases were searched.[80] Also, key book stores in Ottawa were regularly consulted during the early stages of the research, as well as one of the best Canadian bookstores for this kind of topic in Vancouver,[81] in order to identify relevant publications that were not yet on the library shelves. After consulting all available potentially relevant references in-person, only 100 references were identified which seemed to address the lived human development-environmental behavior relationship. No references were identified which addressed the problem directly, as a main theme, except for Roszak and Macy's works. This wide data search and the paucity of sources directly addressing the problem area, confirmed the need for conceptual development in this area.

The next stage of the reference selection process was to use the bibliographies and notes of the 100 potential references to identify the citation circle. The purpose of this step was to identify which works on the problem area were *key*. The bibliographies and notes from the 100 references were compiled and the frequency of references identified in order to identify the citation circle for the topic. Once the most frequently cited references were established, they were carefully examined to establish which of them were relevant to the topic. A list of the 37 most frequently cited authors whose works seemed to address the problem area in even a small way was then submitted to seven key scholars who themselves have addressed themes that are close to the topic, and who are well-known and highly respected figures in socio-environmental studies, religion, or psychology. They assisted in identifying the authors and references which they felt would be of greatest importance to the topic. An effort was made to consult with scholars from as wide a diversity of cultural, gender, and disciplinary backgrounds as possible.

The two key scholars on the problem area were confirmed to be Roszak and Macy. Roszak can be described as a cultural historian who has been studying and critiquing the path of Western culture with an emphasis on the environmental crisis over several decades. Macy is a Buddhist scholar who has developed educational programs dedicated to confronting of people's despair about the state of the world and transforming it into the empowerment to respond creatively and constructively to the needs of the world. Roszak's *Voice of the Earth* and Macy's *World as Lover, World as Self* were most frequently cited as pivotal references on the topic by the scholars consulted. Although there are other authors whose works are of clear importance to the topic, only Roszak and Macy can be said, according to this selection process at least, to be truly key authors. Therefore, additional references were selected from among those which were most often mentioned by the scholars as relevant. Also, some particular perspectives that were clearly relevant, some of which were mentioned by the scholars but for which no specific references were suggested, were sought out, including native, Bahá'í and feminist perspectives. In addition, two secondary references became primary: one provided an excellent summary of the Western worldview perspective and the critiques of it, including perspectives from a range of key environmental scholars,[82] and the other provided unique historical depth which complemented the emerging argument line.[83] Most of the authors are eclectic and cannot be said to speak solely from one perspective. Nevertheless, the selection of references has ultimately drawn on perspectives from various cultures, disciplines, and religions, including: Cree, Deep Ecology, Brain Research, Physics, Psychology, History, Philosophy, Anthropology, Eastern Meditation, Feminism, Christian

(Creation Theology), Tibetan Buddhist, Islamic, and Bahá'í. No references from education which addressed the problem area were identified. Nevertheless, once the argument took shape and the implications for curriculum were established, it became clear that there is educational literature which confirms the specific curriculum recommendations emerging out of this study. Therefore, reference to this rich area of educational development was integrated into the discussion of the implications for curriculum. Rather than a comprehensive review of relevant educational literature, this study provides some examples which point toward this area of educational research and discussion.

The key references which were examined thoroughly for data in regard to the research question on how the will to act in environmentally responsible ways is affected by the human relationship with nature included:

Berry, Thomas. *The Dream of the Earth*. San Francisco: Sierra Club Books, 1988.

Carter, Robert E. *Becoming Bamboo: Western and Eastern Explorations of the Meaning of Life*. Montreal and Kingston: McGill-Queen's University Press, 1992.

Dahl, Arthur Lyon. *Unless and Until: A Bahá'í Focus on the Environment*. London: Bahá'í Publishing Trust, 1990.

Feit, Harvey A. "Hunting and the Quest for Power: The James Bay Cree and Whitemen in the Twentieth Century," in R. Bruce Morrison and C. Roderick Wilson. *Native Peoples: The Canadian Experience*. Toronto: McClelland & Stewart, 1988.

Fox, Matthew. *Creation Spirituality: Liberating Gifts for the Peoples of the Earth*. San Francisco: Harper, 1991.

Griffin, David Ray, ed. *Spirituality and Society: Postmodern Visions*. NY: State University of New York Press, 1988.

Houston, Jean. "Sacred Psychology and the Feminine" and "The Rise of the Feminine," in *Woman of Power: A Magazine of Feminism, Spirituality, and Politics* 12 (Winter, 1989): 22-25.

LaChapelle, Dolores. *Sacred Land, Sacred Sex: Rapture of the Deep*. Silverton, Colorado: Finn Hill Arts, 1988.

Macy, Joanna. *World as Lover, World as Self*. Berkeley, CA: Parallax Press, 1991.

Roszak, Theodore. *The Voice of the Earth*. NY: Simon & Schuster, 1992.

Russell, Peter. *The White Hole in Time: Our Future Evolution and the Meaning of Now*. San Francisco: Harper, 1992.

Two additional references that were examined in depth in order to deepen the implications of the argument for curriculum by relating them to existing educational research and development were:

Dickinson, Dee, ed. *Creating the Future: Perspectives on Educational Change*. USA/UK: Accelerated Learning Systems Ltd., 1991.

Effective Leadership and *Imaginal Education: Learning to Learn*. Toronto: Institute for Cultural Affairs, n.d.

Creating the Future is a collection of essays from leading educational scholars, that provides a good overview of recent educational thought. The Institute for Cultural Affairs' *Effective Leadership* and *Learning to Learn* materials are explicitly grounded in a broad synthesis of psychological and educational theories. Appendix II provides a brief description of the particular relevance of each key reference for the topic, as well as some biographical descriptions of the authors.

These references constitute the primary ring of references for the study. Nevertheless, as data collection and synthesis proceeded, and as the argument began to emerge, it became apparent that certain specific references could fill in gaps or raise important questions, and so a secondary ring of references were consulted on specific points.

Data Collection, Integration and Interpretation

An emergent design process was used for data collection and analysis for the development of the argument about how the will to act in environmentally responsible ways is affected by humans' relationship with nature.[84] Data were collected using the constant comparison method.[85] As explained earlier, the overall epistemological orientation is constructivist. In other words, the goal was not to systematically compare, contrast or summarize the various references examined for the development of the argument. A comparative synthesis would emphasize how each reference is unique or similar to the others in its treatment of the topic. A summative synthesis goes one step farther by 'adding up' or integrating how the references have addressed the topic, identifying what is common to all the references, and the points that are unique to particular references. By contrast, a constructivist approach is to examine the references for their contribution to the topic, and weave them into an original argument about the topic area. The underlying constructivist assumption behind this approach to synthesis is that the sum is more than the addition of the parts, or that the researcher inevitably must make judgments about the significance of the data. The constructivist orientation assumes that bringing data together to make a meaningful argument is not merely a mechanical process, but that it requires interpretive judgment, and therefore, the argument is judged not just on whether data have been accurately collected, but also whether a good, convincing argument has been made about the *significance* of the data.

Although the general grouping process of the constant comparison method helped to make sense of the data, there was one important point not addressed by that method: the meaning of a piece of data, or even what should be considered a piece of data, was found to shift as the argument grew. Therefore, it was not possible to group data only once. Instead, there were recurrent 'reconstellations' of the data. As a result, the creation of meaning units seemed to impede the process of grouping more than facilitate it. It was more realistic to recognize that the groupings were temporary, and to group chunks of text according to an emerging argument line.

It was also very important to the process of integration to be able to see at a glance the whole of the emerging argument line into which data were being integrated. Several sheets of drywall were used to display file cards with data segments from the computer where they had initially been collected. Integrating data into a tentative line of argument, while at the same time grouping data into groups according to similarity, was more productive than integrating it in some sort of *neutral* way. Depending on the argument to be made, data took on different meanings, therefore neutral grouping was not effective. The constructivist orientation emerged, therefore, as the orientation which best described the concrete process experienced in collecting and analyzing, that is, integrating and making sense of data. There was no escaping the fundamental role of interpretation in making sense of the data.

It seemed that the research methods described in many text books were mechanical step by step processes, but that, in reality, there was a great deal more judgment involved in collecting and making sense of data than mechanics. In the conclusion of this study, an alternative way of arriving at an argument line is suggested that would create an explicit place in the research methodology for the inevitable reflective and interpretive processes, while at the same time making judgements more traceable, and thereby making the researcher more accountable. Nevertheless, there is no process that can replace the inevitable struggle involved in coming to know the data. The processes used for this research, however, did not allow for the best use of the data sources. The constant reconstellating of data meant that ultimately less data could be accommodated, and that, at some points, the management of the data was overwhelming As Wolcott says, "the major problem we face in qualitative inquiry is not to get data, but to get rid of it!"[86]

Other approaches that were considered included content analysis. Traditional content analysis was not useful because it is a micro approach aimed at very specific terms, and is not appropriate for this topic area, where there are many terms for similar or related things, and where there is a complex and broad relationship as the focus of the study. Since this topic addresses an area singularly neglected by the outer-focused Western worldview, there is no well developed, common vocabulary which can serve as flags in a text. Furthermore, this broad and relatively new topic required the collection of data with complex, multi-layered relationships, and so the traditional content analysis which focuses on things that are more specific and isolated was not appropriate.[87]

Analysis of the Implications for Curriculum

The first step to identifying the implications of the argument for curriculum was to integrate the argument model with earlier environmental education models about how to achieve responsible environmental behavior. The *Eco-Will Model*, presented at the end of Chapter 4, summarizes the argument about how the will to act in environmentally responsible ways is affected by the human relationship to nature. Since Hungerford's and Volk's, and Hines' and colleagues' models represent the state-of-the-art knowledge on behavior change in general, and achieving responsible environmental behavior in particular, the argument model was integrated with those models, creating a *Refined Eco-Will Model*.

Since the models about how to achieve responsible environmental behavior do not address curriculum processes, the next step of the analysis was to apply the following set of curriculum questions drawn from Tyler and Kliebard to the *Refined Eco-Will Model*, in order to identify the implications for curriculum:

1. "What are the purposes of environmental education and whom do they serve?"
2. "What skills, values, and understandings should be taught?
3. "What kinds of organizational and teaching strategies should be used?"
4. "What educational experiences and activities should be provided?"
5. "What should be evaluated and how?"
6. "How do the components of the curriculum interrelate into an integrated whole which describes what it means to be educated?"

In addition, a collection of essays from leading educational scholars and some other innovative curriculum literature were consulted in order to show where there are correspondences between the analysis of implications for curriculum and some existing curriculum literature.[88]

This chapter has described the constructivist orientation underlying the study, as well as the theoretical framework and methodology used for each objective. The following chapter, Chapter 4, presents the main argument. It responds to the research question about how the will to behave in environmentally responsible ways is affected by the human relationship to nature.

CHAPTER 4

RESPONSIBLE ENVIRONMENTAL BEHAVIOR: A PROBLEM OF WILL

The general problem area addressed by this study is how to move learners from mere awareness of environmental problems to taking responsible action on them. The literature review established that this problem can be seen as a problem of will. Also, the literature review suggested that the human relationship to nature affects human physical and mental well-being, and ultimately the will to act in environmentally responsible ways. This chapter presents the central issue of the study, namely, the question of how the will to act in environmentally responsible ways, or what is called *eco-will* in this study,[1] is affected by humans' relationship to nature. As explained in detail in Chapter 3, this argument is grounded in a set of key references,[2] which were examined for their contribution to answering the research question: "how is the will to act in environmentally responsible ways affected by the human relationship to nature?" A constructivist synthesis was carried out, not a summative or comparative synthesis; each reference was examined specifically for its contribution to the topic, and an original argument was developed. Appendix II presents brief descriptions of the references, the authors, and their relevance to the topic.

This chapter is divided into eight parts: 1) introduction to the problem; 2) the problem of identity and related crises; 3) the disabling of will; 4) re-enabling will in general; 5) re-enabling eco-will; 6) obstacles; 7) potential; and 8) where we stand now.

Introduction to the Problem

The argument is structured around Yalom's theory of willing. His theory was presented in detail in the Chapter 2, and it is briefly reviewed here. According to Yalom, willing is the process between awareness and action.[3] According to him, "will" is "a force composed of both power and desire."[4] Will is the "trigger of effort,"[5] the "mainspring of action,"[6] "the mental agency that transforms awareness and knowledge into action."[7] According to Yalom, will is about taking responsibility for acting on awareness.[8] Thinking, therefore, according to his definitions, is not considered action. Action involves response, an interaction with one's surrounding physical or interpersonal world, be it overt action or a conscious absence of action.[9] Will involves intent and the acting out of intention. Willing that does not result in action is, according to Yalom, a failure of will.[10] "Will," says Yalom, "is inherent in the very act of change."[11]

The will to respond to the environmental crisis seems to be paralysed. We have the science, technology, and money to address our problems[12]. We have collected more than adequate information to make a significant response.[13] We claim to believe in the importance of immediate action toward remedying our crisis situation, as earlier environmental education research indicates.[14] We have evidence that the environmentally problematic consumption-oriented lifestyle is inwardly unfulfilling, as was discussed earlier in Chapter 2. Yet, in spite of all these motivators, we still fail to adequately change our behavior so that we respond to the crises to the extent that we know we could.[15] In some respects, humanity's behavior is similar to that of addicts because, like addicts, our short-term survival seems dependent upon the very system that is killing us, and we seem unable to break free.[16] Dahl describes it as "inertia."[17] Berry describes it as an "atrophy" of our human responses.[18] Russell (P.) and Dahl label it explicitly as a problem of will. Russell asks, "Why does humanity as a whole continue to behave in ways that are clearly not in its best interest? Where is the will to change? What's wrong with us?"[19] Dahl, writing about the Bahá'í religion's perspective on the environment, cites the Bahá'í administrative authority which says that: "there is...a paralysis of will; and it is this that must be carefully examined and resolutely dealt with."[20]

Roszak contends that "in our hearts we know there is something maniacal about the way we are abusing the planetary environment," and, although we often say it is "crazy," we lack theoretical depth. He describes our "instinctive sense of environmental anxiety" as little more than an "ouch," which "does not tell us why we hurt or how to heal."[21] Many environmental activists, the principal environmental educators so far, "work from poor and short-sighted ideas about human motivation." According to Roszak "they overlook the unreason, the perversity, the sick desire that lie [presently] at the core of the psyche."[22] He says, "Their strategy is to shock and shame. But it is one thing to have the Good clearly in view; it is another to find ways to make people *want* the Good."[23]

Roszak calls this *shock and shame* tactic "environmental puritanism that almost delights in castigating our sins of self-indulgence."[24] He quotes Jeremy Burgess, a strong environmentalist, who asks, "Is it just me, or does everyone else feel guilty for being alive too? ... Eventually, and probably soon, we shall all be reduced to creeping about in disgrace, nervous of our simplest pleasures."[25] Rediscovering some joy and pleasure in our personal experience of everything which has fallen under the label of "nature" in the Western human-nature divorce--including, our bodies and emotions, as well as the natural environment--may be essential to finding it within ourselves to change our relationship with the planet.[26] Roszak encourages environmentalists to seek to understand the profound motivations underlying ecological habits. He suggests that there are "deep needs," "hidden yearnings," and "driving ideals" behind our ecological behavior. They have positive potentiality if consciously addressed, but are being thwarted and distorted into destructive, negative, unconscious expressions.[27]

Similar to Roszak's rejection of the shock and shame strategy, Dahl asserts that a "more positive motivating force than mere fear of the future" is required to move people an environmental response.[28] He says that in light of the environmental problems and the great human effort required to remedy them, the "*crucial* question is one of motivation."[29] Dahl asks what goal or desire is strong enough to move us to the necessary actions?[30] Roszak asserts that until ecologically wise living is as attractive as the thrill of power from harvesting the riches of the seas, the earth, and space, until it captures the hearts and souls with religious penetration, the necessary transformation will not result.[31]

Yalom's theoretical work on will describes a process of transformation which has been used in this study to orient the exploration of the broad problem of how to move people from awareness to action. Yalom suggests that will has two stages, the first being the wish or desire to respond to the information or awareness, and, the second, to commit to a path of action and carry it out.[32] This process was described in detail in Chapter 3. Briefly, the first step of willing, to wish or desire to respond, requires that one have access to one's feelings,[33] and the second part of will is commitment to a path of action which will fulfil the wish or desire of the first stage of willing.[34] Commitment to a path of action requires a choice or decision, and is a bridge between wishing and action.[35] If will does not lead to action it is a failure of will, according to Yalom.[36]

The root of the contemporary irresponsible or, what Roszak would call insane,[37] human behavior toward nature, lies in the Western sense of human identity in relation to nature. The Western view that humanity is separate from and superior to nature because of having the faculties of reason and spirit, has led to the kind of behavior toward nature that has resulted in the environmental crisis.[38] Furthermore, this Western identity in relation to nature has led to personal physical, emotional and spiritual crises for Westerners.[39] In addition, this basic cosmological stance has been projected onto human political, economic and social affairs, leading to crises in all those areas.[40] What's worse, this identity in relation to nature has negatively affected will, leaving us seemingly trapped in a destructive relationship with ourselves, the world, and others. The window of opportunity for change is our personal suffering, since it is through the suffering of those personal crises that the inadequacy of the Western view of human identity is felt, and the desire is born to change our relationship with nature and thereby resuscitate ourselves.[41]

The traditional way to look at why human beings do not do what seems to be in their best collective interest has been to focus on the conflict between short-term and long-term interests, and the conflictive, competitive relationship between people and the planet. The assumption behind this kind of thinking is that to ask people to act in environmentally responsible ways is to ask them to behave in altruistic or selfless ways. In this regard Naess reminds us that the root of the word "altruistic" is "alter-ego," meaning "against the self"; thus, to act altruistically toward the world is at cost to oneself.[42] The assumption behind altruism is that people are separate from the planet, which is the worldview now widely held by environmental educators as responsible for leading to the environmental crisis. Alternatively, the view is emerging that all things are interconnected, including humanity and nature; therefore, to act responsibly toward the world can conceivably also be of benefit to the individual, or humanity as a whole. According to this view, the sense of self expands beyond the ego. This study explores the neglected area of complementarity of well-being of people and the planet.

The previous discussion has introduced the problem of how the will to act in environmentally responsible ways is affected by the human relationship to nature. Yalom's theoretical framework on will has been outlined, and the lack of will to respond to the environmental crisis described. The shortcomings of traditional environmental education approaches to achieving responsible environmental behavior have been discussed, and a suggestion has been made that the human-nature relationship, or the sense of human identity in relation to nature, has negatively affected people, and ultimately their will to act in responsible environmental ways. The following discussion describes the problem of identity in more detail, and the related crises.

The Problem of Identity and Related Crises

Westerners first saw themselves as distinct from nature by virtue of their rationality and their spirituality. Humanity was considered to be separate from and superior to nature because of these characteristics. The cutting off from nature has affected not only the environment, but also people. Although it is widely accepted that this view of "radical" separateness from nature[43] has affected how humans have treated the environment, thus leading to the environmental crisis, it is less well understood how this cutting off has affected human beings. The following discussion describes three types of crises which have resulted in large part from this *alienated from nature* sense of human identity[44]: the environmental crisis; personal crises; and societal crises.

The Environmental Crisis

The environmental crisis has resulted from this notion of separateness and superiority. The sense of separateness from nature extends from the human-nature relationship to an atomistic or fragmented view of all of nature.[45] Nature has been treated as if parts of it can be used without affecting the whole of it, or human beings.[46] Furthermore, of even greater impact on the Western attitude toward nature has been the sense that nature is morally inferior to humankind and is bereft of any inherent sacred value or spirit, or, as some scholars put it, without mind.[47] According to this view, it seemed *natural* to believe that nature was there merely to physically exploit,[48] and that there were no moral constraints on the use of nature. Westerners felt that to use nature for human ends was their Divinely ordained right.[49] The result of operating according to this view is the environmental crisis.[50] As was mentioned earlier, with the information focus of environmental education, a great deal of information has been generated describing the environmental crisis. For that reason, details about the environmental crisis are not reiterated here.

Personal Crises

The Western view of human identity in relation to nature has been personally experienced as health problems, emotional unhappiness, and spiritual disorientation or lack of meaning in life.

Health

At a personal level, the environmental crisis has obvious importance for physical health. As nature gets toxified, so do we. It is difficult to come up with absolute proof of environmental toxification leading to personal health crises because of the number of uncontrollable factors involved. Nevertheless, degenerative illness is rapidly increasing in our time.[51] For example, cancer was a relatively rare disease at the turn of the century, and now strikes one in three people.[52] Also, heart disease is killing more, and what used to be rare illnesses like environmental sensitivities, allergies, childhood asthma, Epstein-Barr, and Candida, are becoming more common.[53] Some scholars believe that there is a link between environmental toxicity and the rise of these illnesses.[54] Also, some presumed aging processes may actually be results of environmental poisoning.[55]

Another dimension of the health problems associated with the Western view of identity is what we do to ourselves because we see our reason-oriented activities as separate from and more important than our physical activities. Most Westerners live the large part of their lives indoors. Furthermore, too many of us submit our bodies to hours on end, day after day, of sedentary sitting while we attend to mind-work, or reason-oriented activities. Even when we exercise, we may treat the body as a machine--exercising indoors, to mechanical, unstimulating, mono-rhythmic music, doing a certain number of each movement. Western exercise is often not a creative or communal activity, like dance can be, but rather an isolating, mechanical drill. We may compartmentalize our exercising, giving it a label and time-slot, which is part of the fragmented Western way of living. Clearly, there are some people who have grown beyond this style of exercise, and who have integrated active living into their life, but they still are exceptions rather than the rule.

In addition, there are widespread problems of drug and alcohol addiction, and other destructive compulsive behavior.[56] These addictions usually have a high physical cost. They also relate to the emotional unhappiness typical of many Westerners, a topic discussed below.

Emotional Unhappiness

Chapter two described the many symptoms of unhappiness associated with the Western emotion-degrading identity. To reiterate, epidemic numbers of Westerners are anxious, lonely, depressed, addicted to drink or drugs, and committing suicide.[57] These are societal trends in the West, not rare instances.[58] Many Westerners are emotionally numb, deadened.[59] Many of these people are searching for more satisfying ways to live, exploring alternative lifestyles, and changing their priorities.[60] Along with this emotional discomfort has gone a spiritual dissatisfaction, described below.

Spiritual (or Meaning) Crisis

The unexpected personal dimension of the environmental crisis is its association with a "spiritual crisis." The spiritual dimension of the environmental crisis is startling for Westerners because the dominant view of reality has been that only material or physical reality is real, and that there *is no* spiritual reality.[61] Westerners have gone from thinking that humans were the only ones with spirit, to a purely materialistic view of both nature and human beings.[62] Now many people deny that there is any spiritual dimension to reality whatsoever.[63] Many contemporary Westerners even find it hard to distinguish between the emotional and the spiritual, because Western cultures have so lost touch with the spiritual.[64]

The spiritual has to do with the ultimate meaning of things. Science or reason can explain the workings of things, say of the human body, but it cannot explain the ultimate significance of human existence, or the ultimate significance of anything. Also, although a sense of meaning can reinforce emotional happiness and make unhappiness easier to bear, happiness cannot be equated with meaning.

The modern Western sense is that spirituality is personal and subjective. In other words, the dominant Western view of spirituality is that it is internal and does not correspond to any *outer* reality. This contradiction is resolved by believing that God created the world, but doesn't participate in it, thus the inner reality of spirituality corresponds to a no longer existing outer spiritual reality; the world is sinful, not Divine, according to this view.[65]

That human reality was originally thought of by this view as *both* material and spiritual, while nature's reality was considered to be only material,[66] and then deteriorated to seeing *both* humans and nature in solely material terms,[67] suggests that a receptivity to the spiritual vitality of nature nourishes personal spirituality. It is as if by cutting ourselves off from nature, we have cut off the circulation of spiritual meaning to ourselves, and so we have gone numb. Not surprisingly, in light of the perspective that nature is the meaning-giving context of human existence, the Western sense of personal spirituality withered when it was cut off from nature, and now there is a widespread epidemic in Western societies of *meaninglessness*. This crisis is so widespread that a school of psychology, founded by Frankl, is focused on it.[68] In addition, Roszak's "eco-psychology" addresses the sacred, or *ultimate meaning* dimension of nature. He suggests that sanity be defined in ecological terms, since so far it has only been defined by statistical averages, and that sanity includes a receptivity to the sacred dimension of nature.

It is probably not coincidental that Western spirituality dried up soon after it was denied that nature is sacred. There is an intimate relationship between nature and the Divine.[69] Nature can be considered both an expression of Divine Will[70] and as an educational setting for the development of spiritual understanding and maturity.[71] Asian, Islamic, and

Bahá'í religions are especially replete with natural metaphors for spiritual realities.[72]

As was discussed in the literature review, nature is the meaning-giving context of human existence. The loss of diversity in nature, as species after species of plants and animals go extinct at 400 times the estimated natural rate,[73] is also the loss of "splendid and intimate modes of Divine presence."[74] Berry suggests that if we lived on a desolate moonscape, our sense of the Divine, or the ultimate meaning of things, would also be desolate. Our rich, verdant earth is a reflection of rich and profound meaning.[75] As we destroy it, we are destroying our access to the meaning of our lives and all life, and perhaps destroying the very meaning of our own lives and existence as a whole.

The modern Western denial of spiritual reality, of the existence of real meaning outside of human-assigned meaning, is part of what Griffin calls the "radical" view of human identity, that we are rational over and above all else.[76] Not only has the rational experience been considered more important and more real than sensual and emotional experience, also it has been considered the sole provider of meaning.[77] Yet, as was discussed earlier, the rational dimension cannot provide *ultimate* meanings, only descriptors of the workings of things. Thus, many Westerners are suffering from a spiritual crisis, or a lack of meaning or purpose in life.[78]

This basic cosmological identity of humanity in relation to nature, which has caused both human crises and a crisis of nature as a whole, also has been projected onto human social affairs with equally disastrous results. The reflection of human separateness from and superiority over nature in social, political, and economic life is briefly described in the next section.

Societal Crises

The impoverished sense of human identity in relationship with nature has been projected onto societal affairs, causing social, political, and economic crises.[79] The perception of how nature works has traditionally been a major influence on social organization.[80] The fragmented Western atomistic view of separateness, has been projected onto human affairs, along with the hierarchical sense of order or superiority of humans over nature.[81] Just as humans were thought by this view to be separate from and superior to nature, so some humans have been believed to be 'naturally' separate from and superior to others. This kind of thinking is exemplified in racist, sexist and 'age-ist' policies, for example, to keep people of different skin colour, genders or ages apart, and to give some more rights, privileges, and respect than others.[82]

Institutionally, the separateness view of the Western worldview has meant the "differentiation" of social institutions.[83] Secularization is one form of differentiation.[84] The separation of church and state, typifies Western modernity.[85] Although this separation came about as a result of problems in the relationship of church and state, and was hailed as a step toward democracy and greater liberty and justice, all the same, another result was that politics and economics have not been explicitly guided by a moral vision; the utilitarian and capitalist assumptions were that the economic "invisible hand" would automatically lead to the social good.[86] Thus Western politics and economics have not been guided by a collectively defined vision of what is considered to be of ultimate value for society, or, in other words, a moral or spiritual vision for society.[87] Since Western societal will has no spiritual vision to define society's aims or desires, political decision-makers aim at economic liberty.[88] This view of liberty has led to an obsession with economic growth, which Roszak calls the "godword" of capitalist societies.[89] Economic growth is not aimed at any ultimate purpose, except more growth.[90] McIntyre argues that the dominant goals of Western society have been utility (stemming from utilitarianism) and profit (stemming from capitalism). Neither of these social goals are ultimate, since utility is, by definition, good for something beyond itself, and profit is only good for re-investing. Consequently, we have cyclical societal operations: we do not produce in order to support a vision of the good life, rather, we produce in order to consume, and our consumption drives the engines of production.[91]

Even in the so-called second (socialist) and third worlds, the economic dream is a dominant one, by necessity.[92] Although a spiritual depth and receptivity exists there that perhaps does not exist as strongly in the first world, and although there are visionaries in those parts of the world with just as mature alternative visions as in the first world, the dominant thrust of these societies is toward overcoming starvation and other material hardships they suffer in this age.[93] This goal is entirely reasonable in light of the desperate material conditions and violence that erupts as a result. Nevertheless, it is clear that the shift away from what Griffin has called the religion of "economism" must be initiated in the so-called first world.[94]

The Western assumption has been that endless increases in material wealth are good,[95] and yet, in the first world, the excesses of material things are becoming burdensome. For example, where to put waste (or excess) and how to deal with toxic waste in particular is becoming an increasingly urgent problem. Also, the health problems associated with our excesses are taking their toll on Westerners.[96] The energy expended in commitment to the

Western "technological wonderworld" vision in the first world is dissipating in light of the growing perception that increasing personal and planetary problems originate in the unrealistic nature of this vision.[97]

The failure of the modern Western vision to satisfy people personally has already been discussed, but this vision is also being seen to have failed key societal goals. The realization of the respective political, economic and social goals of liberty, equality, and community that have oriented the modern Western world are increasingly seen as having been limited.[98] Political liberty and economic equality were placed in competition with each other,[99] capitalism championing political liberty and socialism championing economic equality,[100] and in both political-economic models community has been destroyed.[101]

Ultimately, the political liberty of the capitalist world has created great economic inequities,[102] while the emphasis on equity in the socialist world has constrained political liberty.[103] It has become clear that liberty without equality is not freeing, nor equality without liberty. Furthermore, it has become clear that an equilibrium between political liberty and economic equity cannot exist unless it is rooted in local community life (the entire biocommunity).[104]

Socially, the ecologically modelled community has been largely destroyed,[105] and there is increasing violence and intolerance. There is an alarming rise of racism and nationalism, as seen in Germany and the old Yugoslavia. Even where there is relative political and economic stability, there are signs that the stress of modern living, alienated from a sustaining and replenishing relationship with the earth, are becoming unbearable for many who turn out of frustration to social violence. For example, schools are becoming increasingly violent places;

in Canada police are confiscating increasing numbers of dangerous weapons from public schools.

The old stories are not working.[106] The Berlin wall is down and the Soviet Union has fragmented. Eastern Europe is in a political turmoil.[107] That part of the world is in a dominantly political crisis.[108] Meanwhile the capitalist world is in a financial crisis,[109] and correspondingly the so-called third world is under ever-increasing pressure. The leading edge of crisis in the third world is economic.[110] According to Holland, the leading edge of crisis in the first world is spiritual, or the personal disenchantment with the old cultural vision as a whole.[111] On top of all this, the life sustaining capacities of nature are being ruined.[112] These crises have had a negative effect on will.

Disabling of Will

There is a tendency to think only of individuals' will, in light of the Western individualistic bias. Individual will is indeed of central importance to overcoming the tremendous crises facing humanity today. Nevertheless, individual wills need to be translated into societal will, and this process is not necessarily automatic. This study primarily focuses on personal will, and, considering that the personal will process is mostly internal in nature, it raises the question of whether there is such a thing as *societal* will, or, at least, what the definition of societal will should be. The notion of societal will also suggests that there is a need to move beyond disciplines which address the personal dimension, like psychology, to disciplines which study social dynamics, such as sociology. The references examined for this thesis are primarily personal in their focus. Nevertheless, they do have some implications for societal will. When one considers the difficulty in mustering one's own will to make a dramatic lifestyle change, one begins to grasp the magnitude of the forces required to redirect societal will.

Disabling of Personal Will

Both stages of personal will are disabled. The following two sub-sections describe the disabling of each respective stage of personal willing.

Disabling of Stage One of Willing: Desire

The Western worldview is impeding the first stage of willing, desiring, because it has suffocated people's bodily and emotional feelings. As described earlier, information is not enough to move individuals from awareness to action. The tremendous changes necessary in human behavior in order to meet the challenge of the environmental and other global crises will not be achieved by force of reason alone.[113] These changes must originate as individuals' most personal desires.[114]

Desiring or wishing requires feeling.[115] The Western worldview has severed people from their bodily and emotional feelings because of a projection of the Western human-nature relationship onto human inner identity. The dominant Western belief has been that humanity is separate from and superior to nature because of the human faculty of reason.[116] Correspondingly, rationality has been placed as separate from and superior to bodily and emotional experiences.[117] Since the rational mind does not take the bodily and emotional dimensions of human experience into account or consider them important, its logic does not embrace them. Furthermore, since the physical and emotional have been considered inferior to the rational, there has been little to no development of sensual and emotional depth, sensitivity, skills or maturity.

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One whose feelings are blocked seems "unspontaneous, wooden, heavy, lifeless and boring," and their movements are so deliberate that they seem "forced and ungenuine"--"there is no play, no fun, only an awkward, ponderous self-consciousness." Furthermore, "one who does not feel is not sought out by others, but exists in a state of loneliness, cut off not only from [her/]his own feelings, but also from those of others."[118]

The blockage of feelings and resulting deadening of desire does not stop willing outright; willing continues but bereft of the benefit of any direction from consciously chosen heartfelt desires that are grounded in physical reality. This kind of will has been called "will without wish."[119] Will without wish means that the desires orienting will are unconscious and *driven*, as opposed to conscious and chosen.[120]

Will without wish manifests individually as compulsive behavior, a substitute for wishing.[121] Indeed, the deadening of physical and emotional responsiveness associated with the Western identity crisis is accompanied by widespread compulsive behavior such as addictions or other forms of consumption.[122] We are entranced by the "technological wonderworld"[123] vision. We are addicted to the "mythic vision," or societal ideals, of industrial society,[124] and this "mythic addiction"[125] is the primary obstacle to transforming the destructive Western industrial order. Berry says that it "is not the physical nature of the situation, but its psychic entrancement,"[126] described by Russell (P.) as a "cultural hypnosis,"[127] which impedes our societal transformation. Western mechanistic reason, divorced from its organic physical and emotional roots, has atrophied our human responses.[128] Compulsivity is a defense against "responsibility awareness."[129] Compulsive individuals act according to inner demands that are not experienced as wishes, but rather as the directives of an "ego-alien."[130] These individuals are usually unaware of their inability to wish, and tend to be active, even forceful, and "at all times possessed with a sense of purpose."[131] Nevertheless, they experience "waves of doubt" that their compulsions are not their own desires or goals.[132] They are so busy and driven that they feel that they have "neither the time nor the right" to even ask themselves what they wish to do.[133] The compulsive cycle breaks down when "the defense cracks"--when the externally imposed goals become irrelevant, perhaps due to a job loss or family breakup, or because the goals such as money, prestige or power have been attained.[134] Then individuals may realize that their "true self" has been suffocating.[135]

Will without wish ends up "expiring in self-contradiction."[136] Such, indeed, is the state of contemporary Western society. Progress, supposedly aimed toward our well-being, is killing us,[137] individually and socially, as the previous section on the crises described. Holland states that:

> Toward the close of the twentieth century we have reached in destructive form the limits of the modern imagination. Seeking originally to liberate humanity, modernity winds up threatening to destroy humanity. We now face the slow threat of ecological poisoning and the rapid threat of nuclear holocaust. In the meantime, great energies of human exploitation, oppression, and alienation are unleashed across the 'three worlds.' The modern dream has turned full circle. Seeking to free itself, modern scientific progress has become precariously uprooted--from the earth, from human community and its tradition, and above all from the religious Mystery. Its energies shift from creation to destruction. The myth of progress backfires.[138]

This section has described how the source of wishing, namely feeling, has been deadened, and how that has led to a compulsive kind of will. The following discussion describes how the second stage of willing is also hampered.

The Hampering of the Second Stage of Willing: Commitment to a Path of Action

The second stage of willing, commitment to a path of action, is obstructed. Like the first stage of willing, commitment to a path of action is hindered by Western beliefs about human identity. Nevertheless, this stage is also blocked by the inherent difficulty in making the decisions involved in committing oneself to a path of action. Decision-making is at the heart of committing to a path of action.

Decisions are difficult, first of all, because they inevitably involve renunciation. Willing is not cost free. First individuals must discriminate between and prioritize their wishes, letting go of those which contradict others of higher priority.[139] Also, the decision to act on a wish or desire means commitment, and, at the moment one commits to a decision, every other alternative is lost.[140] Therefore, willing inevitably demands renunciation.[141] Either impulsive, indiscriminate enactment of all wishes, or the refusal to wish are disorders of the second stage of willing,[142] where the self that truly wants one thing more than another is betrayed.[143] Both extremes aim at avoiding decision-making, and reflect an "inability or reluctance to project oneself into the future."[144]

Another reason why decisions are burdensome is that with the assumption of responsibility for choosing or deciding, one also risks guilt. One source of guilt is parental extinguishing of will in their children, early on, in order to affirm their role as a parent.

These children grow up afraid of separateness and feeling guilty of transgressions if they make independent decisions. Furthermore, if it is acknowledged that one has been responsible for one's choices all along, the guilt for all previous decisions falls upon one's shoulders. The only remedy for this regretful guilt may be atonement through altering the future, in other words, through carrying on to mobilize will, rather than remaining frozen in guilt, which can only increase with the refusal to take responsibility.[145]

Roszak raises an important point about the possibility of *collective* guilt about "annihilating whole species...in ignorance" and for the sake of the trivial.[146] He says, "All schools of modern psychology agree that the question of truth lies at the core of madness"--"we go crazy when we lie to ourselves...." Roszak points out that we've laid bare some guilty secrets like lust for our mothers, and hatred of our fathers, or vice-versa, so what about our ecological guilt?[147] If Roszak is correct in suggesting that the major collective guilt of our time is ecological, then what does that mean for willing? It may mean that our collective guilt is too immense for us as individuals to begin assuming responsibility, because the sorrow and regret of our past collective transgressions would be too much to bear. Nevertheless, this situation also would imply that the only remedy is to atone for the past through remedial action. Indeed, Macy's work helping people confront their despair about the state of the world and transform it into the empowerment to act may be responding to collective ecological guilt.[148]

Another implication of the paralysing effect of guilt on willing is that environmental education's shock and shame,[149] *guilt trip* approach would clearly hinder the very response which environmental educators are trying to elicit. Therefore, "environmental puritanism,"[150] which leads us to "creep about in disgrace, nervous of our simplest pleasures,"[151] would seem to have no place in effective environmental education. It seems that desire to act is grounded more in the joy of relationship with the earth than in shame about it.

Since renunciation and the potential for guilt involved in willing are so very difficult, many avoidance tactics have been developed. One avoidance tool is procrastination. Another tool is to avoid awareness of having made a choice. Alternatives can be distorted so that it seems that there seems to be 'no choice.' Others manipulate situations so that someone else makes decisions for them. For example, by making a relationship so difficult that the partner breaks it off, an individual can avoid assuming responsibility for the difficult decision to end the relationship. Still others delegate decisions in other ways, choosing to let superstition direct their lives, or to unthinkingly serve a set of rules rather than make conscious choices about what rules they wish to be committed to.[152]

According to Yalom, "there is something highly painful about these unmade decisions."[153] An unmade decision is in fact a decision, and, like all decisions, it involves renunciation.[154] The renunciation accompanying unmade decisions may be especially painful because it is the giving up of one's own self-creative powers. It is no wonder that for the ancient Greeks, the word "decision" was also their word for crisis, "krisis."[155] In addition to the inherent difficulties in willing, contemporary Western materialistic beliefs about deterministic causality and death also hinder decision-making. The mechanistic belief in deterministic causality means the denial of the will principle because it means that things are determined as by forces outside of the individual's control, and thus individuals are freed from responsibility and guilt. Materialistic determinism negates the existence of will, and reduces it to natural laws.[156]

Furthermore, the Western materialist view of reality, or the belief in an aspiritual or purely physical reality,[157] leads to a view that death is final and absolute, and that when physical life is over, life itself is over, and there is no continuity of the soul beyond death.[158] Yalom says that attitudes about death affect decision-making, because both involve the limitation of possibilities.[159] Heidegger, as Yalom points out, describes death as "the limitation of further possibilities."[160] Therefore, from this perspective, each decision is a step toward death because each decision means fewer possibilities are open to the individual. Or, in other words, if one has an attitude toward death that it is final and absolute, then each decision might seem a step closer to the grave. On the other hand, if one sees death as a transition toward one's ultimate liberation, and reuniting with the beloved, then decision-making is met appreciatively, even cheerfully, as an opportunity to deepen one's relationship with life and the Divine.[161]

In addition to the impact of the basic human-nature relationship on individuals' ability to will, this relationship has also affected societal will. This problem is explored below.

Disabling of Societal Will

The most obvious way in which societal will is impeded is simply that societal will originates with individuals, and, therefore, widespread blockage of individual will becomes a societal problem. Nevertheless, there are some other factors influencing societal will, according to the references examined in this study.

The differentiation of social institutions plays an important role in disabling social will. The institutional cleavages, between religion (or spiritual vision) and politics, and politics and economics, are a major block to social will.[162] They are like separating the various parts of the process of willing: desire (the spiritual vision), commitment to a path of action (political administration), and action (the marketplace). There is no connection from the visionary to the administrators to the enactors.[163]

Also, the sense of superiority of humanity over nature has been projected onto history. The "myth of progress" toward which the Western world has been aiming, has denigrated the past.[164] It is common in the West to speak of modern Western life as stemming from the "enlightenment" and prior times as the "dark ages," and to contrast "modern science" with "primitive and medieval superstition."[165] Initially, Western modernity began by cutting off from the past and tradition, and finding most of the present's meaning in the future. Traditional knowledge has been ignored and devalued, while at the same time there has been a fascination with novelty.[166] The past was rejected because it was believed that the future would be better.

Now that positive relationship to the future is dissolving, partly in light of the environmental threats, there is increasing emphasis on immediate gratification, with no thought to the future. This narrowing of individuals' and Western society's self-interest so that there is no longer an interest in posterity, is an extension of Western individualism, or cutting off from relatedness.[167] This present-only attitude can lead to environmental recklessness, thereby exacerbating the environmental crisis, and, furthermore, it also promotes a *giving up*, destroying the will to respond constructively to the environmental crisis.[168]

Thus both personal and societal forms of will are impeded. The previous two sections have discussed the factors leading to the disabling of personal and societal will. The next part of this chapter describes how will can be re-enabled.

The Re-enabling of Will in General

The identification of some specific obstacles to willing in the previous discussion leads to some practical avenues for re-enabling will. This part of the chapter first addresses the re-awakening of feeling and desires, essential to stage one of willing, and the second section addresses how to facilitate commitment to a path of action, stage two of willing.

Reawakening Feelings:

The Doorway to Willing

The first basic understanding in regard to re-awakening feeling is that feeling is of two main types, sensory and emotional. Second, it is important to understand that sensory feeling gives rise to emotional response, and emotional response has a physical or sensory impact.[169] To begin re-awakening feelings means to become sensitive to one's own sensual or bodily experience, especially of the earth, and also to become sensitive to one's emotional response to that experience.

Happily, there has been an explosion of new therapies which all place importance on awareness and expression of feelings: Gestalt, Intense Feeling Therapy, Implosive Therapy, Bioenergetics, Emotional Flooding, Psychodrama, and Primal Scream Therapy.[170] In these therapies, catharsis is considered to play a key role in surfacing repressed feelings. Cathartic breakthrough, however, is insufficient to produce change. Blockage of feelings is so obvious, like a dam, that many assume it is merely a matter of bursting it, and so these 'breakthrough' therapies have arisen. Nevertheless, Yalom and colleagues studied breakthrough approaches and found no evidence that "rapid intensive affect arousal"[171] has lasting effects, although they also stressed that the opposite of feeling-oriented approaches, sterile rationalistic analysis, was also insufficient to produce change. Affective engagement *is* necessary for personal change, but in addition, Yalom and his colleagues discovered that, in order to change, people need to cycle repeatedly through issues, testing and re-testing, continually re-experiencing the affect breakthrough. The affect experience need not be intense, but change is more likely if it is experienced repeatedly.[172]

The major hindrance to re-awakening feelings in regard to environmental response arises out of the destruction caused by the Western style of living.[173] There is a common fear today of allowing oneself to feel because it may mean facing overwhelming despair and hopelessness about contemporary global and personal situations. The basic thing we have to feel despair about is that we can no longer assume that our species will inevitably survive, and that the continued existence of all life on earth is threatened.[174] Macy calls this fear about the destruction of our own and other species the "pivotal psychological reality of our time."[175] She says,

> We are bombarded by signals of distress--ecological destruction, social breakdown, and uncontrolled nuclear proliferation. Not surprisingly, we are feeling despair--a despair well merited by the machinery of mass death [for example, leading to the eradication of species at excessive rates[176]] that we continue to create and serve.[177]

The most dangerous aspect of this despair is exactly our inability to acknowledge it. Macy says that our society is "caught between a sense of impending apocalypse and an inability to acknowledge it."[178] We do not wish to acknowledge our despair in part simply because it is painful. In addition, our denial stems from our individualistic sense of human identity which denies our relatedness to the world[179], and precludes feeling compassionate despair.[180]

Macy says that another obstacle to acknowledging despair is typical of the United States where "the failure to hope, in a country built and nurtured on utopian expectations, can seem downright un-American."[181] She says that the French criticize United States citizens for their failure to sink deeply into their problems, for, without a full experience of the problem, how can a solution be found?[182]

In addition to impoverishing sensory and emotional life, the refusal to feel impedes people's ability to process information, and, therefore, to will.[183] For one thing, the fear of despair can cause a selective filtering out of anxiety-producing news, suicidal in a world where life survives according to its ability to adapt to feedback information. Furthermore, it takes tremendous physical and emotional energy to hold down despair, taking away from the "resilience and imagination needed for fresh visions and strategies."[184]

Macy helps people acknowledge and work through their despair. She helps people to realize that the very pain they are feeling *is* the concrete evidence of their interconnectedness with the world, and helps them to transform it into the empowerment to act. She uses the example of the crucifixion to express the necessity of sacrifice in order to be joyfully reunited with humanity.[185] She says, "it is precisely through our openness to the pain of our world that redemption and renewal are found."[186] "Faced and experienced," the energies holding down despair can be released and, in addition to becoming deeply aware of planetary distress, people also become alive to *their own ability to change*.[187] The task is to become "fully present" to the world, to "learn to sustain the gaze."[188]

Macy has published guidelines for developing workshops to assist with this transformation.[189] She cautions that when the "sensations aroused by the contemplation of a likely and avoidable end to human existence break through,"they can be "intense and physical."[190] Working through despair is like the withdrawal from the addiction to the mythic "technological wonderworld" vision of industrialism.[191]

When we consider that once we have experienced our despair and moved through it to reclaim our energies for more creative uses, we have taken only a step toward the first stage of willing, it gives one a sense of the awesome time of transition in which we are living. Feeling, by itself, does not necessarily lead to desire. Beyond feeling lies the need to get in touch with and express our desires, and beyond desire, commitment, and finally action.

One can feel without wishing or desiring,[192] and so feeling is but a first step toward desiring. Meursault in Camus' *The Stranger* and Michel in Andre Gide's *The Immoralist* are examples of characters who were "keen sensualists, but [who] were isolated from their own wishes," and whose actions were ultimately "profoundly destructive" to themselves and others.[193] Individuals (or organizations/societies) need to be encouraged to identify and express their desires, and not just their feelings.

Identification and expression of desires is a step toward the maturation of feelings. Feelings alone may recognize no constraints, while to identify and express a particular desire means beginning to think in terms of real possibilities and consequences. "What can I really do?" and "What do I really want?" become important questions which serve to refine feelings toward something that can be acted upon.

In sum, this discussion has explored the complexities of re-awakening feeling in order for people to be able to desire, thereby initiating the process of willing. In addition to the challenge of awakening feeling, this section has raised the issue that feeling does not automatically lead to desiring, and that attention is needed in regard to identification and expression of desires. Beyond desiring to respond is the commitment to follow through to action. The following section presents a discussion of enabling that second stage of willing.

Following Through from Feelings and Desires to Commitment to Action

This section describes ways to facilitate the decision-making involved in the second stage of willing, commitment to a path of action. The two main inherent difficulties about willing mentioned earlier were the renunciation involved and the potential for burdensome guilt. Correspondingly, facilitation of decision-making requires the dissolution of these major obstacles. First of all, individuals need to become aware that renunciation is inevitable, and that the choice not to decide, is, in fact, a decision,[194] and, second, guilt must not be allowed to block will.

It can help individuals to come to terms with renunciation to list options, imagine how they would feel about each option, and to become aware of the limitations and the pay-offs for each choice.[195] Furthermore, it can help to be aware that most people need to cycle through decisions about life changes many times before the change holds.[196] Also, although insight alone does not lead to change, (just as information alone does not lead to change,) there are some insights which can contribute to the process of change. The most common helpful insights are that: no one is going to make the changes desired by the individual except him/herself; that to get what one really wants, one must change; that one has the power to change; and, if applicable, that exaggerated fears about the danger of changing are just that, exaggerated.[197] Also, individuals can be helped to decide by "framing" or placing options in a new light.[198]

In regard to guilt, it is important to establish *genuine* responsibility rather than exaggerated, inflated guilt which then becomes an obstacle to willing. One of the tendencies of Westerners has been their need to be in control of everything. This obsessive need to control is a reaction to our sense of separation.[199] Along with the exaggerated desire to be in control, probably comes an equally inflated, will-obstructing guilt. We are not in control of *everything*, only of our own behavior and attitudes.

Also, although it has not been emphasized so far, it cannot be forgotten that the degree and areas of competence have a strong impact on what choices can come into play. Competence is needed to make will effective. What must be emphasized here is the role of action in developing competence. It is through acting that all aspects of will are strengthened. We cannot prepare ourselves to respond to the global problems, except through the genuine attempt to respond.[200]

Several key factors in re-enabling will and making it effective have been described. At the same time, environmental educators do not wish to re-enable any kind of will, they wish to enable the kind of will that leads to a constructive response to the environmental crisis. The following discussion addresses this issue.

Re-enabling Eco-will

The will to act in environmentally responsible ways has been labelled *eco-will*[201] in this study.[202] Previous sections have shown how the destructive Western relationship with nature has extended beyond the natural environment, to people and to human affairs. Since the root of all these crises, including the crisis of will at personal and societal levels, is the alienated and despiritualized or nihilistic Western view of humanity and nature, it follows that the solution for these problems lies in a worldview that emphasizes relatedness to nature and its 'resacralization.' Re-sensitization to the sacredness of nature means to recognize that nature's physical qualities also have a spiritual significance, or a meaning that goes beyond mere physical function. This section describes the centrality of spiritual re-awakening or a rediscovery of meaning through a relationship to nature for eco-will. It is through reconnecting personal understandings to a larger, real, and meaningful story in which individuals' lives have a clear purpose and value, that the Western will to respond to the global challenges can spontaneously arise as the enactment of profound personal desires.

Our obsessive *will without wish* has been aimed at treadmill materialistic (i.e. technological), nature-dominating goals with little thought to emotional well-being, ecological and physical health, or spiritual soundness.[203] Even more alarming, is that most of our effort to respond to the environmental crisis is also materialistic 'environmental engineering.' This outer focus has dominated, rather than reaching to the root problem of revitalizing our perception of the spiritual or meaning dimension of reality which could guide us to harmonious ecological relationships.

According to Berry, Fox (M.), Dahl and others, we have become deafened to the sacred significance of nature or material reality.[204] Berry describes most Westerners as "autistic" in relation to nature. He says that "emotionally, we cannot get out of our confinement, nor can we let the outer world flow into our own beings."[205] Fox (M.) also asks if we Westerners have lost our capacity for "listening,"[206] and he considers our lack of "spiritual receptivity" to be one of our most fundamental problems.[207] Our materialistic stance has led to the belief that all problems can be solved materially,[208] and so we ignore the fundamental problem of having cut ourselves off from *the larger story*, in order to impose our own story. We are like an insane person who operates without any consciousness of what is going on around him/her.[209] We have lost touch with the meaning of our existence, or our role in the larger story.

A new worldview is needed that will tackle the difficult problem of re-weaving spiritual vision into political administration and the marketplace. The re-integration of spiritual vision into human affairs is the burning question of our times.[210] Although the first world spiritual crisis cannot, and should not, be said to be any more *or less* important than the political crisis of the second socialist world, or economic suffering of the third world, it can be said to be more fundamental because the globally dominant first world economic vision constrains the ability of the majority of humanity to actualize an alternative vision.[211] This situation will not change until the first worlders choose to change it or until environmental catastrophe or social uprising force change.

A transformation of Western will is fundamental to overcoming these personal and planetary crises while there are still choices available. Emotional and spiritual dissatisfaction, as well as physical health crises, are causing first worlders to reconsider their worldview. A worldview is emerging which integrates the ecological (or physical) and the emotional, with the rational. Furthermore, the emerging worldview is oriented by a spiritual vision which is dedicated to grappling with trying to understand the *ultimate meaning of physical* *interconnectedness*, which Roszak describes as the most pressing endeavour of our time.[212] In addition to the objective or general attempt to understand the ultimate meaning of physical interconnectedness, it must be explored at a personal level; it is the *individuals'* perception of the ultimate meaning of things that will influence their will.

The most important point to be made here, and, for that matter, in the study as a whole, is that not only do people have to connect to their bodies and the earth in order to begin feeling again; they also need to dare to go farther, and reconnect to the larger spiritual picture, the larger story into which human existence plays a meaningful role. This step does not mean to 'just believe,' but simply to pursue critically and aggressively the truth of the meaning of things, in particular our physical interconnectedness. This most basic reconnection is needed in order to carry our desires beyond the materialist, sensualist worldview, to a higher vision, a new mind-set. No problem can be solved from the mind-set that created it,[213] and in our case that is a materialist mind-set. Simply re-awakening our sensory experience of the earth and our bodies, and our emotional response to it, will not be sufficient to achieve the turn-around in our global crises, because we will remain locked into the destructive, materialistic, rationalistic, and human-centric "technological wonderworld" story.[214]

But how do we get from no sense of ultimate meaning to some sense of the larger story? How can our private, personal experiences of ultimate meaning help us, if we don't have any? What else is there to draw upon?

Hatcher argues that the only source of knowledge we have for ultimate meaning, or spiritual reality, outside of our own or other peoples' personal, or subjective, experiences of it, are the various self-proclaimed Messengers or Manifestations of God.[215] The automatic reaction of Westerners to the suggestion that the messages and lives of the self-proclaimed Manifestations of God can be of value to our contemporary dilemma, is likely not to be a considered rational response. Rather, it is more likely to be an emotional recoiling, perhaps enraged response. One may even be accused of preaching. *But this reaction stems from the very same deep-seated prejudice against acknowledging a spiritual dimension to reality which is the deepest and most difficult root of our global problems.* It is not rational, so much as it is a deep fear of the Divine, a fear which parallels the fearful and hostile attitude of Westerners toward nature.[216] Furthermore, many people have legitimate criticisms about the corruption of religious institutions, but, in that case, it is of crucial importance to distinguish between what humans have made of religion, and what the original messages were. Once again, what the truth of those messages is, is, of course, a mystery which must be studied for glimmers of meaning.

Keeping the spiritual and the material, "inner and outer," the "personal and the planetary," apart has been the main project of modern Western society.[217] By doing so, we have cut ourselves off from our sources of information about the environment, and our sensitivity to it. Not only has this been destructive to the planet, but it has also been painfully impoverishing to us. Therefore, the reconnecting of people to the planet stands not only to improve our relationship with the natural environment, but also to revitalize our own sense of meaning.

Reconnecting people to their bodies and feelings can enable the first stage of willing, to desire, and there are many therapeutic techniques to facilitating the decision-making involved in the second stage of willing, commitment to a path of action. Beyond these physical, emotional, and rational dimensions, is another stage required to move will toward a response to the present-day crises: the spiritual. It is through discovering a sense of the spiritual, or the larger story, that will is directed for good or for ill.[218]

All larger stories are not necessarily on target or good. Also, stories cannot and should not be imposed; they ought to be discovered. Therefore, it is through independent investigation of the truth, of the larger meaning or story, particularly the ultimate meaning of our physical interconnectedness with nature, that our fuller identity is to be established, and a more constructive and healthy will can emerge.

Furthermore, it would seem that since human spirituality withered to materialism, which ultimately denied the existence of the spiritual, after we separated ourselves from nature, that perhaps in relating to nature people may recover a connection to the spiritual. As people begin to listen to nature and respond, they may find themselves experiencing meaning as something more than material self-interest, and thus find their sense of spirituality revitalized. Their sense of what makes sense might shift from what is meaningful in material, human terms, to what is meaningful in terms of a larger story that embraces all of nature. Listening includes not just listening to nature and people's own interpretation of the meaning of things, it also means overcoming the culturally dominant prejudice against, or fear of, the critical examination of the messages and lives of the various Manifestations of God, *in tandem with* personal searches for meaning.

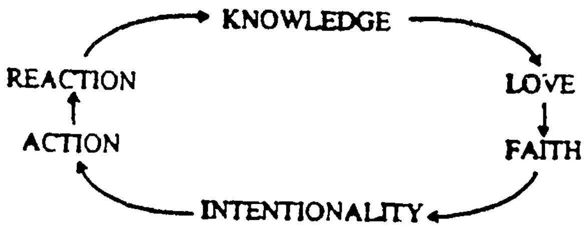
Obstacles

The main obstacle to achieving the full and healthy expression of eco-will is this prejudice against the *unknown*, the *inner*, the *invisible*. Yet love for the unknown is the basis for spiritual growth or the discovery of meaning.[219] Love for the unknown "gives religious belief its revolutionary potential and its capacity to transform human motivation and development."[220] Furthermore, individually, "love for the unknown potential in ourselves motivates us to discover what that potential is."[221]

The Western fear of nature as a hostile force has impeded our ability to learn from it. We have been too preoccupied figuring out how to dominate it. Mastering or replacing nature is the focus of much of our technology.

The process of willing proposed by Yalom, who is coming from a Western alienated, "existentialist" perspective, is secular. Instead, it seems that a deeper view of will is that it is a process of spiritual growth. According to Hatcher, and as describe by Figure 3 below, the process of spiritual growth is an ever-deepening spiral--from knowledge, to love, to faith, to intentionality, to action, to reaction, and back to knowledge.

FIGURE 3



This process parallels Yalom's description of the will process which begins with information or awareness and is initiated by a desire to respond and then the commitment to a path of action, and finally action, which, of course, provides feedback in the form of new understandings or knowledge.[222] The difference between Hatcher's and Yalom's perspectives is that Yalom does not deal with the kind of will, but merely with the 'mechanics' of willing or the *ability* to will. Hatcher's process of spiritual growth, on the other hand, deals with the expression of will as a loving response to the world, which is the kind of response needed in light of today's onerous problems. It becomes clear that the kind of will needed to solve today's problems is a dedication of individual and societal will to a larger will, the "Will of the land,"[223] or "God's Will,"[224] or to the *logic* of the larger story, aimed, according to the self-proclaimed Manifestations of God, toward the happiness and well-being of humankind.[225]

In regard to the profoundly ingrained obstacle of prejudice against the ultimate meaningfulness of physical reality, it must be remembered that the Western world is just emerging out of the strictest psychic confines ever.[226] For most Westerners, a 'spiritual reality' can only be an abstract concept because Westerners have cut themselves off from listening to that aspect of their own experience.[227] Westerners have had the narrowest conception of what is real than at any other time in human history, according to Berry.[228] Furthermore, personal spiritual life is largely deadened in the Western world, and therefore it cannot be expected to be the source of its own revitalization. It is essential to reconnect to the larger, non-personal spiritual reality, through the active, critical, and independent examination of the lives and messages of the Manifestations of God.[229]

Whether one believes in the self-proclaimed Manifestations of God or not is irrelevant to whether or not it is important to study them. For one thing, one cannot make a reasonable judgment about whether they are who they claim to be unless their lives and messages are examined. Furthermore, in light of the dissolving disciplinary boundaries, there is no reason why theological questions and sources of data cannot be studied in regard to environmental education questions. Nevertheless, it is important that they not be studied intellectually and objectively, *apart from* personal meaning. This error would simply maintain the inner-outer separation which is a key part of the problem. If the messages and lives of the Manifestations of God are of value to humanity, then they can best breathe life into humanity's relationship with nature if they are studied in intense, personal ways, and if people are physically and emotionally receptive, *as well as* critically analytical.

Potential

From the perspective of a worldview of meaningful relatedness, exciting potential emerges. This potential is not just theoretical; it is emerging in a real and concrete way, for example, in the environmental movement and in the explosion of feeling-oriented therapies designed to get us back in touch with ourselves, and the search for meaning or spirituality. Even if some of these therapies and searches for spirituality are still somewhat individualistic and human-centered in nature--they are a starting point. Furthermore, there are new political, economic and social models emerging which reintegrate a spiritual vision grounded in the sacredness of nature, with a political and economic order that serves this higher vision, rather than serving profit and utility as so-called end goals.[230] Along with a revitalization of spirit comes a resurgence of human and ecological community. Spirituality is moving out of the domain of personal relevance only, and is being increasingly seen as the basis for social and ecological living. Clearly, the emerging potential is an area which merits in-depth scholarly attention; here only the barest outlines have been sketched.

Where we Stand Now

Humanity is clearly in a period of exciting transition, not an ending. The fruits of taking action on heartfelt desires which are grounded in a sense of connectedness or relatedness to a larger story are exciting and tremendous. Most of the commonplace, pessimistic, cynical outlooks about the future are grounded in the same Western worldview which is the root of the crises.[231] It is argued below that humanity is in a period of transition from cynical despair and apathy to joyful hope and participation--the cynicism and apathy stem from looking at the problems from the same mindset which created them; a whole new vision appears given a different mind-set or orientation toward the human-nature relationship.[232]

The obsession with material growth, and the exertion of will as a manipulative, controlling kind of force, is shifting to exerting will inwardly on personal inner mastery. The contrast between European or Western notions of power compared to Cree notions of power, and applied to the concept of "will-power," highlights the different directions of will. For Westerners power has meant *power-over*, whereas for the Cree, powerful people are people so intimately in touch with their environment that they can predict things, such as when geese will arrive and so on, which could be described as *power-through*, and is akin to an experience of Grace.[233] Applied to the concept of will-power, a very different notion of power emerges. The Western view of power is directed outward toward domination and manipulation, while the Cree view of power is directed inward toward inner mastery and environmental sensitivity. This native, earth-centered kind of will-power, or 'eco-will,' is *dynamic* and dependent on *balance*, as opposed to the traditional Western view of will-power as crushing force, and teeth-gritting exertion, where the head pulls along the rest of the unwilling self.

We can expect a tremendous release of energy as Westerners let go of needing to be in control--of their bodies, their emotions, other cultures, of women, and the environment.[234] When Western cultures stop trying to hold things still to maintain their own position of control, and instead participate in the 'dance of life,' it will be a tremendous relief--for people in Western cultures, as well as people in cultures who are constrained by Western priorities.[235] Humanity can expect an exhilarating time of rapid and dramatic change to accompany the release of the energy that has been used to hold things still.[236]

It might seem that the Western worldview of separateness was a grand mistake in the scheme of things. Not so, according to some. Rather, this period seems to have been humanity's adolescence,[237] where the extreme separateness from the authority of nature and the Divine parallels adolescents' need to rebel against parental and school authority, and define their own sense of identity.

The notion of will itself seems to reflect our collective growth. Yalom suggests that will is composed of both desire and power,[238] and this description corresponds to the two major psychologies of our time, "the will to pleasure" (Freud) (since pleasure has to do with desire), and "the will to power" (Adler).[239] Now there is Frankl's "will to meaning,"[240] suggesting that the secular, abstract view of will is evolving into a more spiritual or meaning-oriented dimension of will. The development of psychology and its labelling of the central drives as, first, pleasure, then, power, and now, meaning, correspond to the various stages of will: the feeling-grounded desire to respond (and presumably we aim toward some ultimate pleasure), the decisive resolve to commit to a path of action (or the power and energy to act), and, finally, a third dimension of will which Yalom doesn't entirely address, but which is a refinement of Yalom's two stages of willing: the way that one's perception of the larger story or meaning of things, or worldview, orients will (according to the perceived meaning or order of things). Humanity appears to be at a point of evolutionary development in regard to will. In other words, we are moving beyond the mere 'mechanical' ability to will, toward the more refined and spiritual capacity to direct our will to something higher than our unconscious 'drives.' Will to pleasure and will to power both seem to represent less conscious and more instinctual drives, while the will to meaning by definition aims toward a higher cause.

In light of environmental educators' emphasis on the necessity of responsible environmental behavior in order to survive, some might wonder about a *will to survive*. In that regard, as mentioned in the literature review, Steffenson has commented that people do not aim to survive for survival alone, but rather they survive *for* something.[241] For example, Frankl survived concentration camps by surviving *for* his wife, and he comments that those in the camps who had something to survive for had better survival rates than those who did not.[242]

Our collective transformation from adolescence to adulthood is not easy. Fox (M.) compares this period to the Biblical story about Job's experience. According to Fox, the purpose of Job's suffering was to teach him his place in the order of things, and so we Westerners have also been learning this painful, but valuable and enriching lesson.[243]

The emotional and physical release of surrendering to this lesson can be compared to the climax of Dostoyevsky's *Crime and Punishment*.[244] The main character is torn apart by two competing senses of himself, on the one hand feeling superior to everyone, and, on the other, more despicable than he can bear.[245] He is unable to relate to others because he does not know who he is. Finally, he collapses and weeps in the arms of his steadfast beloved, letting go of his need for superiority, at the same time as letting go of his sense of being fundamentally corrupted, or sinful from his very core--he lets go of his perfect and absolute dualistic sense of self, and surrenders to an imperfect and ordinary, but integrated, sense of self. He bears the sorrow of deflation, but, at the same time is flooded with the tremendous joy of belonging, of rejoining humanity. So 'first worlders' stand to experience the sorrow or despair of deflation and loss of sense of superiority over nature, other cultures, and of men over women, and adults over children, but at the same time the immense joy and relief of being reunited with the rest of humanity--to share in the rich diversity of cultural, gender, and age experience, creativity, and energy. Westerner's sense of human superiority over nature, which has also been transposed socially as cultural superiority, and male superiority has been accompanied by a singularly negative, Hobbesian view of human nature--that we are an essentially evil, aggressive lot. Capitalism has especially honoured self-interest (at the ego level) as a 'natural' tendency of humankind, and promotes the superficial pleasures of being 'on top of the heap' in this 'dog eat dog' world. Letting go of our dualistic sense of identity--feeling that humanity is superior to nature, and, at the same time, yet the *lowest form of war-like animal*,[246] is both a deflation of modern Western civilization's sense of human, cultural, and gender superiority, at the same time as a recovery of consciousness about the essential sacredness of humanity and the cosmos as a whole.

It is no coincidence that Dostoyevsky's character falls into the arms of a women, who has loved him all along, but to whom he has been unable to respond. Likewise, the problems of our age have been summed up as a crisis of masculine values, and a failure to relate to everything that has been considered feminine.[247] There is a rise of the feminine occurring.[248] The qualities traditionally associated with the feminine, and which have been devalued in our Western society, are now being touted as the direction in which we must turn to escape from our crisis situation, including the faculties for "synthesis, seeing things in wholes, empathy, emotion, intuition, cooperation, active democracy, receptivity, [and] nurturing."[249] This age is one characterized by a transition from a dominantly masculine orientation to one where the feminine and masculine are, hopefully, coming into balance. There is a danger that we will over-compensate on the feminine side, which would be just as destructive as a one-sided masculine orientation.[250] The key is balance and integration.

If one looks at the creative power of the physical union of the masculine and feminine in nature, such is the creative power of reuniting the masculine and feminine emotionally, rationally, spiritually, and socially.[251] For example, emotionally, when men and women learn to appreciate their own feminine qualities more, men and women will be able to take more joy in each other, rather than experience aggravation, about which a great deal of everyday sarcasm and depreciating 'humour' has been created. Furthermore, women, by valuing their own feminine qualities, can perhaps be freed from their well-known problems with self-esteem.

Rationally, there is increasing evidence that the one-sided masculine analytical way of knowing leaves out the very important integrative, subjective, feminine dimension of knowing. New understandings of intelligence have broadened the concept beyond the intellectual, to include the physical, emotional, and spiritual forms of knowing.[252] Furthermore, research indicates that the various forms of knowing are mutually reinforcing.[253]

Spiritually, both the receptivity of feminine consciousness, as well as the direction of masculine consciousness, are needed for healthy spirituality.[254] Without the masculine direction spirituality becomes ritualistic, but not necessarily connected to actualizing spiritual goals in human affairs.[255] Yet without the feminine, the masculine can become very busy, but meaningless, as is the state of society today.[256]

Finally, socially, bringing women into equal participation in human affairs (in politics, economics, and culture (ie.ideas and the arts), will probably have an immense healing effect on human affairs.[257] According to Houston we have only begun to glimpse the social transformation potential inherent in the empowerment of women across the world.[258]

In the process of willing, the first stage of willing, desire, can be said to belong to feminine or *yin* qualities, while the second stage of willing belongs to the masculine or *yang* qualities. Both are necessary to fulfil the process of willing, which ultimately, if it is not thwarted, is a process of spiritual growth toward letting go of ego desires and dedicating oneself to the service of the larger story, exhibiting increasing maturity in regard to the ability to put off immediate gratification for the deeper rewards of delayed gratification. Furthermore, the last dimension of willing, a spiritual orientation of meaningful interconnectedness, is a balance of the reason-oriented and meaning-seeking masculine and the relationship-oriented, integrative feminine.

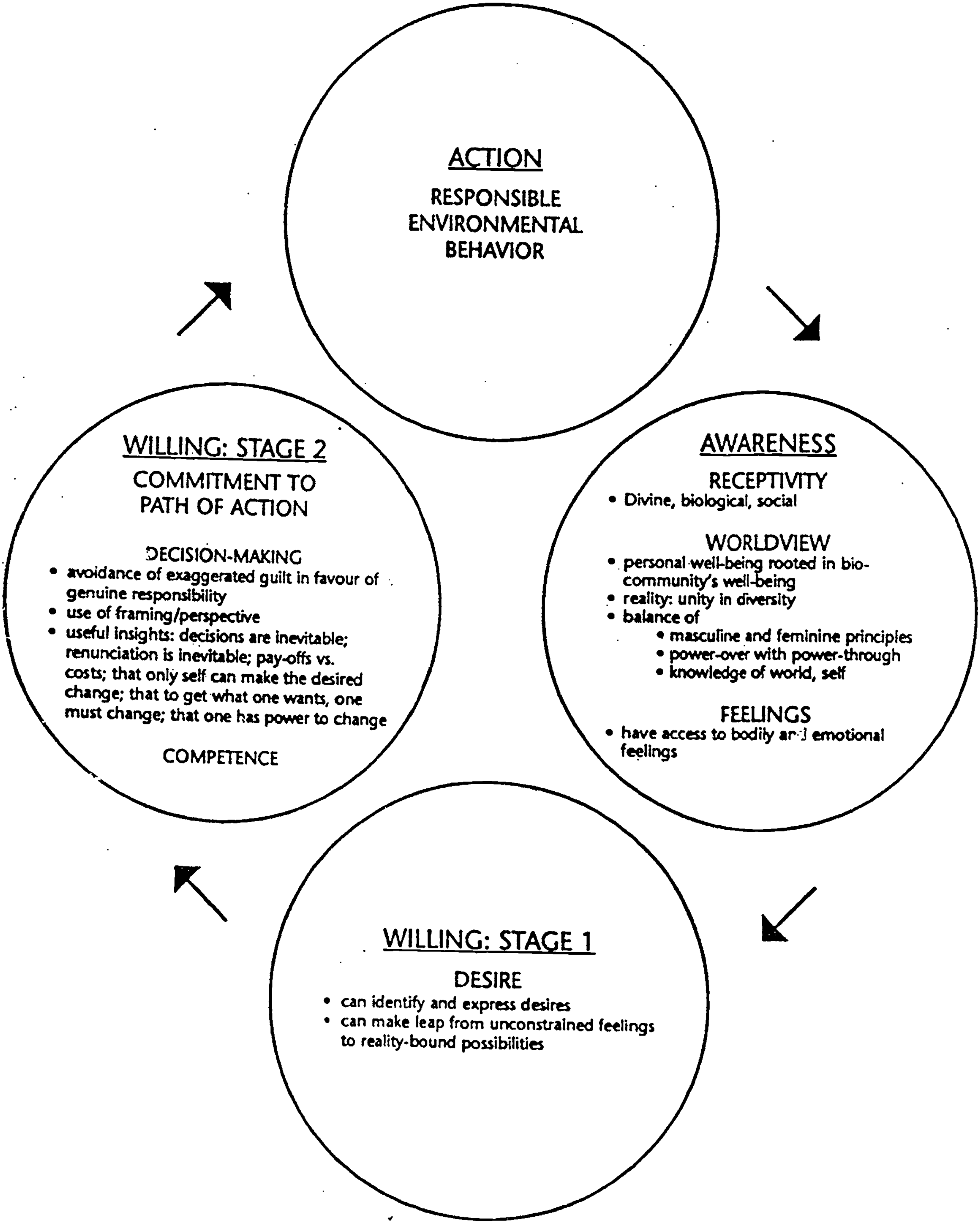
This age of transformation, as difficult as it is, is also one of great promise pointing toward the personal and planetary flowering of humankind. We stand before an exciting time of ever-deepening revitalization. But, to borrow some more lines from Dostoyevsky, we are at "the beginning of a new story, the story of the gradual rebirth of a man, the story of his gradual regeneration, of his gradual passing from one world to another, of his acquaintance with a new and hitherto unknown reality."[259] This time requires great courage and stamina. Just as Dostoyevsky's character did not "realize that the new life was not given him for nothing, that he would have to pay a great price for it, that he would pay for it by a great act of heroism in the future,"[260] so perhaps great adventures await us as we fulfil a new vision of ourselves.

Summary

This chapter has presented the argument in response to the research question about how the will to act in environmentally responsible ways is affected by the human relationship to nature. Figure 4 summarizes the key-points important to achieving environmentally responsible behavior, according to this argument.

The major stages of the will process are identified by the model: awareness, stage one of willing, stage two of willing, and action. Also, this model shows how action itself influences awareness, and thus informs the will process. The key factor identified which influences the *kind* of will expressed is worldview (see Figure 4), and, specifically, in regard to eco-will, it is a worldview of personally meaningful interconnectedness to nature which leads to responsible environmental behavior. This kind of worldview is grounded in

FIGURE 4: ECO-WILL MODEL



ACTION

RESPONSIBLE ENVIRONMENTAL BEHAVIOR

AWARENESS

RECEPTIVITY

- Divine, biological, social

WORLDVIEW

- personal well-being rooted in bio-community's well-being
- reality: unity in diversity
- balance of
  - masculine and feminine principles
  - power-over with power-through
  - knowledge of world, self

FEELINGS

- have access to bodily and emotional feelings

WILLING: STAGE 1

DESIRE

- can identify and express desires
- can make leap from unconstrained feelings to reality-bound possibilities

WILLING: STAGE 2

COMMITMENT TO PATH OF ACTION

DECISION-MAKING

- avoidance of exaggerated guilt in favour of genuine responsibility
- use of framing/perspective
- useful insights: decisions are inevitable; renunciation is inevitable; pay-offs vs. costs; that only self can make the desired change; that to get what one wants, one must change; that one has power to change

COMPETENCE

ERIC

"receptivity," or an attitude of listening--to oneself, others, nature, the Divine. This worldview orientation is summed up in Figure 4, first of all, by "personal well-being rooted in biocommunity's well-being." It must be noted that, since nature includes human beings, the term "biocommunity" includes not only *ecological*, but also *social* functions. This worldview orientation is rooted in a perception about reality that goes beyond the atomistic view that all things are separate, to the view that beyond the separateness of all things there is also an interconnectedness of all things. At one level one can say that all things are distinct, but at another level one can say that all things are interconnected. Thus, this worldview of mutual well-being of the person, and the ecological and social biocommunity, also is a perception of "unity in diversity."[261] On the one hand, the interconnected unity of all things is undeniable, while, on the other hand, the importance of ecological and social diversity to maintaining the integrity of the whole is also recognized[262]. Finally, the worldview orientation associated with eco-will includes an integrated balance of masculine and feminine principles; a balance of outer, "power-over", with inward, "power-through"[263] orientations to power, and; a balance of knowledge and mastery of the world with knowledge and mastery of oneself.

Feelings also have to do with the initial orientation directing how will is exercised. Feelings shape desires, stage one of willing. From desires, individuals have to move to making realistic choices and decisions; and, finally, their degree of competence affects which choices can come into play. The action experience then returns to influence worldview, and the cycle begins again.

The following chapter identifies how this model contributes to Hungerford's and Volk's, and Hines' and colleagues' models[264] on how to achieve responsible environmental behavior, and identifies some implications for curriculum.

CHAPTER 5

IMPLICATIONS FOR CURRICULUM

This thesis has addressed the general environmental education problem of how to move learners from awareness of environmental problems to taking responsible action on them. The argument presented in the last chapter described some of the ways individual and societal will to act in an environmentally responsible manner is affected by the human relationship with nature. This chapter describes the implications of the argument for curriculum.

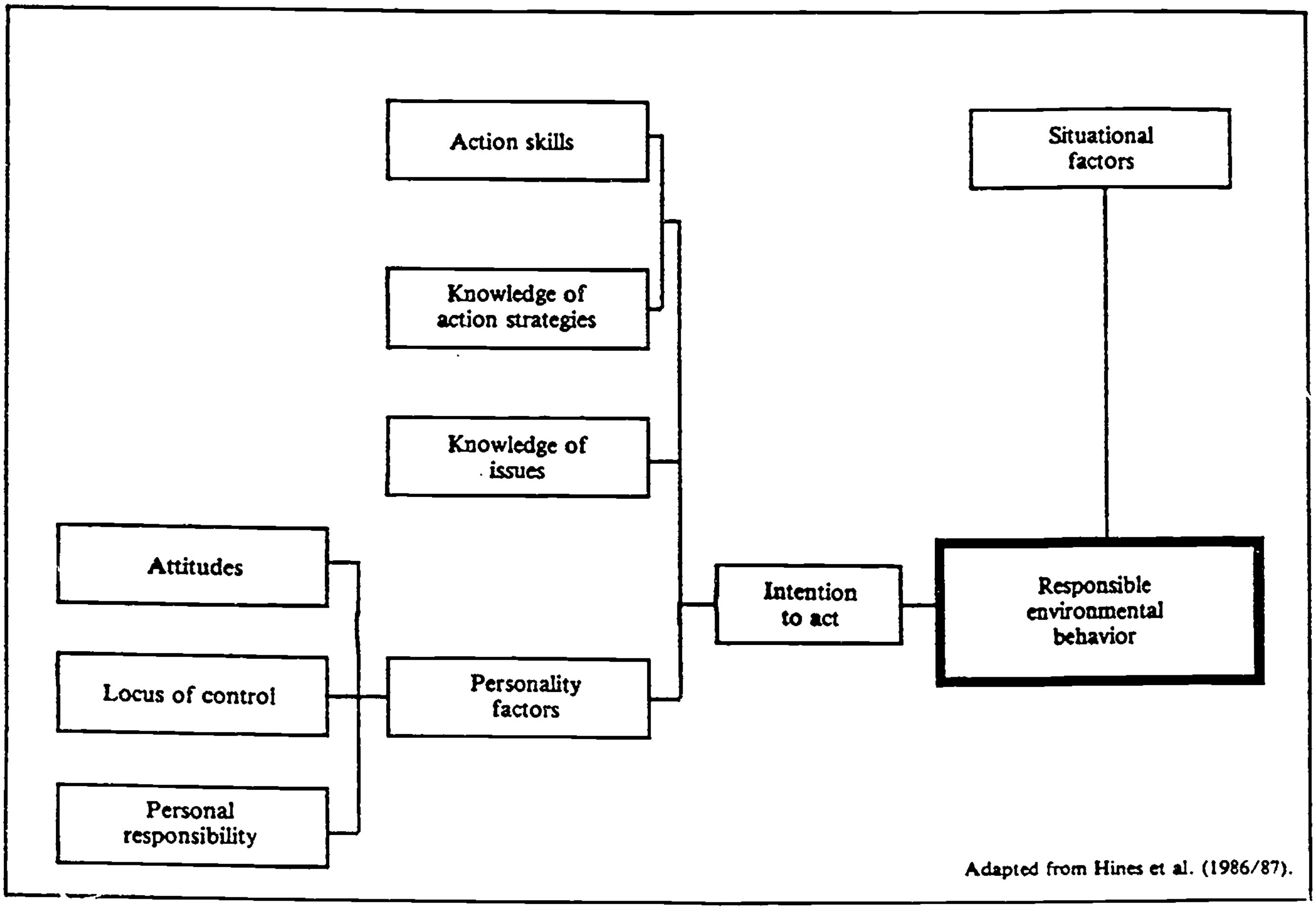
The first part of the chapter identifies how the *Eco-Will Model* that was presented as a key-point summary of the argument at the end of Chapter 4 contributes to refining Hungerford's and Volk's, and Hines' and colleagues' models of how to achieve responsible environmental behavior.. A second, *Refined Eco-Will Model* is presented that integrates what has been learned in this study with the previous work on achieving responsible environmental behavior.[1]

Although how to achieve responsible environmental behavior is an important environmental education question, none of these awareness to action models take *curriculum processes* into account. Therefore, part two of this chapter applies the set of curriculum questions drawn from Tyler's and Kliebard's works to the *Refined Eco-Will Model* in order to identify its implications for curriculum.

Achieving Responsible Environmental Behavior

The *Hines Model of Responsible Environmental Behavior*, Figure 1, and Hungerford's and Volk's *Behavior Flow Chart: Major and Minor Variables Involved in Environmental Citizenship Behavior*, Figure 2, were introduced in Chapter 3. These models are valuable

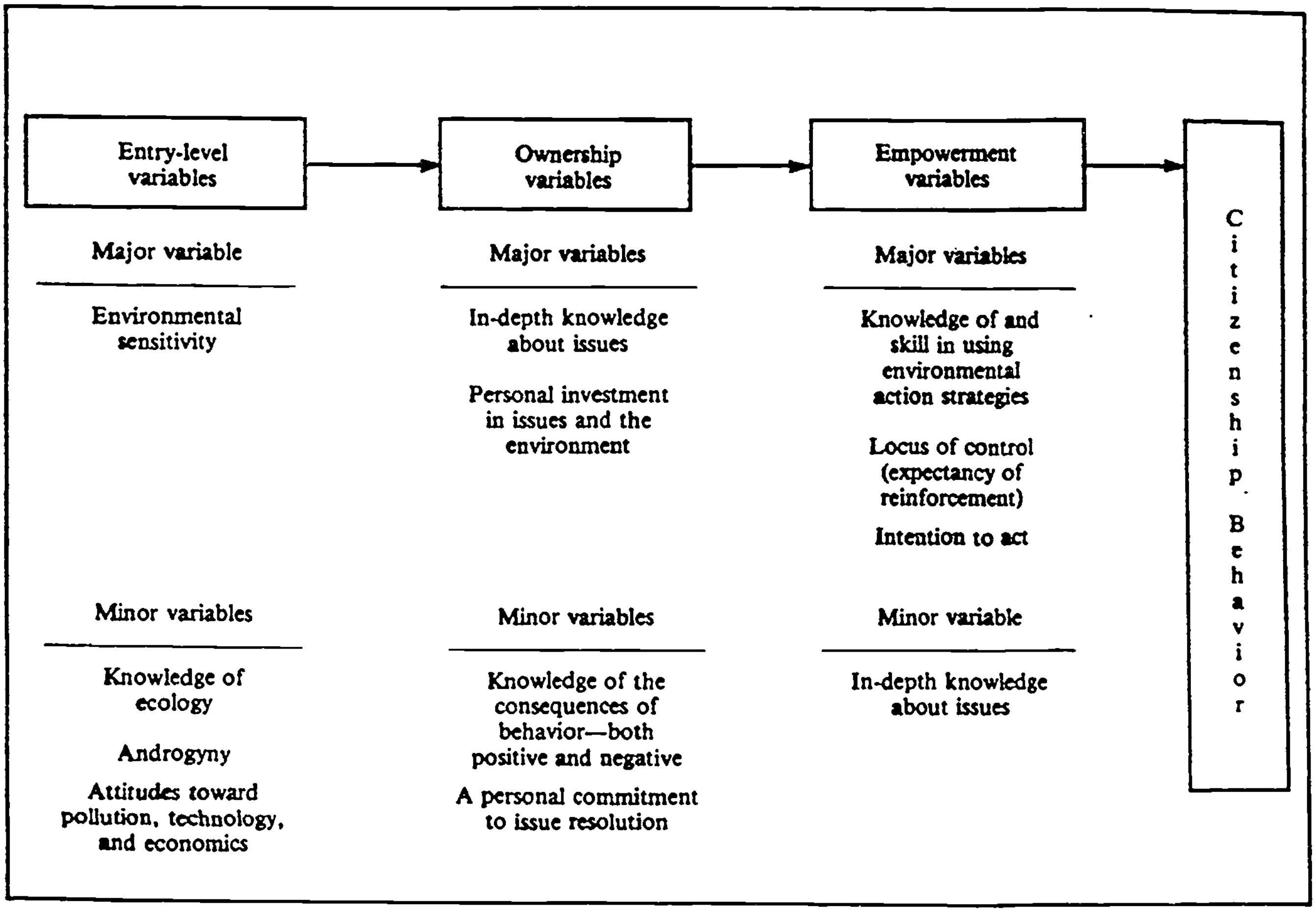
FIGURE 1: The Hines Model of Responsible Environmental Behavior (Repeated from page 46)[2]


Action skills
Situational factors
Knowledge of action strategies
Knowledge of issues
Attitudes
Intention to act
Responsible environmental behavior
Locus of control
Personality factors
Personal responsibility

Adapted from Hines et al. (1986/87).

FIGURE 2: Behavior Flow Chart: Major and Minor Variables Involved in Environmental Citizenship Behavior

(Repeated from page 47)[3]


Entry-level variables
Ownership variables
Empowerment variables
Citizenship Behavior
Major variable
Environmental sensitivity
Minor variables
Knowledge of ecology
Androgyny
Attitudes toward pollution, technology, and economics
Major variables
In-depth knowledge about issues
Personal investment in issues and the environment
Minor variables
Knowledge of the consequences of behavior—both positive and negative
A personal commitment to issue resolution
Major variables
Knowledge of and skill in using environmental action strategies
Locus of control (expectancy of reinforcement)
Intention to act
Minor variable
In-depth knowledge about issues

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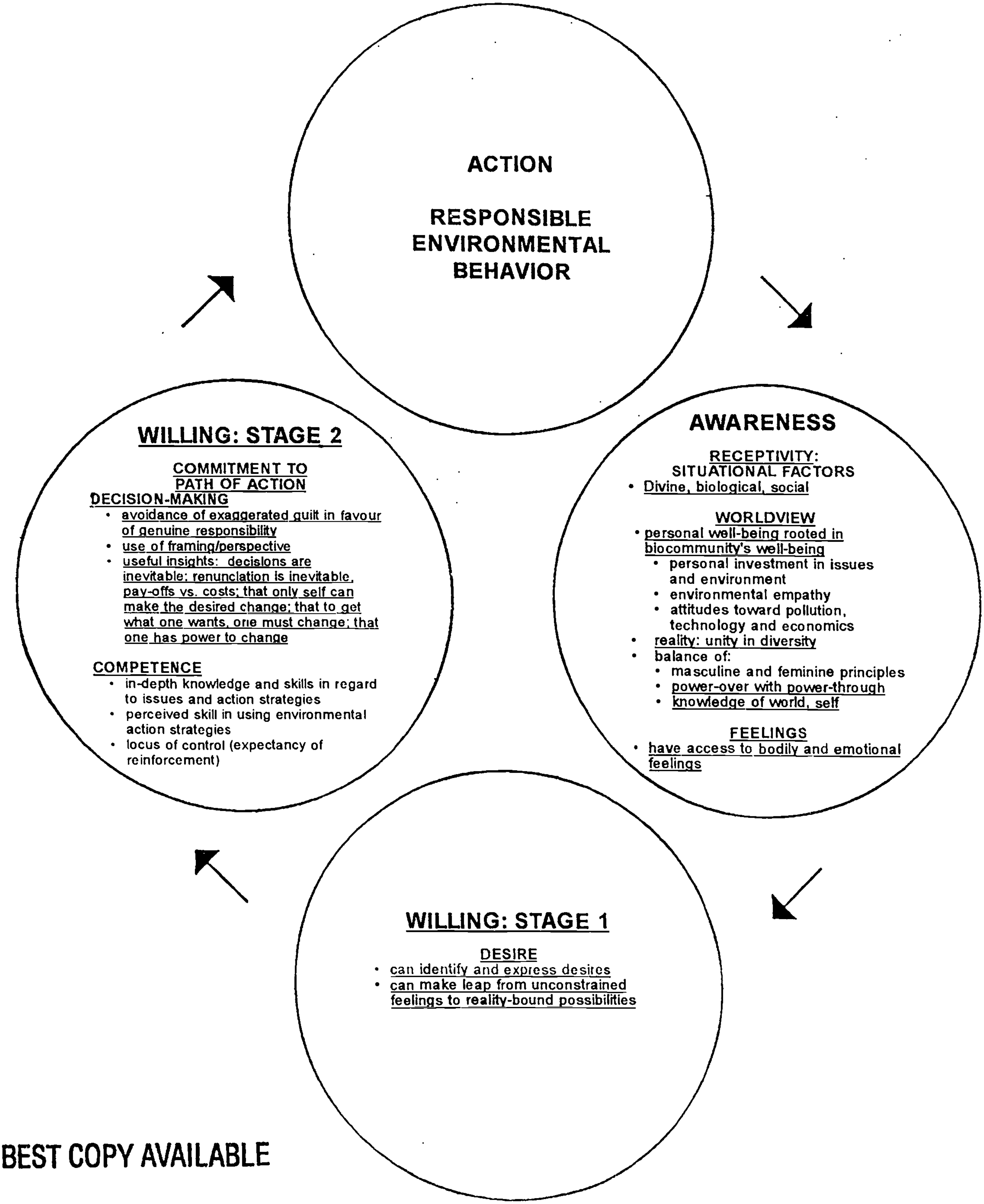
because they represent some of the best conceptual development in environmental education on the problem of moving learners from awareness of ecological problems to taking responsible action on them. Figure 5 represents the integration of the earlier models with the *Eco-Will Model.* The highlighted sections of the model represent factors added by the *Eco-Will Model* to the earlier models, and the plain type represents those parts of the *Refined Eco-Will Model* which were already in, or have been added, by the earlier models. This section discusses how the three models were integrated into one.

The only factor in the *Hines Model* which is not elaborated in similar or more specific terms by Hungerford and Volk is situational factors, therefore that factor is among those integrated into the *Refined Eco-Will Model.* In regard to Hungerford's and Volk's model, there are many factors which are closely related or repeated, partly as a result of the organization of factors into entry, ownership, and empowerment variables and major and minor variables. Thus the first level of integration was to make a concise list of factors that eliminated the overlaps.

The first factor mentioned in Hungerford's and Volk's model is "environmental sensitivity," which they describe as "environmental empathy." Since environmental empathy is much more precise that environmental sensitivity, which, for example, could refer to environmental allergies or an extreme prejudice against nature, the term environmental empathy was considered for integration.

The next factor Hungerford and Volk identify is "knowledge of ecology," and this factor is closely related to "in-depth knowledge about issues," which is repeated twice, and"knowledge of and skill in using environmental action strategies." These factors have

FIGURE 5: REFINED ECO-WILL MODEL



ACTION

RESPONSIBLE ENVIRONMENTAL BEHAVIOR

WILLING: STAGE 2

COMMITMENT TO PATH OF ACTION

DECISION-MAKING
- avoidance of exaggerated guilt in favour of genuine responsibility
- use of framing/perspective
- useful insights: decisions are inevitable; renunciation is inevitable, pay-offs vs. costs; that only self can make the desired change; that to get what one wants, one must change; that one has power to change

COMPETENCE
- in-depth knowledge and skills in regard to issues and action strategies
- perceived skill in using environmental action strategies
- locus of control (expectancy of reinforcement)

AWARENESS

RECEPTIVITY:
SITUATIONAL FACTORS
- Divine, biological, social

WORLDVIEW
- personal well-being rooted in biocommunity's well-being
  - personal investment in issues and environment
  - environmental empathy
  - attitudes toward pollution, technology and economics
- reality: unity in diversity
- balance of:
  - masculine and feminine principles
  - power-over with power-through
  - knowledge of world, self

FEELINGS
- have access to bodily and emotional feelings

WILLING: STAGE 1

DESIRE
- can identify and express desires
- can make leap from unconstrained feelings to reality-bound possibilities

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*underlined sections indicate factors contributed by this model to Hungerford's and Volk's, and Hines' and colleagues' earlier models been compiled to read "in-depth knowledge and skills in regard to issues and action strategies."

One factor which Hungerford and Volk discuss in their article but neglect to include in their model is "perceived skill in using environmental action strategies." This factor is considered to be "one of the very best predictors of behavior," according to Hungerford and Volk. In light of its relevance to environmental behavior, it has been included in the list of factors to be integrated into the *Eco-Will Model*.

The rest of the factors in Hungerford's and Volk's model did not require any changes. Thus, in sum, the factors from the two models to be integrated into the *Eco-Will Model*, organized according to the following discussion on the *Refined Eco-Will Model*, include:

- situational factors
- personal investment in issues and environment
- environmental empathy
- attitudes toward pollution, technology and economics
- androgyny
- a personal commitment to issue resolution
- intention to act
- knowledge of the consequences of behavior--both positive and negative
- in-depth knowledge and skills in regard to issues and action strategies
- perceived skill in using environmental action strategies
- locus of control (expectancy of reinforcement)

The *Hines Model* limits "situational factors" to economic and social variables, or, in other words, human factors. This study identifies the cutting off from nature and the Divine as key points of the worldview associated with ecological destruction, and an orientation which is receptive to nature and the Divine as one which is more likely to be associated with responsible environmental behavior. Therefore, the *Refined Eco-Will Model* expands situational factors beyond the social and economic, to include non-human situational factors from the rest of nature and the Divine. In the *Refined Eco-Will Model*'s situational factors, "social" includes all human societal functions, for example: political, economic and cultural.

The next three items from the list of factors from the earlier models are: personal investment in issues and environment; environmental empathy, and; attitudes toward pollution, technology and economics. These three factors have been included as sub-points under the *Eco-Will Model*'s "personal well-being rooted in biocommunity's well-being" because that orientation leads to the personal investment, empathy, and attitudes more likely to be associated with responsible environmental behavior. The kinds of personal investment which are rooted in people's relationship with nature, according to this study, include the enjoyment of physical health, a sense of meaningful identity and a purpose in life.

The next factor to be integrated is androgyny, or the balance of masculine and feminine principles. The *Refined Eco-Will Model* uses the phrase "balance of masculine and feminine principles," rather than "androgyny" because it makes more apparent the focus on balance as key and that the emphasis is on masculine and feminine *principles*, not sexuality.

The rest of the factors from the earlier models include:

- a personal commitment to issue resolution
- intention to act
- knowledge of the consequences of behavior--both positive and negative
- in-depth knowledge and skills in regard to issues and action strategies
- perceived skill in using environmental action strategies
- locus of control (expectancy of reinforcement)

All of these factors have been integrated into the second stage of willing of the *Eco-Will Model*. "A personal commitment to issue resolution" and "intention to act" both relate to the overall nature of the second stage of willing, "commitment to a path of action." "Commitment to a path of action" improves on each of these factors: it moves "a personal commitment to issue resolution" beyond an issue commitment to an action commitment, and it is more specific than "intention to act."

In regard to "knowledge of the consequences of behavior--both positive and negative," it is considered to be equivalent to the *Eco-Will Model*'s "pay-offs vs. costs." Finally, "in-depth knowledge and skills in regard to issues and action strategies," "perceived skill in using environmental action strategies," and "locus of control (expectancy of reinforcement)" are all related to competence. Locus of control is not as good a predictor of behavior as perceived skill, but it is still important, according to Hungerford and Volk.[4] According to Hungerford and Volk, an internal locus of control means that a person expects to experience success or some positive reinforcement for their behavior, while an external locus of control means that no reinforcement is expected.[5]

The *Refined Eco-Will Model* contributes to the earlier ones in several ways. First, the most obvious change is that the models are transformed from a linear process, to a circular or spiral process. Essentially, the *Refined Eco-Will Model* adds a feedback loop to the other models by addressing not just how humans can affect the human-nature relationship, as the earlier models do, but also how the human-nature relationship affects human beings and ultimately their eco-will. For example, this model shows how action itself is part of the education process.

Another contribution of the *Refined Eco-Will Model* to the earlier models is increased conceptual clarity. Although moving people from awareness to responsible environmental action has been the central thrust of environmental education, there has been no term to describe the awareness to action process, or even much evidence of the consciousness that there *is* a process between awareness and action. The dominant assumption has been and still is that information will automatically lead to responsible behaviour. The term 'will' is an appropriate label for the awareness to action process because Yalom defines will in precisely that way. So, for the first time there is at least one conceptual handle for this central environmental education problem. Furthermore, this study has created a specific term, *eco-will*, to describe the kind of will that is associated with responsible environmental behavior in particular.

Another way in which the *Refined Eco-Will Model* contributes is by adding many factors relevant to the will process which were left out of the earlier models. Neither earlier model pays any attention to what would be considered by Yalom to be the first stage of willing, desire, nor are feelings addressed by either model. Neither do they address decision-making processes, which are inherent to the second stage of willing, commitment to a path of action. They do have some commitment related factors, but no decision-making factors. Thus almost all of what Yalom has described as the will process is an addition to the earlier models. The models do address some elements of the worldview factor which influences what kind of will is expressed, but do not acknowledge the crucial role played by worldview, especially in regard to the rootedness of responsible environmental behavior in the worldview that the well-being of people and the planet are interdependent. Hungerford and Volk stress the "dramatic" relationship of environmental empathy to responsible environmental behavior and suggest that it be given "considerable attention."[6] Thus, the centrality of worldview to environmental behavior is affirmed by Hungerford and Volk, and this study has contributed to their work by deepening conceptual development in this area.

Also, the earlier models are more compilations of factors than an integrated process. Although Hungerford and Volk have attempted to improve on the relationship between factors, they express dissatisfaction with their degree of success in this regard.[7] The *Refined Eco-Will Model* describes an integrated process of interrelated factors.

The contributions of the *Refined Eco-Will Model* to the earlier models can also be seen as an evolution of the worldview foundation for environmental education thinking on this topic. For example, the shift from a linear, cause and effect model of behaviour change to a circular or spiral model of mutual influence reflects the emerging worldview orientation to change, according to Schwartz and Ogilvy's definitions.[8] The bringing of the concept and process of will to the earlier behaviour change models reflects a shift from a worldview focused only on external, observable things, a deterministic view of behaviour change, to one which also takes into consideration internal or subjective human processes. Also, the will focus shifts the models from a rationalist perspective, where even attitudes are rationally derived, to a process which engages the full range of dimensions of the person--for example, the physical, emotional, intellectual, *and* spiritual dimensions are all engaged in a healthy will process. It also shifts the earlier models from a human-centric perspective, where no factors outside of human influence or perspective are considered, and expands the factors which influence will to non-human natural factors and the Divine. This point is important in light of the association of destructive ecological behaviour with the worldview that has been pointedly alienated from nature and the Divine.[9] Finally, the contribution this model makes to moving the earlier models from a focus on the elements of behaviour change to a more integrated process, parallels the emerging trend in science to shift from looking at things in isolation, to looking at things in terms of relationship.[10]

The earlier models also have contributed to the argument's *Eco-Will Model*. They provide six factors that add depth and detail to some major categories of the *Ecc-Will Model*. Also, they affirm one factor which the three models had in common: an orientation that balances masculine and feminine principles.

None of these models about how to achieve responsible environmental behavior address curriculum processes per se. The following section, therefore, applies a set of curriculum questions to the *Refined Eco-Will Model*.

Implications of the Refined Eco-Will Model for Curriculum

The structure of this section follows the set of curriculum questions developed earlier from Tyler's and Kliebard's work. Each sub-section is titled by a curriculum question.

What are the Purposes of Environmental Education and Whom do They Serve?

One of the main purposes of environmental education since its conception has been to achieve responsible environmental behavior in the learners. The *Refined Eco-Will Model* suggests that in order to achieve this goal, education must help learners to discover the personal value and meaning of the interconnectedness of humanity and nature. Furthermore, this theme of personally meaningful interconnectedness should translate into whole person approaches to education, where as much attention is paid to physical, emotional and spiritual development as to rational, intellectual development. Environmental education must also help learners to gain access to their bodily and emotional feelings, and to be able to identify and express desires, and commitment to a path of action. Furthermore, education must foster ongoing development of competence through action in the world. Finally, environmental education, according to this model, would be aimed at, and in service of, humanity as a whole, rather than being aimed at any particular group such as adults, children, certain genders, or other grouping, and in service of the learner as much as in service of environmental educators' societal goals.

What Skills, Values, and Understandings Should be Taught?

The worldview and feelings section of the model is fundamental to it being a model of *eco*-will and not just a model of will in general. It is the worldview and feelings which give maturity to the goals which will serves. In order to meet the goals expressed in the eco-will section of the model, goals that meet the demands of what some have described as an emerging global civilization,[11] there are a range of skills, values/attitudes, and understandings which must be sought.

A pivotal factor in achieving responsible environmental behavior is the finding of a personally meaningful relationship with nature, to which the learner is intended to respond. Thus finding a personally meaningful sense of the larger interconnected whole of things is key. Also, people need to be alive to their subjective knowing, or their bodily and emotional knowing, and they need to know how their own personal well-being is interdependent with the well-being of the environment and society. Both of these basic understandings require listening skills; listening to ourselves and to nature. What is needed from human beings today, according to Berry, is the "capacity for listening" to the earth.[12] A "curriculum for listening" is needed both in homes and in schools, and would include taking the time to listen to the children, to lessen the frantic scheduling of their lives, to read to them, to give them some quiet time to play, ponder and reflect.[13] Adults need to role model these skills.[14]

If listening skills are developed, and interconnected well-being is perceived, then an appreciation for this interdependence emerges. Values such as cooperation and balance, justice and equity are fostered. Rather than seeing human development in competition with the earth, or individual development in competition with society, an appreciation is developed for the mutually beneficial relationship between individual, societal, and planetary well-being.

At the first stage of willing, labelled desire in the model, learners need to be able to identify and express their desires. Two pivotal skills required for learners to identify and express their desires are imagination and self-expression skills. Such expression should not be solely rational; it should also include physical, emotional and spiritual dimensions. Students who can only express themselves in one way would be considered less skilled than those who can express themselves through a variety of avenues. Further skill refinement would be students who are able to weave different modes of self-expression together.

Another skill which is important to the desire stage of willing is the ability to recognize prejudice/injustice in oneself and others. The ultimate goal of responsible social and environmental behavior cannot be fulfilled if learners are unconscious of how irresponsible social and environmental behavior manifests itself, especially in themselves. In addition to this ability to criticize shortcomings in themselves and society, it is also important, even crucial, that learners be encouraged to establish personally fulfilling roles in positive contributions to environmental and social issues. For example, students can learn through providing service to the local community which improves the bioregion. Also, a curriculum for listening includes listening to students, and allowing them to make creative contributions to environmental and societal problems.

Once learners have expressed their desires, they then need to have the skill to make the crucial leap between desires that cannot realistically be acted upon and those to which a realistic commitment to action might be made (stage two of willing). In order to do this, learners need decision-making skills. These skills were expressed in more detail in the argument, but essentially, learners should be familiar with the decision-making process, usual pitfalls, and the strategies for overcoming them. There are numerous tools to facilitate decision-making. One useful tool from the educational literature is from the Institute for

Cultural Affairs workshop on *Effective Leadership*. The process and worksheets used to help students facilitate decision-making imitates very closely the process of willing described in this thesis.

A related aspect of moving from desire to responsible environmental action is competence. Knowledge about the issues and action strategies and skill in enacting strategies are pivotal to *effective* will. Good intentions are not enough--and sometimes harmful--if they are ill informed or poorly carried out. This area has not been stressed within the present study because there is already a tremendous amount of development in the area of what skills and understandings are needed to *manage* environmental and social problems. Nevertheless, this model provides the opportunity to emphasize that there is no point to the whole will process if ultimately it is crippled by incompetence.

What Kinds of Organizational and Teaching Strategies Should be Used?

In regard to organization, the ecological principle of interconnectedness implies that subjects should be integrated as much as possible,[15] and that the bioregional and local culture should influence the content of the curriculum.[16] The ecological value of biological diversity is translated as a valuing of cultural diversity, and so classes are formed of heterogeneous groups, including not only asian, black, and caucasian people, but also native people who have been for too long the 'invisible people' of North America.[17]

In regard to teaching strategies, one major implication is that teaching should touch upon physical, emotional, rational, and spiritual dimensions of each subject, and there are practical strategies for this kind of teaching that need not be overwhelming to the teacher. Indeed, this kind of teaching should make teachers more effective, thereby making their job easier. There is extensive educational literature on the conceptual grounding of such an approach and techniques for such "multi-perceptual" teaching.[18] This multi-perceptual approach has also been called by Gardner the "multiple chance" form of education.[19] It relates to the discussion in educational literature about how intelligence is not just rational or intellectual, but also emotional, physical, aesthetic, spiritual, and so on.[20]

The strategy for teaching to each learner's strength is not to worry about each person's individual learning preference, which would be highly impractical, but to cycle through the various learning preferences, perhaps using several ways of expressing the topic at one time. Time spent teaching is then more effective; more people benefit from the same teaching time.[21] Clearly, when learners are given the opportunity to learn in ways which work best for them, they learn faster and with greater depth.[22] Perkins, Gardner, Sternberg, Houston, Rose and others agree that people learn best if allowed to learn through their strengths.[23] This kind of learning is more likely to lead to the will to engage in what has been described as "deep learning," the kind of learning that leads to action.[24] In this regard, Yalom refers to a Japanese proverb that "to know and not to act is not to know at all."[25]

What Educational Experiences and Activities Should be Provided?

The fundamental experience necessary to achieving responsible environmental behavior is the experience of interdependent well-being of things. Many possible activities are implied by this focus. For example, specific activities could include the use of creative imagery; exploration of Native American sacred places[26]; activities which require a "balance" with the earth and body, such as skiing, surfing, mountain climbing, Tai Chi and other martial arts, and body therapies[27]; the use of an investigative method called currere to explore the relationship of one's own life meaning to nature[28]; getting learners to record their feelings, on an ongoing basis, about ecological issues being raised in class[29]. The overarching theme that would be promoted within these activities would be the fostering of basic trust and a sense that learners are part of the larger story.[30] There is immense satisfaction in finding what LaChapelle calls "affordances" in the natural world, or ways in which one fits into the harmony of things.[31]

LaChapelle especially stresses the effectiveness of rituals, and provides detail on such ritual activities as pilgrimages,[32] medicine wheels, and henges.[33] She feels that rituals can help at each stage of individuals' development.[34] One activity she suggests is called "the talking staff," where a staff is passed around a circle of people, and while a person is holding the staff it is that person's turn to speak, while the others listen. Through the talking staff LaChapelle asserts that people can feel that they enter the story, speaking becomes relational, and it shows people their mutuality with the others, with all existence, and with multiple dimensions of themselves. Furthermore, "hearing is healing."[35]

In addition, people bond with nature out of real work in the natural world.[36] Too often nature is just a backdrop for human leisure activities. Working in nature, in contrast, may involve more interaction and cooperation with natural forces than some outdoor leisure activities. Also, the importance of nature to people perhaps can be more clearly experienced through a work relationship with nature, than a play relationship, as important as the playful dimension is in its own right. The playful relationship between people and the planet also is of great importance.

Another powerful activity is to study the medicinal and nutritional qualities of herbs. An important cultural connection to this kind of knowledge are the native cultures across the world--in Australia, Africa, America, and the North for example. Also, it is often the women of those cultures who are the holders of herb knowledge; herbs may play an especially important role in environmental education for women for this reason. Herbs also play an important role in rituals,[37] and as such they have traditionally played a role in human transformation. Some schools are turning parts of their playgrounds into herb gardens, and others are letting their playgrounds grow wild, which is a good start for learning about herbs.

Prayer and meditation are other avenues for self-knowledge in nature. In Japan there are meditation gardens, and here in Canada, 'peace gardens' are being developed across the country, places designed to encourage the contemplation of peace.[38] At some Zen Buddhist temples, children are taught to get out of habitual patterns of seeing and understanding by meditating on some natural thing, like a goldfish pond, to 'become it,' and then to write poems about it. They are taught that there are infinite poems that could be written about any one thing.[39] According to some, one learns about whatever is meditated on. Another contemplative artistic activity is working with clay.[40] There are any number of artistic activities which can be developed, which emphasize art as relationship rather than as a product.

The arts are an important avenue to imaginative knowing. Science "is not the sole conveyor of truth," according to the emerging vision.[41] Science can explain, whereas the arts convey emotion and meaning.[42] The arts are spiritual in that they can suggest something beyond their mere physical nature.[43] The arts are "acts of intelligence no less than other subjects."[44] Therefore, literacy should not be too narrowly defined. Beyond the systems of language, math, and science, there is a "breadth of symbolic tools" to describe life.[45] The arts help learners to engage with their "inner selves," as well as the world around them,[46] and the imaginative mode of knowing assists learners to better express their desires. The arts are the "language of civilization through which we express our fears, our anxieties, our curiosities, our hungers, our discoveries, and our hopes."[47] They are not just important; "they are a central force in human existence."[48]

Contemporary educational and research discourse reinforces and extends the theme of interconnectedness. It is important to give learners experiences with the interconnectedness of things according to this literature because connectedness "allows" a way of knowing, at the heart of which is the capacity for empathy, so important for responsible environmental behavior.[49] Furthermore, relatedness begets joy, well-being and reflective consciousness.[50] Making connections between things to be learned also facilitates learning. Students benefit from being given an overview of what is to be learned beforehand, and then the material needs to be taught in a way that engages the visual, auditory, and other physical senses,[51] as well as the emotions and the spirit. Also, consolidation of knowledge aids retention. At the end of a learning period, learners need a summary to trigger the whole of what has been learned. Some tools are mind maps, and what is called a review "concert," where the summary is spoken over a background of carefully selected classical music.[52] Not only can music help to connect learning, it can also help to promote an overall sense of connectedness with the environment.[53]

A period of reflection after learning is important. During this time, students should articulate their learning. Robert Sternberg's work has shown how essential articulation is in learning. Talking through what has been learned ensures students have organized their thoughts properly and also provides an additional auditory association for whatever they have learned. According to Kurt Lewin, when a subject was discussed after learning, it was *ten times more likely to be acted upon* than if it was not discussed because of, for one thing, the opportunity for group commitment. A cycle of "do and review," or action and theorizing, is recommended by Rose, which parallels Yalom's finding that people need to cycle through decision-action processes repeatedly before a lasting change is made.[54] Thus connectedness at all levels facilitates learning in general, as well as eco-will. Houston suggests that:

> when one is allowed to think and learn in images as well as through kinesthetic and other sensory frames of being, the world and its problems appear very different from the way they do to a more contained mindstyle. The total human then meets the total world, and the world and humanity are richer for it.[55]

What Should be Evaluated and How?

In light of the pressing global problems, it is vitally important to know that education aimed at healing the personal and global challenges of today is achieving the dual goals of personal well-being in relationship to nature and effective responses to global problems. Since both personal well-being and global change are long-term goals and difficult to measure, an avenue for identification of progress in the short term might include the following approaches. First, evaluation can be targeted at various specific aspects of the curriculum process. For example, if certain activities are intended to lead to certain experiences, evaluation can help clarify if those intentions have been met. Furthermore, educators can evaluate their programs by contrasting them to cross-disciplinary knowledge, to make sure that their programs are as well-grounded in existing knowledge as possible.

The ecological-integration orientation also adds insight into evaluation for eco-will curriculum. This orientation does not reject traditional performance evaluation; it does recommend to use it along with more qualitative styles of evaluation which can address the key personal-meaning and social significance focuses. Jewett and Ennis, who present this orientation, say that there is a need to develop evaluation methods in these areas, but recommend a number of possible approaches, including goal-free and/or artistic models, teacher-made devices, interviews, self-evaluation instruments, social distance measures, projective devices, and semantic differential scales.[56] Learner satisfaction is emphasized in this approach, since it is related to the personal well-being goals.[57]

General kinds of concepts, skills, and behaviors for which evaluation methods need to be developed include: concepts of alternative futures and biotechnology, self-concept, creative abilities, leadership skills, and cooperative behaviors.[58] Also, some research suggests that key characteristics of effective learners which can be evaluated are the degree to which they elaborate on what they are learning by relating it to previous experience and existing knowledge.[59] Effective learners constantly ask questions to ferret out the meaning,[60] trying to understand material for themselves. They interact vigorously and critically on content, use organizing principles to integrate ideas, relate evidence to conclusions, and examine the logic of arguments. Effective learners are interested in the subject for its own sake, they experience self-confidence, and, most importantly in regard to this study's focus, they act on their learning. These characteristics describe "deep" learning.[61]

Effective evaluation of student learning would reflect these types of concerns. Contemporary evaluation that employs the short-answer or multiple-choice tests (which are increasingly being used in higher education) seem to encourage surface approaches to learning, whereas the more qualitative, essay-type examinations usually demand "deep learning," that is, that the student have a more profound and intimate understanding of the subject matter.[62] In spite of the need to develop evaluation models which can extend beyond immediate desired outcomes of programs, "many educational goals worthy of our attention do not lend themselves to testing."[63] The personal well-being and responsible behavior curriculum goals implied by this study suggest that the seeking of admirable educational aims should not be set aside due to difficulty in measurement.

How do the Components of the Curriculum Interrelate Into an Integrated Whole Which Describes What it Means to be Educated?

This model and the curriculum implications identified in the previous sections imply that the curriculum is woven into an integrated whole by the themes of mutual well-being of people and the planet. These themes are expressed in the goals of education; the skills, values and attitudes sought; the organizational and teaching strategies; experiences sought and activities pursued; and evaluation. To be educated according to this eco-will perspective is to be able to act on one's heart-felt desires, according to a personally meaningful view of interconnectedness, toward the well-being of oneself, society, and the planet. To be educated, therefore, also means to be skilled at identifying and expressing one's desires and to be able to take effective action on them.

This chapter has explored the contributions of this study to environmental education understandings about how to achieve responsible environmental behavior. Also, this chapter has presented a *Refined Eco-Will Model* which integrates earlier environmental education work on achieving responsible environmental behavior with the model developed out of this study. Finally, this chapter has identified some implications for curriculum.

CHAPTER 6

SUMMARY AND CONCLUSIONS

This chapter is divided into two parts. Part one is a summary of the study, and part two presents the conclusions.

Summary

This study has addressed the complex central environmental education problem of how to move learners from mere awareness about environmental and related problems, to taking action on them. The literature review revealed that the dominant approach to achieving this ultimate goal has been to provide learners with information, and that this approach has not worked. Some of the literature suggested that peoples' health, identity and life meaning are rooted in their relationship with nature, and that these factors affect environmental behavior. Essentially there seems to be a relationship of mutuality, where a sense of personally meaningful interconnectedness with nature leads to human physical and mental well-being, *and* responsible environmental behavior, while a sense of alienation from nature has a destructive effect on human physical and mental well-being, and is associated with destructive environmental behavior. The literature review explored the parallel human and planetary crises in this regard, and showed how they both stem from the dominant Western view of the human relationship with nature. Furthermore, the review of literature raised the question about whether the human crises may be blocking a response at individual and societal levels to the environmental crisis.

The suggestion of a correspondence between human and planetary well-being, and responsible environmental behavior, and the possible thwarting of this relationship of mutual benefit in contemporary Western society, led to the research question: "how is the will to act in environmentally responsible ways affected by the human relationship to nature?" The research had two objectives, replying to this research question and identifying the implications of the argument for curriculum.

The argument confirmed that the will to respond to the environmental and other related crises seems to be paralyzed, and that there is a crucial need for conceptual development in this area. Yalom's work on willing provided some theoretical grounding on the process of willing in general, and the various references examined as data sources for this study provided conceptual development on the specific contemporary relationship between people and the planet, and how to move people from awareness to taking action.

The root of the problem of will, as well as a variety of crises, was identified as the Western view that humanity is separate from and superior to nature by virtue of humanity's rational faculty, and, originally, the view that also humans were spiritual, while nature was not. This view of human identity in relation to nature has led not only to the maltreatment of the natural environment, resulting in the environmental crisis we face today, but it also has contributed to personal and societal crises. At a personal level, peoples' health, emotional lives, and spiritual vitality, or sense of meaning in life, have been negatively affected. Societally, the basic human-nature relationship has been projected onto social, political, and economic affairs, contributing to crises in all those areas. Individual will has been blocked by the personal crises, and societal will has been blocked by the way in which human affairs have been organized.

Will in general can be re-enabled by reawakening those aspects of our identity which have been devalued by the Western view of humanity. For example, the first stage of willing, desiring to respond, depends first and foremost on acknowledging and expressing feelings, both physical and emotional. There has been an explosion of feeling-oriented therapies, but there is an important need not to expect break-through change overnight, but rather to help people cycle repeatedly through the issues. The main feeling to be confronted today, according to Macy, is despair about the state of the world. Her approaches can be used to transform despair into empowerment. The energy that goes into holding down despair so that we are not overwhelmed by it leads to exhilaration once it is faced and let go. The despair many of us feel is actually evidence of our concrete interconnectedness; if we were not interconnected, the environmental degradation would be irrelevant to us. That we are interconnected also means that we have the power to act. Furthermore, once this interconnectedness and power to make a difference is recognized, despair is translated into an empowering force for responsible environmental action.

There is a crucial need to help people follow through on their feelings to action, by helping them to identify and express their desires, and to become expert decision-makers. Decisions are inherently difficult, but once it is recognized that decisions are inevitable, and that all decisions involve renunciation (since upon choosing one direction, all other directions are lost) and responsibility, people can move forward and make choices. There are many therapeutic tools available to facilitate choice, some of which have been identified in this study. In addition, the greater the competence of individuals, the greater the range of choices available to them.

Re-enabling will in general is not enough to reach the goals of environmental educators. It is not will in general that will lead to a creative and constructive response to the environmental and related crises; rather it is what has been called in this study *eco-will.* Will can be directed for good or for ill, and it seems to be oriented by the individual's spiritual perspective, or worldview orientation--in other words, the individual's view of how humanity fits into the larger picture, or what the ultimate order of things is influences how will is expressed. The Western denial of the reality of the ongoing sacredness of nature led, according to this study, to a withering of personal spiritual life. The Western materialist view of reality, and denial that nature has any larger meaning, seems central to the destructively oriented Western will.

At a societal level, the alienated human-nature relationship has led to the differentiation of social institutions so that politics and economics are not led by any spiritual vision, or, in other words, any vision of what is of ultimate value. The separation of the visionaries from the politicians, and then the politicians from the economic actors parallels the will process: desire, stage one of willing, is informed by spiritual vision or worldview; commitment to a path of action, stage two of willing, is similar to political administration; and carrying out decisions, or action, is similar to economic activity. There is no official or legitimate connection in many Western cultures between visionaries, politicians and economic actors. The contemporary Western world has surrendered the rudder directing human affairs, by adopting a deterministic and mechanistic, and supposedly value-neutral "invisible hand" stance to human affairs. In essence, the dominant Western worldview has led to this differentiation of social institutions which impedes directing society towards consciously, and hopefully democratically, chosen goals. This structural impediment can be changed.[1] There are a number of ecologically and spiritually grounded models of community, political and economic life from which to draw, as well as experimental communities whose experience can benefit the re-enabling of societal will. Although many might criticize that there is already too many illicit liaisons between political and economic sectors which are not legitimate and open to scrutiny, it is the reintegration of spiritual vision into human affairs which is the "burning question" of our times, and which can bring political and economic activity into the service of worthy goals.

The driving force of change which gives hope to the problem of will, is personal dissatisfaction. This dissatisfaction has arisen in direct response to the human-nature relationship, but it is also being intensified as individuals are increasingly affected by the crises around them. Yet, so far, personal searches seem mostly to circle around feeling therapies. Not only has the concern been expressed that people are failing to take responsibility for feelings by acting on them, also materialist prejudices impede the exploration of spirituality, the most crucial influence on how will is directed. The vital issue is not just whether or not will is enabled, but what kind of will is enabled. Eco-will is grounded in a worldview that goes beyond materialism to grant that there is a larger meaning to nature than just its physical workings. Exploration of the meaning of nature, especially the meaning of the interconnectedness of humanity and nature, and all things, cannot be effectively carried out solely through the study of one's own subjective spiritual experience, nor by studying the experience of others. For one thing, so many people have become deadened to the spiritual that there would be nothing to study. The revitalization of the spiritual depends not only on intense personal exploration of one's own and others' subjective experience in relation to nature, but also on the critical study of the lives and messages of the various Manifestations of God, in other words, theological studies. The process of will itself is, according to this study, a process of spiritual growth, and it is important that the will process not remain solely materialistic, but that meaning also be pursued. The dominant Western view has been that nature is atomistic, and, correspondingly, that human identity is individualistic. The challenge now that the emerging view sees nature as holistic where all things are interrelated, is to understand the meaning of that interconnectedness, especially for human identity and purpose. The sources for understanding the implications of physical interconnectedness include listening to oneself, to others, to nature, and to the Divine (through critical evaluation of the messages and lives of the various Manifestations of God), *in tandem with* one's own personal search for meaning.

The potential of a worldview of meaningful relatedness is exciting, as people begin to transform their lives toward a new vision. Humanity seems to be in a time of transition. Will seems to be shifting from a *power-over* kind of will to a *power-through* kind of will.[2] This period humanity is leaving seems to have been humanity's adolescence, a time when humanity perhaps needed to separate itself from natural and religious authority. Nevertheless, humanity seems to be at the stage of returning to assume a responsible adult relationship with nature and also, perhaps, the Divine.

The process of will itself seems to have reflected the development of psychology. First there was Freud's will-to-pleasure, which can be related to the first stage of willing, desiring to respond. Then there was Adler's will-to-power, which can be related to the second stage of willing, following through to action. Finally, now that the basics for being able to will have been established, humanity is further refining its skills by seeking to *direct* its will, as opposed to being driven by unconscious drives for pleasure and power. Correspondingly, Frankl's school of psychology, Logotherapy, which focuses on the will-to-meaning, as well as Roszak's Eco-psychology which addresses the sacred dimension of nature have arisen. Humanity's collective transformation is akin to Job's experience, according to Fox (M.); we are learning our place in the universe.[3]

A comparison can be made between humanity's position and that of Dostoyevsky's main character's in Crime and Punishment. Humanity is moving from a dualistic sense of human identity--on the one hand superior to nature, and on the other hand the most war-like and despicable creature--to a more unified and less dramatic but more sacred sense of identity, where we are a part of nature and thereby participate in a sacred reality. In particular, humanity is moving toward increasing appreciation for the feminine and other cultures. Like Dostoyevsky's character humanity has just barely been born into this new identity. Humanity, and individuals, have just begun getting to know the neglected aspects of ourselves and nature, and even less have individuals and societies begun to transform their lives and societal operations to reflect the emerging new identity.

Chapter 5 described how the *Eco-Will Model*, which summarizes the key points of the argument, contributes to Hungerford's and Volk's, and Hines' and colleagues' works on achieving responsible environmental behavior. It transforms the earlier models from linear models of behavior change to a circular or spiral process; essentially, the *Refined Eco-Will Model* adds a feedback loop to the other models. It addresses not just how humans can affect the human-nature relationship, as the earlier models do, but also how the human-nature relationship affects human beings and *ultimately* their eco-will.

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It also provides increased conceptual clarity by bringing the term will as a label for the awareness to action process, and the term *eco-will* to the kind of will associated with responsible environmental behavior. It also has added most of the factors that are relevant to the will process to the earlier models. The *Refined Eco-Will Model* also strengthens the relationship among factors listed in earlier models, moving them from an atomistic focus on the *elements* of behavior change, to a focus on the *process* of behavior change.

The contributions of the *Refined Eco-Will Model* to the earlier models can also be seen as an evolution of the worldview foundation for environmental education thinking on this topic. The shift from a linear, cause and effect model of behaviour change to a circular or spiral model of mutual influence reflects the emerging worldview orientation of change. The bringing of the concept and process of will to the earlier behaviour change models reflects a shift from a worldview focused only on external, observable things, a deterministic view of behaviour change, to one which also takes into consideration internal or subjective human processes. Also, the focus on will shifts the models from a rationalist perspective, where even attitudes are rationally derived, to a process which engages the full range of dimensions of the person--for example, the physical, emotional, intellectual, and spiritual dimensions are all engaged in a healthy will process. It also shifts the earlier models from a human-centric perspective, where no factors outside of human influence or perspective are considered, and expands the factors which influence will to non-human natural factors and the Divine. This point is important in light of the association of destructive ecological behaviour with the worldview that has been pointedly alienated from nature and the Divine. Finally, the contribution this model makes to moving the earlier models from a focus on the elements of behaviour change to a more integrated process, parallels the emerging trend in science to shift from looking at things in isolation, to looking at things in terms of relationship.

This study also has identified some implications of the *Refined Eco-Will Model* for curriculum using a framework of curriculum questions derived from Tyler and Kliebard. Implications were identified for curriculum purposes; skills, values, and understandings; organizational and teaching strategies; educational experiences and activities; evaluation, and; what it means, in an overall sense, to 'be educated.' Most of environmental education has been non-formal in nature, and usually communications and media or advertising strategies have been applied rather than educational strategies, therefore, the curriculum framework used by this thesis is itself something valuable for environmental education. In addition, the specific implications identified provide enough substance that a pilot project could be developed.

Conclusions

This study is an attempt to address the serious and extremely complex question of how to move people from awareness of the environmental and related global crises, to taking responsible, effective action on them. This discussion is divided into three sections. The first section is a methodological discussion aimed at facilitating constructivist textual analysis. The second section describes the significance of the study, or what has been learned. The last section reflects on directions for future research.

Methodological Suggestions for Constructivist Textual Analysis

The main methodological problem confronted by this research was that the meaning of pieces of data shifted as more data were collected. Therefore, the assumptions by Lincoln and Guba, whose methods were followed for this study, that a meaning unit need only be assigned once to a piece of data, and that data can be integrated 'objectively,' that is, without any starting interpretive framework, simply did not work. This problem was exacerbated by the fact that research in this area is fairly new, because data had to be gathered from diverse sources which used different terms for the same or related concepts, and, thus, meaning shifted even more often than if a foundation of clearly defined literature and terms were already identified.

Lincoln's and Guba's assumptions contradict their own "emergent design process"[4] and their epistemological orientation that nothing can be known in isolation from an interpretive framework.[5] This section discusses the problem of the shifting of the meaning of data, and makes some constructive suggestions.

Qualitative methodologies to this point seem to have neglected the inner dimension of the research process, and have focused on the objective, outer descriptions of the process. Lip service is paid to the interpretive nature of knowing, but methodologies seem to be weak in providing a structure in which that interpretive activity can take place. In essence, this weakness has to do with the data analysis end of qualitative research.[6] Methods focus on data collection, but the integrative, *sense-making* processes seem to be weak. The following suggestions should assist qualitative and constructivist textual analysis, which is an area of increasing importance in light of dissolving disciplinary boundaries and the need to integrate conceptual development in other disciplines.

The main methodological suggestion is that a tentative starting argument be developed *before* data are collected. One way of doing this would be to read the references or texts to be examined without collecting any data, and create abstracts of how each one addresses the topic and refines the research question. It might be advisable to do two rounds of abstracts in order to develop, both in the abstracts and internally for the researcher, a sense of the relationships among the references. Then the abstracts could be integrated into a tentative starting argument line, and data could then be collected and integrated into that framework. The purpose of developing a tentative starting framework would be to minimize the extent to which the argument line, and therefore the meaning of data, will shift as it is collected. The advantage of this process is that the shifting of individual pieces of data should be significantly reduced, resulting in better manageability of data so that greater complexity can be accommodated, and more clarity achieved. Also, by proposing a method which makes visible the sources for the development of the tentative argument line, the starting interpretive framework is explicit and traceable. The research would, therefore, be more accountable.

Significance of the Study

This thesis has provided conceptual depth on the crucial and central problem of environmental education: how to move humanity from awareness of the environmental and related global crises to taking creative and constructive action on them. Contributions were made in several areas. This section outlines the contributions of this study.

The first contribution is in the literature review, where the history of environmental education approaches to achieving responsible environmental behavior are documented. The literature review shows most of the attention in environmental education has been on how to use information to get people to behave in responsible environmental ways. It also shows that there is ample evidence that this rationalistic information approach has not worked.

A general contribution of the thesis is that it goes beyond the usual environmental education tendency to focus on how *human beings* can impact on the human-nature relationship, to exploring the neglected area of how the human-nature relationship affects *people*, and, ultimately, their will to act in environmentally responsible ways.

A number of contributions arise from having brought together Yalom's work on willing from the field of psychology with environmental literature. First, the environmental references bring Yalom's model of willing beyond will in general, to addressing the factors that influence what *kind* of will is expressed. The environmental references bring the idea that it is worldview, and, in particular the sense of human identity in relation to nature which influences what kind of will gets expressed. In regard to eco-will, the references add the idea that it is a sense of *personally meaningful interconnectedness with nature* that leads to act in environmental responsible ways.

Bringing Yalom's work together with environmental references, also has allowed this research to build on previous environmental education models of how to achieve responsible environmental behaviour. These earlier models have been integrated into the *Eco-Will Model* which summarizes the thesis argument, creating a *Refined Eco-Will Model*. This refined model contributes to the earlier ones in several ways, and essentially expands the worldview foundation for thinking in environmental education on this topic area. In addition to having described a generalized eco-will process, this thesis has also described how eco-will may be blocked and how it can be facilitated in the contemporary North American society.

Another contribution of this thesis is its identification of implications for curriculum. The curriculum framework can be a useful tool for environmental educators, and the specific implications provide enough substance that a pilot project could be developed.

The final area of contribution by this thesis is to the development of methods for constructivist textual analysis, described in the previous section.

Reflections on Future Research

There is still a great need for research in this important area of the complementarity of personal and planetary well-being. The focus on will emerged through the examination of the key environmental references, and one of the limitations of this research is that the distinction between individual will and societal will is under-developed. Future research should concentrate on understanding the relationship between individual will and societal will. It is possible that if will is something internal to human beings, as opposed to a deterministic behavioral reaction to some external stimuli, that there is no such thing as societal will. If societal will, by the strict definition of willing does not exist, there is still the matter of how individual wills affect societal operations, and the question of the overall dynamics of societal operations. In this regard it would be useful to explore theories which attempt to explain why society operates as it does and how social change occurs, in relation to societal orientations toward the human-nature relationship.

Another limitation of this research has been the use of only scholarly references, and the neglect of informal environmental education newsletters. Although this emphasis is reasonable in light of the paucity of work in this area, and the desire to use as reliable sources as possible to better establish this topic area, the informal dialogue among environmental educators, and, in particular, deep ecologists, is a rich source for creative thinking and experiments in this area. Although those sources may be more useful to help focus research and identify research questions in this area, than as sources of data, these sources should not be overlooked. Correspondingly, contact with key scholars in regard to identifying the most important data sources might have been more beneficial to this research if it had been more informal and discussion oriented, as opposed to a structured form being sent to them with choices to select. Just as qualitative research can sometimes rush to data collection before a starting interpretive framework has been reached, so researchers can rush to frame their question and focus without enough consultation beforehand. The subjective, interior processes of coming to know a topic should be given adequate time at the outset.

The greatest priority for research in this area is probably to develop the conceptual understanding of will and the will process, as well as to begin to explore existing educational programs that are focused on the mutuality of people and the planet's well-being, such as Joanna Macy's programs. An analysis of these programs, using, for example, the framework of curriculum questions as an analytical framework, combined with improved conceptual development on willing could be integrated into a pilot curriculum. This pilot project could then be tested in the field and further developed.

Research styles should reach beyond the rational, to include other subjective processes in addition to thinking: bodily and emotional feelings and spiritual perception should have as much a role in the research process as the study suggests they should have in environmental education. An unthinking focus on information or educational resource production as an answer to achieving environmentally responsible behavior can no longer be afforded. Good information is useful, and has an important place in the will process. Environmental information is highly developed, however, and what is missing is expertise in understanding the interior processes leading to how that information is assimilated and translated into behavior. There is a need to explore how best to facilitate in ourselves and others the transformation from mere awareness to responsible, effective action, especially in ways that are compassionate and service-oriented, rather than controlling.

APPENDIX I

SEARCH RECORD

The following sources were searched for references which addressed the topic.

Bibliographies

Allaby, Michael, ed. *Thinking Green: An Anthology of Essential Ecological Writing*. London: Barrie & Jenkins, 1989.

Anglemyer, Mary and Seagraves, Eleanor, et al., eds. *A Search for Environmental Ethics: An Initial Bibliography*. Washington, D.C.: Smithsonian Institution Press, 1980.

Anglemyer, Mary, and Seagraves, Eleanor R., comps. *The Natural Environment: An Annotated Bibliography on Attitudes and Values*. Washington, D.C.: Smithsonian Institution Press, 1984.

Carson, Anne. *Feminist Spirituality and the Feminine Divine: An Annotated Bibliography*. Trumansburg, NY: Crossing Press, 1986.

Concordia University. *New World Perspectives*. v.1-9, 1977-1985.

Davis, Donald Edward. *Ecophilosophy: A Field Guide to the Literature*. San Pedro: R.& E. Miles, 1989.

de Groh, Teresa and Valauskas, Edward. *Deep Ecology and Environmental Ethics: A Selected and Annotated Bibliography of Materials Published Since 1980*. Ill: Council of Planning Librarians Bib.185, April, 1987.

Sharma, Prakash C. *A Selected and Annotated Research Guide to Sociology of the Environment*. Public administration series. Ill: Vance Bibliographies, P-98, Oct. 1978.

Simmons, Deborah A. *Environmental Ethics: A Selected Bibliography for the Environmental Professional*. Chicago, Ill: Council of Planning Librarians, 1988.

Sponsel, Leslie E. *Human Ecology: A Bibliography of Books*. Public Administration series P2095. Ill: Vance Bibliographies, 1987.

Stapp, Wm. B. and Liston, M.D. *Environmental Education: A Guide to Information Sources*. Michigan: Gale Research Co., 1975.

UNESCO. *Publications Catalogue*, 1985.

University of Chicago Press. *A Reader's Catalogue*, n.d.

Information Systems and Databases

BOOKS IN PRINT

Date of search: April

Years checked: to March, 1991

Strategy: [(soul, existential, religio*, meaninglessness, God, alienation, spirit* or psych*) crossed with (environment*, global, planet* or ecolog*) and (crisis, destruct*, devastat* or degrad*)] or (gnosis or gnostic)

Date or earlier search: March, 1991

Strategy: "deep ecology" or "spiritual ecology" or transpersonal or gnostic or gnosis or "perennial philosophy" or "human potential movement"

CANADIAN MAGAZINES ONLINE

Date of search: March, 1991

Strategy: (environment*, ecolog*, earth, planet* or pollut*) crossed with (matur*, evolution*, evolving, spirit*, soul, psych*, religio*, meaninglessness, alienat*)

CISTI

Date of search: March, 1991

Years checked: 1978-March 1991

Strategy: "deep ecology" or "spiritual ecology" or transpersonal or gnosis or gnostic or "perennial philosophy" or soul or existential or "human potential movement" or religio* or "environment* crisis" or (environment* or technology and religion) or meaninglessness or (God and science or technology)

DIALOG SYSTEM (Multiple database search in this information system)

Date of latest search: March, 1991

Databases searched: ENERGYLINE (to January 1991), POLLUTION ABSTRACTS (to March 1991), ENVIROLINE (to January 1991), ENVIRONMENTAL BIBLIOGRAPHY (to June 1990), NUCLEAR SCIENCE ABSTRACTS (1948-1976)

Strategy: "deep ecology" or "spiritual ecology" or gnosis or gnostic or "perennial philosophy" or soul "human potential movement" or (religio* and "environmental crisis") or (God and environment) or (alienation and God)

Date of earlier search: February, 1989

Databases searched: NTIS (1964-1989), COMPENDEX PLUS (1970-December 1988), INSPEC (1969-1976), ISMEC: MECHANICAL ENGINEERING (1973-February 1989), SCISEARCH (1988-WK21989, TRIS (1970-November 1988), SPIN (1975-December 1988), CONFERENCE PAPERS INDEX (1973-February 1989), DOE ENERGY (1983-January 1989, and 1974-1982), NUCLEAR SCIENCE ABSTRACTS (1948-1976), PASCAL (January-October 1988), CURRENT TECHNOLOGY INDEX (1981-December 1988), MATHSCI (1959-January 1989), FEDERAL RESEARCH IN PROGRESS (-January 1989), SOVIET TECHNOLOGY, ANALYTICAL ABSTRACTS ONLINE (-January 1989), SOVIET TECHNOLOGY, ANALYTICAL ABSTRACTS ONLINE (-1989), CA SEARCH (1976-1989), SCISEARCH (1974-1987)

Strategy: postmodern or spirituality or (postindustrial and spiritual*)

Date of earlier search: February, 1989

Databases searched: BIOSIS PREVIEWS (1969-February 1989), COMPENDEX PLUS (1970-December 1988), OCEANIC ABSTRACTS (1964-September 1988), POLLUTION ABSTRACTS (1970-January 1989), AQUATIC SCIENCE (1978-December 1988), ENVIRONMENTAL BIBLIOGRAPHY (1974-April 1988), CHEMICAL REGULATIONS AND GUIDELINES SYSTEM

(-November 1982), CA SEARCH (1967-1989), PTS NEWSLETTER DATABASE (1987-February, 1989)

Strategy: spiritual*

DISSERTATIONS ABSTRACTS

Date of latest search: April, 1991

Years checked: 1989 and 1990.

Strategy: (ecolog*, global, or environment*) adjacent (crisis, devastation, degradation, or destruction) crossed with (spirit*, psych*, transpersonal*, ethic*, or moral*)

Date of earlier search: August, 1989

Years checked: 1861-1989

Strategy: (environmental or ecological or conservation) adjacent education

ERIC

Date of latest search: March, 1991

Years checked: January 1983 - December 1990

Strategy: (alienation and environment) or ("environmental education" and value or psych* or sprit* or futures-of-society or "mental health") or spirit* or (alienation and earth) or "world divide" or (spirit* and nature) or postmodern* or postindustrial or "environment* education" or "international education"

MINISIS (IDRC)

Date of search: August 6, 1987

Strategy: "environmental education" or ecodevelopment or "development education"

NATIONAL TECHNICAL INFORMATION SERVICE

Date of search: February, 1989

Years checked: to January 22, 1989

Strategy: postmodern

NLCATBN

Date of search: March, 1991

Years checked: 1973-March 1991

Strategy: ("deep ecology" or "spiritual ecology" or transpersonal or gnosis or gnostic or "perennial philosophy") or (soul and environment* adjacent crisis) or soul and science or technology) or (existential and environment) or "human potential movement" or (religio* and environment* crisis) or (religio* and science or technology) or meaninglessness or (God and environmental crisis) or alienation

ONED ONTERIS

Date of search: December 6, 1988

Strategy: (global or international, or environment* or ecological or peace or development* or conservation) adjacent education

ERIC Full Text Provided by ERIC

PHILO

Date of search: March 25, 1991

Strategy: (ecolog*, planet*, global or environment*) adjacent crisis, or "deep ecology" or "spiritual ecology"

PSYCHLIT

Date of search: March 31, 1991

Strategy: (ecolog*, planet*, global or environment*) adjacent (crisis, devastation, degradation, or destruction), or postindustrial, or post-industrial crossed with (natural environment* or earth or conservation*)

RELIGION

Date of search: January 1989

Strategy: postmodern

SOCA

Date of latest search: March 25, 1991

Years checked: 1963-December 1990

Strategy: large search yielded too many references so limited to: (ecolog*, planet*, global or environment*) adjacent crisis, crossed with (spirit*, psych*, transpersonal*, ethic*, or moral*), or "deep ecology" or "spiritual ecology"

Date of earlier search: January, 1989

Years checked: 1963-December 1988

Strategy: postmodern

SSCI

Date of latest search: March, 1991

Years checked: 1972-March 1991

Strategy: (ecolog*, planet*, global or environment*) adjacent crisis, or "deep ecology" or "spiritual ecology"

Date of earlier search: February, 1989

Years checked: 1972-WK#52 1989

Strategy: postmodern*

UNESCO

Date of search: August 6, 1987

Strategy: "environmental education" or ecodevelopment or "non-formal education" or "adult education" or "public education"

UNIVERSITY OF OTTAWA HERMES

Date of latest search: March, 1991

Strategy: in title: nature

in title and subject: deep ecology, spiritual ecology, transpersonal, creation spirituality, eco-christian*, eco-feminism, creation theology

Date of earlier search: January 1989

Strategy: title--postmodern or post-modern

Indexes

BIBLIOGRAPHIC INDEX

Date of search: March, 1991

Years checked: 1989-1990

Strategy: ecolog*, "deep ecology", "spiritual ecology", "environmental education", "environmental ethics", environment*, glob*, planet*, paradigm, religio*, psyc*, ecology of religion, human ecology, eco-philosophy

ECOLOGICAL ABSTRACTS

Date of search: March, 1991

Years checked: 1989-1991

Strategy: apparent from Table of Contents that index does not address thesis topic

PSYCBKS INDEX

Date of search: March, 1991

Years checked: 1987-1989, all volumes

Strategy: ecolog*, environment*, glob*, planet*, earth, natur*, transpersonal, paradigm, spirit*, soul, religio*, "deep ecology", "spiritual ecology", God

READER'S GUIDE

Date of search: March, 1991

Years checked: 90.5, 90.17 (1990)

Strategy: ecolog*, environment*, human ecology, spirit*, deep ecology, planet*, religio*, global, pollut*, consciousness, soul, psych*, natur*

RELIGION INDEX

Date of latest search: March, 1991

Strategy: earth, ecolog*, global, environment*, nature*, planet*

Date of earlier search: January, 1989

Strategy: postindustrial, positivism, postmodern

Journals

Curriculum Inquiry. 20.4 (Winter 1990) - 21.1 (Spring 1991).

Curriculum and Teaching. 4.1, 4.2 (1989).

Journal of Curriculum and Supervision. 6.1 (Fall, 1990).

Journal of Environmental Education. to 22.1 (Fall 1990).

APPENDIX II: KEY REFERENCES

This appendix provides a brief description of the key references examined in this study. The description of the key references includes some pertinent background on the authors, the main thrust of their book, article or chapter, and why it is relevant to the topic.

Key References

Berry, Thomas. *The Dream of the Earth*. San Francisco: Sierra Club Books, 1988.

Berry is a Catholic theologian who has dedicated much of his career to exploring the human relationship with nature. He is an expert in Asian history, and has published several books on Asian religions.[1] He has held the following positions: Assoc. Prof. Dept. of History of Religions, Fordham University, Bronx, NY, since 1966. Dir., Riverdale Center for Religious Research, Bronx, NY, since 1970. Assoc Prof. of Asian History, Inst. for Asian Studies, Seton Hall University, South Orange, NY, 1957-1961 Assoc. Prof of Asian History, Center for Asian Studies, St. John's University, Jamaica, NY, 1961-65.[2] Berry is a primary voice for the Creation Spirituality interpretation of Christianity, which views humans and creation as originally blessed, rather than as in original sin, and which seeks to transform the currently destructive human relationship with nature through this shift in spiritual orientation.

Berry's *Dream of the Earth* is a series of essays by him describing different aspects of what he considers to be our emergence into an ecological age. This book presents a vision of how humanity should transform its relationship with the earth, and the parallels between our relationship with the earth and our spirituality. An alternative spiritual vision is offered as a way of reorienting human behavior toward the environment, and, therefore, this book is relevant to the topic addressed by this study of how the will to act in environmentally responsible ways is affected by the human relationship to nature.

Carter, Robert E. *Becoming Bamboo: Western and Eastern Explorations of the Meaning of Life*. Montreal and Kingston: McGill-Queen's University Press, 1992.

Carter is a Canadian, and teaches at Trent University in the Department of Philosophy. His book *Becoming Bamboo* is a constructivist synthesis of cross-cultural philosophy. He synthesizes Western and Eastern ideas, drawing especially on themes from modern Japanese philosophy and the Zen tradition. It is through such cross-cultural syntheses that a worldview of global harmony might emerge, according to his book. The Japanese philosophies resonate with contemporary ecological concerns. Like Berry's book, this book presents a vision, albeit in a more secular tone. Carter's book is relevant to this study's topic because it moves beyond the alienated individualism and humanism toward a more interconnected and meaningful interpretation of human and individual life.

Dahl, Arthur Lyon. *Unless and Until: A Bahá'í Focus on the Environment*. London: Bahá'í Publishing Trust, 1990.

Dahl has held a number of influential posts in the environmental sciences including: Associate Curator of the Department of Botany at the Smithsonian Institution, Washington D.C. (1970-74); Regional Ecological Advisor to the South Pacific Commission, New Caledonia (1974-82); and independent consultant in ecology to international organizations and governments (1982-89). He is currently Deputy Director of the Oceans and Coastal Areas Programme Activity Centre, United Nations Environment Programme, Nairobi, Kenya.[3] More than 60 of his scientific and environmental papers have been published in professional environmental journals and official reports.

His book presents a scientific and spiritual description of the history of the evolution of life up to the current human relationship with nature and what the future holds. Dahl's work also presents a framework of ecological values, ecologically-grounded community life as a pattern of administration, and a global perspective. The book is relevant to the topic because it describes the evolutionary and spiritual fulfilment of human beings as complementary to the well-being of nature at large. This reference also is relevant because it presents its argument from a Bahá'í perspective, and the Bahá'í religion addresses the environmental crisis explicitly and is recognized internationally for its contribution in this area. This Faith is fundamentally concerned with the spiritual transformation of humanity toward global harmony and environmental well-being. Bahá'ís are represented in Nairobi, the headquarters of the United Nations Environment Program, and there is a more recently established Bahá'í Office of the Environment at the United Nations in New York. Also, the Bahá'ís publish a statement on nature, outlining their orientation of their Faith toward nature. An example of environmental achievements by Bahá'ís includes Richard St. Barbe Baker, who founded the society "Men of the Trees," and which now has chapters throughout the world, and the more recent receipt by a Bahá'í community of the United Nation's Environmental Program's Global 500 award for eliminating guinea worm in a community.[4]

Dickinson, Dee, ed. *Creating the Future: Perspectives on Educational Change*. USA/UK: Accelerated Learning Systems Ltd., 1991.

Dickinson is the founder and president of the international educational network called New Horizons for Learning. She is also the Chair of the Educational Advisory Board of the

National Learning Foundation. She is the editor of this collection of essays by 26 educators and researchers on their visions of the future of education. These essays address the ever increasing challenge of a growing velocity of change and the need for educational systems to become more effective in order to prepare students for the future.

This primarily contributes to Chapter 5 of this study. This reference situates the implications for curriculum emerging from this study within current educational and research dialogue. This compilation of essays extends and deepens the educational implications of this thesis by connecting the reader to a wide range of related scholarly work.

Feit, Harvey A. "Hunting and the Quest for Power: The James Bay Cree and Whitemen in the Twentieth Century," in R. Bruce Morrison and C. Roderick Wilson. *Native Peoples: The Canadian Experience*. Toronto: McClelland & Stewart, 1988.

Feit is a Canadian who has been an Associate Professor of Anthropology at McMaster University, Hamilton. He has written on the James Bay Cree of Quebec, on their historical and contemporary economy, and on their efforts to maintain their society within Canada. He is a particularly authoritative voice on the Cree point of view because the Cree people themselves have chosen him as an adviser on special issues related to legal proceedings, land claims negotiations, and implementation of the James Bay and Northern Quebec Agreement.[5] His chapter on the theme of power is valuable to this study because of its implications for the notion of *will power*. He contrasts the "white" view of power to the Cree view, and it parallels the idea expressed by other sources of data that there is a shift going on from a masculine, power-over kind of will to a feminine, power-through kind of will. The experience of power-over kind of will is a sense of individual power, while the experience of the power-through kind of will is similar to an experience of Grace, or interconnectedness with all things, where the individual feels the fulfilment of being aligned with a will that is greater than one's own. An extensive attempt was made to locate a source for a native perspective that was written by a native. Perhaps due to a dominantly oral and story-telling tradition, the alienation of native people from the dominant "white" culture, or the belief that it is unwise to share traditional knowledge with the "white" culture, no appropriate sources could be found. Nevertheless, Feit seemed to be a good choice because he is trusted by the Cree and because his chapter makes a valuable contribution to the topic.

Fox, Matthew. *Creation Spirituality: Liberating Gifts for the Peoples of the Earth*. San Francisco: Harper, 1991.

Fox is a Dominican priest, theologian, and educator, and he is the founding director of the Institute in Culture and Creation Spirituality at Holy Names College in Oakland, CA. His career path has been as follows: entered Ordo Praedicatorum (Order of Preachers; Dominicans; O.P., 1960, ordained Roman Catholic priest, 1967; Aquinas Institute of Philosophy and Theology, Dubuque, Iowa (now Aquinas Institute, St. Louis, Mo.), assistant professor of theology, 1970-71; Emmanuel College, Boston, Mass., assistant professor of theology, 1971-72; Loyola University of Chicago, Chicago, Ill, assistant professor of theology, 1972-73; Barat College, Lake Forest, Ill, professor of religious studies and chairman of department, beginning in 1973; professor of religious education at University of St. Thomas, Houston, Tex. Lecturer for Thomas More Association, 1973 -present.[6]

Fox's *Creation Spirituality* describes that interpretation of Christianity which is aimed toward transforming the addictive, obsessive relationship Westerners have with themselves and with the earth. He argues that the purpose of Westerners' spiritual suffering is to teach them their place in the universe, especially in regard to their relationship with the earth. His book makes a contribution to the topic because it addresses human development as compatible with a better relationship with nature.

Greig, Sue; Pike, Graham; Selby, David. *Greenprints: For Changing Schools*. UK: WWF and Kogan Page Ltd., 1989: 5-17.

This book draws on the three year Global Impact project, carried out on behalf of the World Wildlife Fund (United Kingdom) by the Centre for Global Education. Chapter 1 provides a description of the emerging holistic worldview, and highlights "a theme of crucial important to those sharing an holistic worldview--that the achievement of full and authentic personhood is intimately bound up with the health of the planet."[7] Evernden's statement that the defence of the environment is ultimately a defence of meaning is cited, and the authors state that if we separate ourselves from the environment, "we lose something essential to our identity."[8] This data source shifted from being a secondary to a key source as the argument emerged because it provided such a thorough description of the contemporary worldview shift, drawing on a wide range of key environmental scholars, in a way that related strongly to the topic and also had an educational focus. Future studies on this study's topic would profit from a thorough examination of all chapters in this book.

Griffin, David Ray, ed. *Spirituality and Society: Postmodern Visions*. NY: State University of New York Press, 1988.

Like the last data source, *Spirituality and Society*, shifted from being a secondary to a key data source. The contributions to this study from this book come mainly from the Introduction to the series of which the book is a part, the Introduction to the book itself, both written by Griffin, and Chapter 3, an essay by Holland entitled "A Postmodern Vision of Spirituality." Griffin's introductions were unique in their depth and insight in regard to the historical understanding of the contemporary destructive Western worldview, and equally profound in its description of a vision toward which we seem to be emerging. Griffin's work was particularly valuable for its discussion of the centrality of individualism, or "inherent unrelatedness" to the modern Western world, and its relationship to our destructive relationship with the environment. Griffin's introductions also provided depth to other key references which suggested that humanity's relationship with nature had been projected onto political, economic, and social affairs. Holland's article contributed the view that the leading edge of crisis in each of the so-called "first, second and third" worlds is different, and that the first world's spiritual crisis, although it is no more important than the other human suffering, is fundamental to resolving our destructive relationship with the earth because it has to do with a change in the guiding societal vision. Both *Greenprints*, addressed in the last discussion, and *Spirituality and society* were outstanding in providing depth to the argument emerging from the other key references, and thus became in themselves key references.

Houston, Jean. "Sacred Psychology and the Feminine" and "The Rise of the Feminine," in *Woman of Power: A Magazine of Feminism, Spirituality, and Politics* 12 (Winter, 1989): 22-25.

Houston is a pioneer in the field of human development. She has made wide-ranging explorations in search of the "possible human."[9] Her research is described in the ten books she has authored or co-authored. She is an internationally renowned scientist and philosopher and is past president of the Association for Humanistic Psychology. Also, she has conducted seminars and has worked in human development in over thirty-five countries. She is director of the Foundation for Mind Research in New York. She also guides two schools, one a three-year training program in human capacities and the other directed toward spiritual studies modeled on the ancient mystery schools.[10]

This reference was used to provide a feminine perspective to the study, although Houston, like most authors, cannot be said to represent only one perspective. This particular article was selected because, although extremely concise, it is a powerful description of how the masculine and feminine principles are distinct, and yet mutually enhancing when in balance. Houston addresses the significance of the balancing of these principles for people and the planet, and therefore is pertinent to the topic of this study.

Effective Leadership and *Imaginal Education: Learning to Learn* (workshop materials). Toronto: Institute for Cultural Affairs, n.d.

The Institute of Cultural Affairs (ICA) is a "private, non-profit organization concerned with the human factor in world development."[11] The ICA was formerly a research division of the Ecumenical Institute, and was incorporated in 1972 to promote the design and application of methods for human development in communities and organizations. A number of consultancy services, and workshops are offered by the ICA, and it publishes *Edges: Changing Planetary Patterns*. ICA-Toronto is linked with 28 nationally chartered and registered ICA's through the world, through the Institute of Cultural Affairs International which is headquartered in Brussels. This network includes 54 centres in North and South

America, Africa, Europe, India, Asia and the Pacific. World-wide, there are approximately 500 full-time staff as well as a complement of part-time staff. ICA's strength is its ability to bring together experience from diverse situations, from village projects to international organizations; it works with private, public, voluntary and local sectors. The central ICA concern is "to maximize the participation of people in the process of taking responsibility for their own lives and for society as a whole."[12]

The reason that ICA's workshop materials are included is because they are grounded in a remarkable breadth of theoretical orientations and diversity of practical experience, which, from a constructivist epistemological viewpoint which values multiple perspectives, makes them especially authoritative. The Effective Leadership workshop materials are included because they outline a process for defining a guiding vision and practical action plan, which parallels the will process outlined in this study. The educational workshop materials outline the educational dimensions of personal transformation linked to global development, and therefore is relevant to Chapter 5 of this thesis which identifies implications of the argument for curriculum. Finally, in defence of including as unorthodox a source as workshop materials, this thesis is "multivocal" in nature, which means that literature of different classes may be used as data sources.[13]

LaChapelle, Dolores. *Sacred Land, Sacred Sex: Rapture of the Deep*. Silverton, Colorado: Finn Hill Arts, 1988.

LaChapelle is a mountain climber, student of Tai Chi, scholar, and one of the founding deep ecologists in North America.[14] Her book is a "manual on deep ecology."[15] Although LaChapelle explicitly denies writing from a femin*ist* point of view and clarifies that she is writing from a deep ecology point of view, she does write using a *feminine* voice, for example writing in emotionally and spiritually expressive language and using stories, in balance with a masculine argument style. LaChapelle's recurrent theme of rituals and their role in reconnecting people to themselves and the earth, is a theme of embodiment, which is often characterized as a feminine theme. LaChapelle's book is special because she pointedly addresses her personal experiences as part of the story or argument. In this sense she is constructivist, not just in theory, but in practice. A main contribution of this book to this study is its elaboration of activities which can help deepen personal identity at the same time as changing people's relationship with the earth.

Macy, Joanna. *World as Lover, World as Self*. Berkeley, CA: Parallax Press, 1991.

Macy is a Buddhist scholar and is active in movements for peace, justice and the environment. Several thousand people have participated in her workshops in the U.S., Europe, and Asia.[16] Her teaching at the California Institute of Integral Studies focuses she says, "on general systems theory, Buddhism, and nonviolence."[17] Macy's career includes positions at: Syracuse University, Syracuse, N.W., lecturer in religion, 1976-77; American University, Washington, D.C., lecturer in religion, 1978-1979; writer and researcher, 1980-86; professor at California Institute of Integral Studies, San Francisco, 1987 - present; Staff associate of Shalem Institute for Spiritual Formation, 1979 - present; co-director of Interhelp, 1980 - present; member of board of directors of Sarvodaya International, 1981 - present; Associate of Center for Cooperative Global Development, 1981 - present.[18]

The title of her book hints at its relevance for this study; it describes the relevance of Buddhist teachings for transforming ourselves and our relationship with the planet. Macy especially focuses on people's despair about the state of the world and how to transform it to the empowerment to act. One of her most valuable contributions in that regard is the usefulness of the Buddhist concept of *dependent co-arising* which addresses the dynamics of the relationship between the self and the world, and how through acting on behalf of the earth, both the self and the earth can be healed. Macy was identified as one of the most important authors by the scholars consulted, on the thesis topic area.

Roszak, Theodore. *The Voice of the Earth*. NY: Simon & Schuster, 1992.

Roszak is an historian and educator. 1959-63 he taught history at Stanford University in Palo Alto, California. 1964 he worked in London, England, editing Peace News, a pacifist journal, and then returned to teach at Hayward, where he became a professor of history and chairman of its History of Western Culture program. In 1968 he again worked in London, doing research at the Center for Group Studies. He was visiting professor at the University of British Columbia in the academic year 1974-75, and he has since been a visiting professor of humanities at San Francisco State University. In 1966 he began to appear regularly in the *Nation*, and he has since contributed to the *Atlantic*, *Harper's*, *The New York Times*, and many other publications. He teaches history and general studies at California State University.[19]

Roszak has written several books describing and critiquing scientific rationalism and the emerging dissident culture, beginning with *The Making of the Counter-Culture*, *Where the Wasteland Ends: Politics and Transcendence in Postindustrial Society*, and *Person/Planet: The Creative Disintegration of Industrial Society*, and ending with this book, *Voice of the Earth*. This book criticises the lack of anything other than statistical averages to define sanity as a central weakness of the field of psychology. He argues for an ecologically-grounded definition of sanity, especially in light of the seemingly insane destruction of nature. Roszak was considered the author of greatest importance to the thesis topic by the scholars consulted.

Russell, Peter. *The White Hole in Time: Our Future Evolution and the Meaning of Now*. San Francisco: Harper, 1992.

Russell was a student of mathematics, theoretical physics, computer science, and psychology at the University of Cambridge, England. He studied meditation and eastern philosophy in India, and, on his return to England, conducted research into the psychology of meditation at the University of Bristol. His career includes: Capt. RAEC 1947-49; Lectr Phys Loughboro Coll. of Time Warden 1960-65, Warden, part-time Lectr since 1965.[20] He has authored seven books, including the now famous *The Global Brain*, which helped to popularize the notion of the earth as an organism, *The Brain Book*, and *The Creative Manager*. He is also the creator of the video, *The Global Brain*, based on his book of the same name.[21] Russell's *White Hole in Time* is relevant for the thesis topic area because of that work's view that human and natural evolution are part of a united evolutionary process, such that the development of human beings toward their potential contributes to healthy ecological developments.

APPENDIX III

Excerpt from Dostoyevsky's *Crime and Punishment*, 557-559. (Emphases in original.)

She always held out her hand to him timidly, and sometimes did not give him her hand at all, as though she were afraid he would push it away. He always took her hand as though with loathing, always seemed annoyed when meeting her, and sometimes he would be obstinately silent throughout her visit. Sometimes she was even terrified of him and went away deeply hurt. But now their hands did not part. He stole a rapid glance at her, but said nothing and lowered his eyes to the ground. They were alone, and no one saw them. The guard had turned away at the time.

How it happened he did not know, but suddenly something seemed to seize him and throw him at her feet. He embraced her knees and wept. At first she was terribly frightened, and her face was covered by a deathly pallor. She jumped to her feet and, trembling all over, looked at him. But at once and at the same moment she understood everything. Her eyes shone with intense happiness; she understood, and she had no doubts at all about it, that he loved her, loved her infinitely, and that the moment she had awaited for so long had come at last.

They wanted to speak, but could not; tears stood in their eyes. They were both pale and thin; but in those sick and pale faces the dawn of a new future, of a full resurrection to a new life, was already shining. It was love that brought them back to life: the heart of one held inexhaustible sources of life for the heart of the other.

They decided to wait and be patient. They still had to wait for another seven years, and what great suffering and what infinite joy till then! And he had come back to life, and he knew it, and felt it with every fibre of his renewed being, and she--why, she lived only for him.

On the evening of the same day, when the barracks were locked, Raskolnikov lay on his bunk and thought of her. That day it seemed to him that the convicts who had been his enemies looked at him differently; he had even begun talking to them himself, and they replied to him in a very friendly way. He remembered that now, but then it was all as it should be: for was not everything going to be different now?

He thought of her. He remembered how he used to torment her continually and lacerate her heart; he recalled her pale and thin little face, but he was scarcely troubled by these memories now: he knew with what infinite love he would atone for her sufferings now.

And what did all, *all* the torments of the past amount to now? Everything, even his crime, even his sentence and punishment appeared to him now, in the first transport of feeling, a strange extraneous event that did not seem even to have happened to him. But he could not think of anything long and continuously that evening or concentrate on anything. Besides, now he would hardly have been able to solve any of his problems consciously; he could only feel. Life had taken the place of dialectics, and something quite different had to work itself out in his mind.

Under his pillow lay the New Testament. He picked it up mechanically. The book belonged to her; it was the same book from which she had read the raising of Lazarus to him. At the beginning of his prison life he had feared that she would drive him frantic with her religion, that she would talk constantly about the Gospels, and would force her books on him. But, to his amazement, she had never spoken to him about it, and had not even offered him the New Testament. He had asked her for it himself shortly before his illness. He had never opened it till now.

He did not open it now, either, but one thought flashed through his mind: "Is it possible that her convictions can be mine, too, now? Her feelings, her yearnings, at least..."

She, too, had been very agitated all that day, and at night even fell ill again. But she was so happy, and so unexpectedly happy, that she was almost frightened of her happiness. Seven years, *only* seven years! At the beginning of their happiness, at certain moments, they were both ready to look upon these seven years as so many days. He did not even realize that the new life was not given him for nothing, that he would have to pay a great price for it, that he would have to pay for it by a great act of heroism in the future.

But that is the beginning of a new story, the story of the gradual rebirth of a man, the story of his gradual regeneration, of his gradual passing from one world to another, of his acquaintance with a new and hitherto unknown reality.

NOTES - DEDICATION

[1] Cited in Arthur Lyon Dahl, *Unless and Until: A Bahá'í Focus on the Environment* (London: Bahá'í Publishing Trust, 1990), 66.

NOTES - CHAPTER 1

[1] This statement was issued February 1993. See: *World Scientists' Warning to Humanity*, Cambridge, MA: Union of Concerned Scientists, 1993.

[2] Karen Mortimer, "Scientists' Warning to Humanity," *Delta: Newsletter of the Canadian Global Change Program* 4.2 (Summer, 1993): 1.

[3] David Briggs, "Top Religious Leaders Call Disarmament the Newest Commandment," *The Montreal Gazette* 1 September 1993: F8.

[4] Larry Stammer, "Religious Leaders Sign Declaration of Ethics," *The Montreal Gazette* 5 September 1993: B1.

[5] Stammer B1.

[6] Briggs F8.

[7] Stammer B1.

[8] Peter Russell, *The White Hole in Time: Our Future Evolution and the Meaning of Now* (San Francisco: Harper, 1992), 61, emphasis in original.

[9] Examples of scientists who have strongly and consistently voiced their concerns include Paul R. Ehrlich and David Suzuki.

[10] Examples of group scientific warnings include the UNESCO *Declaration on Survival in the 21st Century*, and the Brundtland Report, *Our Common Future*. See: United Nations Education, Scientific and Cultural Organization, *Vancouver Declaration on Survival in the 21st Century*, Symposium on Science and Culture for the 21st Century: Agenda for Survival (Vancouver, Canada. 10-15 Sept. 1989), and Gro Brundtland, *Our Common Future*, Commissioned by the United Nations (UK: Oxford University Press, 1987).

[11] An example of a religious warning comes from the Bahá'í Faith:

> ...ye walk on My earth complacent and self-satisfied, heedless
> that My Earth is weary of you and everything within it shunneth
> you....
>
> Bahá'u'lláh

[12] See, for example, *Vital Signs: The Trends that are Shaping our Future*, produced by Worldwatch Institute, and published by W.W. Norton & Company.

[13] John F. Disinger, "Environmental Education for Sustainable Development?," *Journal of Environmental Education* 21.4 (1990): 5.

[14] The term "Western" is often used without any explanation or definition. In this study, Western refers to a worldview or cultural orientation. It has changed and evolved over several centuries, and so any brief description of it is bound to be somewhat static and inadequate; nevertheless, I will attempt to provide a sketch of this worldview.

Its roots are described by Bertrand Russell in his *History of Western Philosophy*, in the section on Modern Philosophy. Indeed, this worldview is associated with modernity (and Griffin is an excellent source on this subject), and with the scientific-industrial age. This orientation has a materialist view of reality, and is oriented toward knowledge and mastery of the world. It is characterized by dualism, which permeates its view of all things; for example, mind is considered separate from matter, and humanity from nature, and so on. It sees things atomistically and hierarchically. Its epistemological stance is that bias is best minimized through objectivity, or, in other words, minimizing the relationship between the observer and the observed. Some scholars, such as Greig and her colleagues (12-13), describe it as a dominantly "masculine" worldview.

The Western scientific-industrial worldview has had a strong global influence;

politically and economically, most of the world operates, by choice or by necessity, according to its dictates. Culturally, its strongest expression has been in the United States, Canada, and Western Europe, but it has touched many parts of the world culturally as well as politically and economically. It co-exists with sub-cultures and less influential worldviews, but it has been the dominant influence on humanity's contemporary relationship with nature. Two sources which describe the characteristics of this worldview in more detail are Peter Schwartz and James Ogilvy, *The Emergent Paradigm: Changing Patterns of Thought and Belief*, Analytical report 7, Values and Lifestyles Program (Menlo Park, CA: Stanford Research Institute, 1983) and Greig et al., *Greenprints*.

[15]The entire thrust of Berry's book is about moving into what he has labelled "the ecological age." See Thomas Berry, *The Dream of the Earth* (San Francisco: Sierra Club Books, 1988).

[16]The term 'nature' is evolving, and that conceptual development gives rise to some confusion about the intended meaning of the term. The definition of nature used to be 'human beings' natural environment' but now that human beings are seen as part of nature, nature includes all things, including humans and human-made things or activities. Also, some scholars refer to the nature *inside of* human beings, or human beings' *"inner environment."* See: Matthew J. Brennan, "A Curriculum for the Conservation of People and Their Environment," *Journal of Environmental Education* 17.4 (1986): 3; Dansereau, in Rev. Dave Steffenson, "Beyond Survival," *Journal of Environmental Education* 6.3 (1975): 11, and; Roszak, in Huber et al., "The Effect of Personal Growth and Development Activities on Student Attitudes Toward Social Issues." *Journal of Environmental Education* 12.4 (1981): 35. The danger is that 'nature,' having come to mean *everything*, means *nothing*. Nevertheless, the term nature is used in this thesis for several reasons. First, most of the

references consulted for this research use the term nature. Second, this study addresses what is essentially a philosophical question of the relationship between humanity and nature, or humanity and the totality of things. Finally, there is no suitable substitute term. For example, the term 'natural environment' could be seen as simply trying to maintain the human-nature separation, when the real issue is how does humanity relate to the whole of that in which it is embedded? Also, 'natural environment' does not include the nature *inside* people, which is of vital significance to the problem of will. Therefore, in spite of the definition of nature being problematic, it is still the best term to use in the context of this thesis.

[17]"Multivocal" means that references can be of differing classes. For example, some may be scholarly thinking, others may be empirical studies, others may be artistic texts, such as poetry. In this case, the references were all scholarly, but from differing perspectives; while there were references to empirical studies, the references themselves presented scholarly arguments or thinking. See Rodney T. Ogawa and Betty Malen, "Towards Rigor in Reviews of Multivocal Literatures: Applying the Exploratory Case Study Method," *Review of Educational Research* 61.3 (Fall, 1991): 265.

[18]Readers who are unfamiliar with the emerging worldview that has been documented in environmental education can refer to R.E. Dunlap and K.D. Van Liere, "The 'New Environmental Paradigm'," *Journal of Environmental Education* 9.4 (1978): 10-19; Peter Schwartz and James Ogilvy, *The Emergent Paradigm: Changing Patterns of Thought and Belief*, Analytical report 7, Values and Lifestyles Program, (Menlo Park, CA: Stanford Research Institute, 1983): see especially page 33, and; Greig et al., *Greenprints: For Changing Schools*, UK: WWF and Kogan Page Ltd., 1989: 5-17. Schwartz and Ogilvy, for example, have studied the worldview underlying disciplines, old and new, and found that

there is definite evidence that a new worldview is emerging. They identify its key characteristics and which disciplines support their thesis.

NOTES - CHAPTER 2

[1] Baker et al., "An Analysis of Environmental Values and Their Relation to General Values" 35.

[2] There is no question that education has a social role and a social responsibility. There inevitably is an implicit social contract between education systems and society. Therefore the notion that educators should seek specific behavioral goals is not necessarily negative. Nevertheless, since this thesis is oriented toward a behavioral objective, it is important to make clear at this point this study's perspective that education which is not *also* of service to the learner, from the learner's own point of view, risks becoming merely a manipulative tool of the most powerful in society. Contemporary Western education seems to suffer from this weakness. For example, it is well known that those educational programs which support the economic agenda of the dominant business and governmental elite are the programs which receive financial support. The reason why this thesis addresses a behavioral goal is because it has been of such central importance to environmental education and is therefore a relevant starting point. Nevertheless, it is argued that by exploring the genuine relationship between inner life and nature, and its implications for ecological behavior, one is led to an environmental education that it not only a service to society, but also a service to the learner.

[3] Louis Iozzi, "Beyond Bumper Sticker Environmentalism: From Awareness to Action," *Clearing: Environmental Education in the Pacific Northwest* 70 (Sept./Oct., 1991): 10.

[4] Iozzi, "Beyond Bumper Sticker Environmentalism" 10.

[5] See Tichenor et al., "Environment and Public Opinion," *Journal of Environmental Education* 2.4 (1971): 42; A. Pettus, "Environmental Education and Environmental Attitudes," *Journal of Environmental Education* 8.1 (1976): 48, 50-51, and; C.E. Ramsey and R.E. Rickson, "Environmental Knowledge and Attitudes," *Journal of Environmental Education* 8.1 (1976): 15-16 in regard to information not being sufficient to result in behavior change. See Baker et al. 35; Huber et al., "The Effect of Personal Growth and Development Activities on Student Attitudes Toward Social Issues." *Journal of Environmental Education* 12.4 (1981): 34; Clifford E. Knapp, "A Curriculum Model for Environmental Values Education," *Journal of Environmental Education* 14.3 (1983): 22-26; Richard Kuhn and Edgar L. Jackson, "Stability of Factor Structures in the Measurement of Public Environmental Attitudes, "*Journal of Environmental Education* 20.3 (1989): 27-32; and Jean MacGregor, "Values to Live By," *Journal of Environmental Education* 15.2 (1984). 3 in regard to focusing on influencing learners' attitudes and values. See Michael Caduto, "A Review of Environmental Values Education," *Journal of Environmental Education* 14.3 (1983): 19 in regard to environmental education research on values and attitudes.

[6] Louis Iozzi, "What Research Says to the Educator--Part One: Environmental Education and the Affective Domain," *Journal of Environmental Education* 20.3 (1989): 4.

[7] Pettus 48, 50-51, and; Ramsey and Rickson 15-16.

[8] Ramsey and Rickson 15-16.

[9] Pettus 48-51 and; Tichenor et al. 42.

[10] Tichenor et al. 42.

[11] Wm. D. Gunn and Peter Horvath, "The Effects of an Anti-Nuclear War Film on Attitudes Toward Nuclear Issues," *Journal of Psychology* 121.6 (1987): 615-622. (Abstract from Psyclit database).

[12] Baker et al. 40.

[13] Tichenor et al. 42.

[14] John C. Miles, "The Study of Values in Environmental Education," *Journal of Environmental Education* 9.2 (1977): 8-9, 13-16, and; Louis Iozzi, "What Research Says to the Educator--Part Two: Environmental Education and the Affective Domain," *Journal of Environmental Education* 20.4 (1989): 8-9.

[15] Michael Caduto, "A Review" 14; Michael Caduto, "Toward a Comprehensive Strategy for Environmental Values Education," *Journal of Environmental Education* 14.4 (1983): 14-15, and; Kauchak et al., "The Need for Education, Not Indoctrination," *Journal of Environmental Education* 10.1 (1978): 19-22.

[16] F.E. Kazemek, "Feminine Voice and Power in Moral Education," *Educational Horizons* 67.3 (1989): 78.

[17] Kazemek 78.

[18] Kazemek 78.

[19] The terms "feminine" and "masculine" are problematic because they can be alienating, but unfortunately no better terms exist. Even if the terms "yin" and "yang" are used, then one is simply using the Chinese words for feminine and masculine. Whether it is comfortable or not, there is a cross-cultural history of similar principles associated with each term, except in some rare cases when the labels are reversed. In regard to distinguishing masculine from feminine principles or orientations, Greig and colleagues suggest that this "fragmentationist" orientation, as they call the Western worldview, "has served to reinforce, validate and inflate qualities and behaviors that we have been conditioned to regard as masculine (such as analysis, reason, assertiveness, aggression, competitiveness, exploitation, a proclivity for hierarchies, hunger for domination)." Meanwhile, "other qualities and

behaviors, traditionally regarded as feminine (such as synthesis, seeing things in wholes, empathy, emotion, intuition, cooperation, active democracy, receptivity, nurturing) have been downgraded or marginalised." Furthermore, they state that "our current ecological crises can be perceived of as adding up to 'a crisis of masculine values'." (See Greig et al., *Greenprints: For Changing Schools*. UK: WWF and Kogan Page Ltd., 1989: 12-13.)

Houston distinguishes "masculine" from "feminine" principles by the differing balance of "logos, the principle of ordering and mastery [which] is essential to the creation and sustenance of civilization," and "eros," which "is concerned with the interrelationship of psyche and nature." She stresses that a balance of logos and eros is ideal, and that an over-emphasis on one or the other is destructive, and, since the masculine tends toward logos, and the feminine toward eros, the two orientations are best when in balance and integrated with one another. "Dominated by logos, eros becomes stalemated in obsessive sexuality and desire," while "dominated by eros, logos is stalemated in dogmatic, habituated patterns of social order and ritual." Western societies are associated with sexual liberation or promiscuity, and with an addictive appetite for consumption, and have shallow rituals and a breakdown of social order; Western cultures typify a dominance of logos, or a more masculine-heavy orientation. (See Jean Houston, "Sacred Psychology and the Feminine" and "The Rise of the Feminine," in *Woman of Power: A Magazine of Feminism, Spirituality, and Politics* 12 (Winter, 1989): 25.)

[20] Greig et al. 7-8, 16.

[21] Gregory Bateson, cited in Greig et al. 8, and David Ray Griffin ed., *Spirituality and Society: Postmodern Visions* (NY: State University of New York Press, 1988), 5.

[22] Albrecht et al., "Measuring Environmental Concern: The New Environmental Paradigm Scale," *Journal of Environmental Education* 13.3 (1982): 39-43. T. Arcury et al.,

"Ecological Worldview and Environmental Knowledge: The 'New Environmental Paradigm,'" *Journal of Environmental Education* 17.4 (1986): 36; R.E. Dunlap and K.D. Van Liere, "The 'New Environmental Paradigm'," *Journal of Environmental Education* 9.4 (1978): 10-19, and; Jack M. Geller and Paul Lasley, "The New Environmental Paradigm Scale: A Re-Examination," *Journal of Environmental Education* 17.1 (1985): 10-12.

[23] Arcury et al. 38-39.

[24] Arcury et al. 39.

[25] Albrecht et al. 42; Dunlap and Van Liere 17.

[26] See Dunlap and Van Liere 17; and Pettus 48, 50-51 in regard to the lack of any firm link between information, attitudes and values, and ecological behavior.

[27] Iozzi, "Beyond Bumper Sticker Environmentalism" 8-10.

[28] Iozzi, "Beyond Bumper Sticker Environmentalism" 10. See this reference in regard to being stalled at the awareness stage. In regard to the nearly sole emphasis on information, Hungerford and Volk say that "The traditional thinking in the field of environmental education has been that we can change behavior by making human beings more knowledgeable about the environment and its associated issues. This thinking has largely been linked to the assumption that, if we make human beings more knowledgeable,they will, in turn, become more aware of the environment and its problems, and, thus be more motivated to act toward the environment in more responsible ways." They say that research has not born out the validity of that assumption. Harold R. Hungerford and Trudi L. Volk, "Changing Learner Behavior Through Environmental Education," *Journal of Environmental Education* 21.3 (1990): 9.

[29] The theme of the obsessiveness of the Western need to be in control of things and its relationship to the environmental and personal crises runs throughout many of the key

references. For an example see Matthew Fox, *Creation Spirituality: Liberating Gifts for the Peoples of the Earth* (San Francisco: Harper, 1991), 36. In addition, in regard to the "will-to-control" as a pervasive problem in education, see Huston Smith, *Beyond the Post-Modern Mind* (Wheaton, Ill: Theosophical Publishing House, 1982), 79-89, and; Theodore Roszak, *The Voice of the Earth* (NY: Simon & Schuster, 1992), 42.

[30] For example, Taoism.

[31] Heather MacLeod, "Healthy Soils, Healthy Bodies: The Organic Connection." *Between the Issues* (Summer, 1992), 13-15, and MacLean, in Dee Dickinson, ed., *Creating the Future: Perspectives on Educational Change* (USA/UK: Accelerated Learning Systems Ltd., 1991), 49-51. For a discussion of the relationship between health and the environment, see Health and Welfare Canada's 1992 report on the issue, *Vital Link: An Overview of Health and the Environment in Canada.*

[32] Brownell, in George Sessions, "Ecophilosophy, Utopias, and Education," *Journal of Environmental Education* 15.1 (1983): 33.

[33] Brownell, cited in Sessions 34.

[34] Theodore Roszak, *Person/Planet: The Creative Disintegration of Industrial Society* (NY: Anchor, Doubleday, 1979), xxx.

[35] Rollo May, *Man's Search for Himself* (NY: Signet, 1967), 64.

[36] R. May 64.

[37] Roszak, *Person/Planet* xxx.

[38] Roszak, *Person/Planet* xxx.

[39] Roszak, *Person/Planet* xxx.

[40] Roszak, *Person/Planet* xix.

[41] Roszak, *Person/Planet* xxx.

[42] Roszak, *Person/Planet* xxx.

[43] Ann E. Jewett and Catherine D. Ennis, "Ecological Integration as a Value Orientation for Curricular Decision Making," *Journal of Curriculum and Supervision* 5.2 (1990): 122-123.

[44] Rev. Dave Steffenson, "Beyond Survival," *Journal of Environmental Education* 6.3 (1975): 7.

[45] Steffenson 7, and, see also; Viktor Frankl, "Survival--for What?" *Uniquest* 6 (1976): 38.

[46] James Lubbers, "Justifiable Consumerism: The Interrelationship Between Economics, Environment, and Education," *Journal of Environmental Education* 14.1 (1982): 26.

[47] Matthew J. Brennan, "A Curriculum for the Conservation of People and Their Environment," *Journal of Environmental Education* 17.4 (1986): 3, and Matthew J. Brennan, "Total Education for the Total Environment," *Journal of Environmental Education*, 6.1 (1974): 16-19.

[48] Brennan, "A Curriculum" 3.

[49] David W. Jardine, "'To Dwell with a Boundless Heart': On the Integrated Curriculum and the Recovery of the Earth," *Journal of Curriculum and Supervision* 5.2 (Winter, 1990): 114.

[50] MacCoby, in A.T. Williams, "The New Environmentalism: A Meaningless Epithet," *Journal of Environmental Education* 10.4 (1979): 6.

[51] Williams 6.

[52] David Archbald and Paul Gundlach, "Environmental Education: An Integrated Approach," *Journal of Environmental Education* 1.3 (1970): 75-76; Richard J. Borden, "Technology, Education, and the Human Ecological Perspective," *Journal of Environmental*

Education 16.3 (1985): 3; and John O. Towler and George Francis, "Environmental Education at Post-Secondary Levels in Canada," *Journal of Environmental Education* 12.2 (1981): 19.

[53] MacGregor 2.

[54] James A. Swan, "Environmental Education: A New Religion?," *Journal of Environmental Education* 10.1 (1978): 46.

[55] See, for example, Huber et al. 35.

[56] Dansereau, in Steffenson 11.

[57] Roszak, in Huber et al. 35.

[58] Roszak, *Person/Planet* xxx.

[59] In this study, "inner life" refers to all subjective experience, or, as Bugental (in Valle and Halling) call it, "the whole 'internal' or personal realm of experiencing." See Bugental, in Ronald S. Valle and Steen Halling, eds., *Existential Phenomenological Perspectives in Psychology: Exploring the Breadth of Human Experience* (NY: Plenum Press, 1989), ix.

[60] Heather MacLeod, "Healthy Soils, Healthy Bodies: The Organic Connection." *Between the Issues* (Summer, 1992), 13-15, and MacLean, in Dee Dickinson, ed., *Creating the Future: Perspectives on Educational Change* (USA/UK: Accelerated Learning Systems Ltd., 1991), 49-51. For a discussion of the relationship between health and the environment, see Health and Welfare Canada's 1992 report on the issue, *Vital Link: An Overview of Health and the Environment in Canada.*

[61] Manfred Stanley, cited in H. Smith 84.

[62] Heather MacLeod, "Healthy Soils, Healthy Bodies: The Organic Connection." *Between the Issues* (Summer, 1992), 13-15, and MacLean, in Dee Dickinson, ed., *Creating the Future: Perspectives on Educational Change* (USA/UK: Accelerated Learning Systems Ltd.,

1991), 49-51.

[63] Berry, a Catholic theologian, and LaChapelle both use the term *story* to apply to the larger-than-human dimension of meaning or significance of things, or, in other words, to the spiritual dimension of things. The term is used here in the same way, although sometimes as *larger story* so as to distinguish this sense of the term from the ordinary use of story. See Thomas Berry, *The Dream of the Earth* (San Francisco: Sierra Club Books, 1988), Chapter 10, and; Dolores LaChapelle, *Sacred Land, Sacred Sex: Rapture of the Deep* (Silverton, Colorado: Finn Hill Arts, 1988).

[64] Viktor Frankl, *Man's Search for Meaning* (NY: Pocket Books, 1984); Viktor Frankl, *Psychotherapy and Existentialism* (NY: Pocket Books, 1984); Viktor Frankl, "Survival--for What?" 38; Viktor Frankl, *The Unheard Cry for Meaning: Psychotherapy and Humanism* (NY: Pocket Books, 1984). This symptom is particularly interesting in light of Brownell's comment that nature is the meaning-giving context of human existence (Brownell, in Sessions 33) and in light of the modern alienation from nature.

[65] R. May 23-30, and; Steffenson 9.

[66] Alexander Lowen, *Depression and the Body: The Biological Basis of Faith and Reality* (NY: Penguin, 1972), 17.

[67] R. May 22.

[68] R. May 22.

[69] Frankl, *Psychotherapy and Existentialism* 125.

[70] R. May 22.

[71] R. May 30-40.

[72] Erich Fromm, *The Sane Society* (NY: Fawcett Premier, 1985), 19, and; R. May 22.

[73] Frankl, *The Unheard Cry for Meaning* 20-21.

[74] See references for previous notes 64-73.

[75] Frankl, *Man's Search for Meaning*; Fromm, and; R. May.

[76] Roszak, *Person/Planet* xxiii-xxiv.

[77] Frankl, "Survival--for What?" 38; Fromm, and; R. May 59-65.

[78] Bugental, in Valle and Halling ix.

[79] Manfred Stanley, cited in H. Smith 84.

[80] Bugental, in Valle and Halling ix, and; Manfred Stanley, cited in H. Smith 155.

[81] Peter Schwartz and James Ogilvy, *The Emergent Paradigm: Changing Patterns of Thought and Belief*, Analytical report 7, Values and Lifestyles Program (Menlo Park, CA: Stanford Research Institute, 1983), 90.

[82] H. Smith 154-157.

[83] Lowen 171.

[84] Ruether, in Alan S. Miller, *A Planet to Choose* (NY: Pilgrim, 1978), 53.

[85] Bugental, in Valle and Halling ix.

[86] Rupert Sheldrake, "Nature Thinks Back," *Edges: Changing Planetary Patterns* 4.1 (1990): 30.

[87] Bugental, in Valle and Halling ix.

[88] See for example Swan, "Environmental Education" 46, and other authors mentioned in the "obstacles" section of this chapter.

[89] Bugental, in Valle and Halling ix.

[90] For example: Greig et al. 5-17; Peter Russell, *The White Hole in Time: Our Future Evolution and the Meaning of Now* (San Francisco: Harper, 1992), 63-81; Joanna Macy, *World as Lover, World as Self* (Berkeley, CA: Parallax Press, 1991), 13-14, 199.

[91] See, for example, Dunlap and Van Liere 10; Gregory Bateson, cited in Greig et al. 8, and; Griffin 5.

[92] Greig et al. 16.

[93] Griffin 3-5.

[94] Greig et al. 8, 17.

[95] Gregory Bateson, cited in Greig et al. 8, and Griffin 5.

[96] Gregory Bateson, cited in Greig et al. 8, and Griffin 5.

[97] 'First,' 'Second,' 'Third,' 'Fourth,' and 'Fifth' Worlds are modern economic classifications of wealth groupings. They are too often used in a distorted way which implies that 'First' World countries are better than other countries, and, for that reason, the term is uncomfortable. Nevertheless, in this case it is interesting to use the term 'First' World, since we can see now one possible application for the Biblical phrase "But many that are first shall be last...."(King James Bible, 1611, Matthew 19:30 and Mark 10:31), as we realize that there is an inner impoverishment typical of the 'First' World more than any of the other 'Worlds.' Thus the First world, in this sense, is becoming last. This association provides a sense that humanity is at a grand turning point where the previous directions of things are being reversed.

[98] See references for previous notes 64-73 in this chapter. Frankl, *Man's Search for Meaning* in regard to meaning; Fromm in regard to addiction; and Lowen in regard to depression.

[99] See Baker et al. 35; L.K. Caldwell, "Environment and the Shaping of Civilization," *Journal of Environmental Education* 2.2 (1970): 6; Larson et al., "Participation in Pro-Environmental Behavior," *Journal of Environmental Education* 12.3 (1981): 21; Thomas Tanner, "Significant Life Experiences: A New Research Area in Environmental Education," *Journal of Environmental Education* 11.4 (1980): 20, and; Dennis Weibel, "Commentary: Building for Tomorrow," *Journal of Environmental Education* 14.4 (1983): 43 in regard to

catalyzing a response to the environmental crisis as a main goal of environmental education.

[100] Swan, "Environmental Education" 46.

[101] Lowen 17, 200.

[102] Steffenson 9.

[103] Irvin D. Yalom, "Chapter 7: Willing," in I. Yalom *Existential Psychotherapy*. (NY: Basic Books, 1980).

[104] Yalom 303-304.

[105] R. May 14, emphasis in original.

[106] E. Laszlo, *The Inner Limits of Mankind: Heretical Reflections on Today's Values, Culture, and Politics* (Emphasis in original) (London: One World, 1989), 79, and see also 26-28.

[107] Meadows et al., *The Limits to Growth* (Universe Books, New York, 1972), referred to by Alexander King, in Laszlo, *Inner Limits* 1.

[108] King, in Laszlo, *Inner Limits* 1.

[109] Roszak, *Voice* 35.

[110] Hungerford and Volk 8-21.

[111] Hungerford and Volk 9.

[112] Hungerford and Volk 9.

[113] James A. Swan, "Sacred Places in Nature: A Unitive Theme for a Transpersonal Approach to Environmental Education," *Journal of Environmental Education* 14.4 (1983): 33.

[114] Huber et al. 38.

[115] Swan, "Sacred Places" 33-36.

[116] Shepard, cited in Bill Devall, "A Sense of Earth Wisdom," *Journal of Environmental Education* 16.2 (1985): 2.

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[117] Christine Foster Myers, "A Personal Inquiry Through 'Currere' into the Person/Earth Relationship, Using the Hermeneutic Spiral as a Model," DAI 44.03 (1983): SECA, PP661. (Microfilm No.ADG83-15649).

[118] Yaakov J. Garb, "Psychological and Moral Responses to Environmental Knowledge: Reflections on the Impact of an Introductory Course in Environmental Issues," *Educational Horizons* 67.3 (Spring, 1989): 82-87.

[119] Garb 83.

[120] That environmental education literature does not reflect a strong theoretical background in this area does not mean that individual environmental educators are not doing innovative work in this area. Furthermore, there may be areas of educational theory which can contribute to theoretical development in environmental education, such as adult education. Nevertheless, this review addresses environmental education research and literature in particular, and therefore reveals only what is being published in the environmental education area, and mostly in scholarly rather than unrefereed journals.

[121] Weibel 43.

[122] For example, Caduto, "A Review" 13, and; Towler and Francis 19.

[123] Swan, "Environmental Education" 46.

[124] Swan, "Environmental Education" 46.

[125] Garb 83.

[126] John F. Disinger, "Environmental Education for Sustainable Development?," *Journal of Environmental Education* 21.4 (1990): 5.

[127] James Bowen, "Science, Education and the Environment: Ecocentrism as the New Paradigm," *Education and Society* 6.1-2 (Jun-Dec, 1988): 3-15, (Abstract from SOCA database).

[128] Wm. E. Doll Jr., *Foundations for a Post-Modern Curriculum*, Paper presented at the Annual Meeting of the American Educational Research Association (Washington, D.C., 20-24 Apr. 1987), (Abstract, from ERIC database ED289245).

[129] Hargreaves, in Sandro Contenta, "What is an Educated Person?," *The Toronto Star* 29 Oct. 1988: A2.

[130] Steffenson 9.

[131] Gregory Alan Smith, "Educating for Sustainability: The Educational Implications of the Environmental Crisis," DAI 50.11A (1989): 3420.

[132] Swan, "Environmental Education" 46.

[133] Sessions 27.

[134] Huxley, in Sessions 35.

[135] Caldwell 8.

[136] Swan, "Environmental Education" 46.

[137] Wm. G. Berberet, "Earth Day and Environmental Education: Retrospect and Prospect," (Monograph 1) (Wisconsin: Institute for Environmental Studies, 1988), (Abstract, from ERIC database, ED294720).

[138] This paradigm issue is explored in more detail in the obstacles section of this chapter.

[139] Sessions, paraphrased in Devall 2.

[140] Deborah A. Simmons, "More Infusion Confusion: A Look at Environmental Education Curriculum Materials," *Journal of Environmental Education* 20.4 (1989): abstract, 15.

[141] Knapp 22.

[142] Simmons 15 and abstract.

[143] John F. Disinger, "Current Trends in Environmental Education." *Journal of Environmental Education* 17.2 (1986): 2.

[144] MacGregor 1-2.

[145] See, for example, Disinger, "Current" 3; Jardine 107-119; Jewett and Ennis 126-129, and; Williams 4.

[146] Chapter five deals in depth with some of contributions an ecological perspective can bring to learning.

[147] See Dickinson.

[148] Yalom 286-293.

[149] For example, the terms *inner, subjective, interior, internal* and *personal* caused some readers of drafts of this research to feel angry, even though they couldn't explain it and couldn't suggest better terms.

[150] Sessions 27-28.

[151] Schwartz and Ogilvy 148-156.

[152] See, for example, Schwartz's and Ogilvy's (1983) study on this paradigm shift across disciplines.

[153] Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1970).

[154] T. Kuhn Chapter 4.

[155] T. Kuhn Chapters 4 and 7.

[156] Swan, "Environmental Education" 46.

[157] Ervin Laszlo, "The New Concept of the Environment," *Journal of Environmental Education* 3.3 (1972): 17.

[158] Laszlo, "The New Concept" 15-16.

[159] Laszlo, "New Concept" 15.

[160] Laszlo, "The New Concept" 17.

[161] Leroy S. Rouner, ed., *On Nature* (Notre Dame, IN: University of Notre Dame Press, 1984), abstract (in book).

[162] Laszlo, "New Concept" 17.

[163] Edward H. Robinson, "Education for the 1980s and Beyond: An Interview with Carl Rogers," *Journal of Humanistic Education and Development* 23.3 (March, 1985): 98-110, (Abstract, from Psyclit database).

[164] W. Fox, "Transpersonalizing Ecology: 'Psychologizing' Ecophilosophy," *The Journal of Transpersonal Psychology* 22.1 (1990): 59-96.

[165] Claude Levy-Leboyer, *Psychology and Environment*, Trans. David Canter and Ian Griffiths (London, England: Sage, 1982), (Abstract from Donald Edward Davis, *Ecophilosophy: A Field Guide to the Literature* (San Pedro: R. & E. Miles, 1989), 64.

[166] Roszak, *Voice*.

NOTES - CHAPTER 3

[1] Lynn Segal, *The Dream of Reality: Heinz von Foerster's Constructivism* (NY: W.W. Norton & Co., 1986), 3-4.

[2] Segal 3.

[3] Segal title page, 3.

[4] The only subtle but significant difference between the constructivist orientation and the orientation guiding this thesis is in the orientation toward reality. Lincoln and Guba identify four ontological positions: "objective reality," "perceived reality," "constructed reality," and "created reality"(82). The objective reality stance "asserts that there is a tangible reality, and experience with it can result in knowing it fully"(82). The perceived reality position "asserts that there is a reality, but one cannot know it fully"(83). According

to this point of view, reality can best be known through multiple perspectives(83). The constructed reality stance see reality "as a construction in the minds of individuals" and believe that "it is dubious whether there is a reality," and "if there is, we can never know it"(83). In addition, this position asserts that "no amount of inquiry can produce convergence on it"(83). Finally, the created reality position asserts that "there is no reality at all," and that when we are dealing with knowledge, we are actually dealing with probabilities(84). This position asserts that not only do we influence our reality, but, to some extent, we create it(84). See Yvonna Lincoln and E.G. Guba, *Naturalistic Inquiry* (Beverly Hills: Sage, 1985).

This study is not confined to the constructivist view of reality. The position taken in this study is that 1) there is an objective reality, some of which can be known; 2)that we can best estimate what is known through the convergence of multiple perspectives which are inevitably constructions, and; 3)that we do play some role in creating some of our reality. Thus, this study's ontological position draws from all four categories identified by Lincoln and Guba.

The contrast to the purely constructivist view of reality is important because it is precisely in assuming that human reality is the only reality which, as will be argued later, is the root of the environmental and other crises. It will be argued that there is indeed an objective reality which is largely, but not totally beyond human perception, a reality which *is* ordered, and to which humans must increase their sensitivity if they are to live in harmony with the world and each other. Nevertheless, the constructivist orientation is the best label for the epistemological orientation of the study because it goes beyond the perceived reality stance which fails to recognize the role of interpretation, or construction, in human knowledge.

[5] Segal 4.

[6] Segal 4.

[7] Segal 4.

[8] Segal 4.

[9] From a constructivist standpoint, the idea that methods can be carried out objectively, or without any underlying theoretical framework, would be an illusion.

[10] Irvin D. Yalom, "Willing," Chapter 7 in I. Yalom *Existential Psychotherapy* (NY: Basic Books, 1980), 301.

[11] Yalom 301.

[12] Yalom 301.

[13] Yalom 305.

[14] Yalom 292, 332.

[15] Yalom 290.

[16] Yalom 290.

[17] Wheelis, cited in Yalom 290.

[18] Arendt, cited in Yalom 290.

[19] Yalom 289.

[20] Yalom 301.

[21] Yalom 290-291.

[22] Yalom 303.

[23] Yalom 286.

[24] Yalom 286, 290-291.

[25] Yalom 287.

[26] Yalom 302-303.

[27] Yalom 303-304. This connection of will to feelings may be a key link between the complementarity of the will to develop toward personal and social fulfilment, and the will to

act in environmentally responsible ways.

[28] Robert E. Carter, *Becoming Bamboo: Western and Eastern Explorations of the Meaning of Life* (Montreal and Kingston: McGill-Queen's University Press, 1992), 65.

[29] Joanna Macy, *World as Lover, World as Self* (Berkeley, CA: Parallax Press, 1991), 91.

[30] May, cited in Yalom 300.

[31] Yalom 299.

[32] Yalom 299-300.

[33] Yalom 300.

[34] Yalom 314.

[35] Yalom 314.

[36] E. Laszlo, *The **Inner** Limits of Mankind: Heretical Reflections on Today's Values, Culture, and Politics* (Emphasis in original) (London: One World, 1989), 26-28, and; Yalom.

[37] The first part of Chapter 4 explores in detail the identification of the lack of response to the environmental crisis as a problem of will.

[38] It is notable that Yalom places his chapter on Willing within the Section in his book entitled "Freedom."

[39] See Harold R. Hungerford and Trudi L. Volk, "Changing Learner Behavior Through Environmental Education," *Journal of Environmental Education* 21.3 (1990): 9, in regard to the failure of the information approach in environmental education.

[40] Yalom 286.

[41] Yalom 286-291.

[42] Yalom expresses the frustration that analysts feel when clients won't change, in spite clients being convinced that they should change (Yalom 291-292).

[43] Peter Russell, *The White Hole in Time: Our Future Evolution and the Meaning of Now* (San Francisco: Harper, 1992), 61.

[44] Yalom 291-292.

[45] Yalom 291-292, 301-302.

[46] Yalom 289-291.

[47] Yalom 290-291, 301.

[48] Yalom 289-291.

[49] Yalom 289-291.

[50] Yalom 292, 332.

[51] Arthur Lyon Dahl, *Unless and Until: A Bahá'í Focus on the Environment* (London: Bahá'í Publishing Trust, 1990), 62, 88.

[52] Theodore Roszak, *The Voice of the Earth* (NY: Simon & Schuster, 1992), 38.

[53] Yalom 288-289, 348-349.

[54] Roszak, *Voice* 38, and, see also; Theodore Roszak, *Person/Planet: The Creative Disintegration of Industrial Society* (NY: Anchor, Doubleday, 1979).

[55] Chapter 2 presents a detailed description of the information approach in environmental education and evidence that it has failed.

[56] The focus in environmental education on convincing clients to change their behavior is uncomfortable since the constructivist and ecological-integration orientations are balanced in their view that both society and the learner should be served by education. As discussed earlier, although education has a social role, if it does not also serve the clients' perceived interests, the fear is that education will become simply a tool for the powerful to manipulate society to their own advantage. Already education is overly dictated by the economic priorities of those in power. Nevertheless, since ultimate behavioral change has been of primary importance to environmental education, it cannot be ignored. Hopefully this study

will contribute to an education that serves both the person and the planet, by showing some of the ways in which, as Roszak says, the needs of the person and the needs of the planet are one (Roszak, *Person/Planet* xix, xxx.) See Yalom (287) in regard to analysts' lack of training in how to enable will.

[57] Yalom 346.

[58] Yalom 291.

[59] Hungerford and Volk 10.

[60] Hungerford and Volk 11.

[61] Hines et al., cited in Hungerford and Volk 10.

[62] Holland, in David Ray Griffin, ed., *Spirituality and Society: Postmodern Visions* (NY: State University of New York Press, 1988), 43.

[63] Griffin 3.

[64] Griffin 3-4.

[65] Wolf, in Arieh Lewy, ed., *The International Encyclopedia of Curriculum* (Toronto: Pergamon Press, 1991), 412.

[66] Wolf, in Lewy 411.

[67] Wolf, in Lewy 411.

[68] Herbert M. Kliebard, "Problems of Definition in Curriculum," *Journal of Curriculum and Supervision* 5.1 (1989): 4-5.

[69] Kliebard 5.

[70] Kliebard 2.

[71] Kliebard 1 (introduction by editors).

[72] cited by Wolf, in Lewy, 412.

[73] Tanner, in Lewy 331. Also, Tyler's confusion between experience and activities probably relates to the Western objective or outer bias, and denial of the reality of subjective

experience. (See Bugental, in Ronald S. Valle and Steen Halling, eds., *Existential Phenomenological Perspectives in Psychology: Exploring the Breadth of Human Experience* (NY: Plenum Press, 1989), ix; and Huston Smith, *Beyond the Post-Modern Mind* (Wheaton, Ill: Theosophical Publishing House, 1982), 154-157.) This view might lead Tyler to consider experiences only from the external point of view, that is, as activities.

[74] Rodney T. Ogawa and Betty Malen, "Towards Rigor in Reviews of Multivocal Literatures: Applying the Exploratory Case Study Method," *Review of Educational Research* 61.3 (Fall, 1991): 266.

[75] Ogawa and Malen 266.

[76] Richard J. Borden, "Technology, Education, and the Human Ecological Perspective," *Journal of Environmental Education* 16.3 (1985): 5; John C. Miles, "The Study of Values in Environmental Education," *Journal of Environmental Education* 9.2 (1977): 16; John O. Towler and George Francis, "Environmental Education at Post-Secondary Levels in Canada," *Journal of Environmental Education* 12.2 (1981): 19; A.T. Williams, "The New Environmentalism: A Meaningless Epithet," *Journal of Environmental Education* 10.4 (1979): 5, and; Paul A. Yambert and Carolyn F. Donow, "Are We Ready for Ecological Commandments?," *Journal of Environmental Education* 17.4 (1986): 13.

[77] L.K. Caldwell, "Environment and the Shaping of Civilization," *Journal of Environmental Education* 2.2 (1970): 8.

[78] Ninian Smart, in Carter (x-xii), refers to this approach as a constructivist form of synthesis.

[79] Peter Schwartz and James Ogilvy, *The Emergent Paradigm: Changing Patterns of Thought and Belief*, Analytical report 7, Values and Lifestyles Program, (Menlo Park, CA: Stanford Research Institute, 1983).

[80] See Appendix I for a review of the databases searched.

[81] Banyon Books.

[82] Greig et al., *Greenprints: For Changing Schools* (UK: WWF and Kogan Page Ltd., 1989), 5-17.

[83] Griffin.

[84] In regard to the emergent design process, see: Lincoln and Guba 41, 102-103, 108, 188, 201, 208-211, 250-251, 285.

[85] Lincoln and Guba 335, 339-344.

[86] Harry F. Wolcott, *Writing up Qualitative Research*, #20 Qualitative Research Series (London: Sage, 1990), 18.

[87] See Pfaffenberger's discussion of content analysis. Bryan Pfaffenberger, *Microcomputer Applications in Qualitative Research*, #14 Qualitative Research Methods Series (London: Sage, 1988), 56-60.

[88] Dee Dickinson, ed., *Creating the Future: Perspectives on Educational Change* (USA/UK: Accelerated Learning Systems Ltd., 1991).

NOTES - CHAPTER 4

[1] More precisely, eco-will has been defined as: the desire and ability to act in ecologically and socially responsible ways. The term environment can be seen as embracing both ecological and social arenas because of the shift in the understanding nature from excluding humans, to including them. Likewise, "environment" as it is used in environmental education literature, can be considered to include both the ecological and the social.

[2] See Chapter 3, *Selection of Data Sources*, for the bibliographic list of those references.

[3] Irvin D. Yalom, "Willing," Chapter 7 in I. Yalom *Existential Psychotherapy* (NY: Basic Books, 1980), 290-291.

[4] Yalom 290.

[5] Wheelis, cited in Yalom 290.

[6] Arendt, cited in Yalom 290.

[7] Yalom 289.

[8] Yalom 286.

[9] Yalom 287.

[10] Yalom 303.

[11] Yalom 301.

[12] Peter Russell, *The White Hole in Time: Our Future Evolution and the Meaning of Now* (San Francisco: Harper, 1992): 61.

[13] P. Russell 61.

[14] Tichenor et al., "Environment and Public Opinion," *Journal of Environmental Education* 2.4 (1971): 42. Note also the societal level of recognition of and belief in the urgency of responding manifested by the two recent declarations by world scientists and by world religious leaders in regard to the global problems. (See page 1.)

[15] P. Russell 60-61, and Joanna Macy, *World as Lover, World as Self* (Berkeley, CA: Parallax Press, 1991), 15-16.

[16] See, for example, Thomas Berry, *The Dream of the Earth* (San Francisco: Sierra Club Books, 1988), 31-32.

[17] Arthur Lyon Dahl, *Unless and Until: A Bahá'í Focus on the Environment* (London: Bahá'í Publishing Trust, 1990), 56.

[18] Berry 16.

[19] P. Russell 62.

[20] Dahl 88.

[21] Theodore Roszak, *The Voice of the Earth* (NY: Simon & Schuster, 1992), 19.

[22] Roszak, *Voice* 38. According to this study, one would say "the perversity, and sick desire that *presently* lie at the core of the psyche," in order to avoid implying that humanity is by its very nature sick and perverse. This point is an important one because ultimately, as is made clear at the conclusion of this chapter, Western humanity's view of superiority over nature has also been accompanied by a singularly negative view of human nature. The extreme negative view of human nature typical of the Western world is not only as inflated as the sense of human superiority over nature, it is also just as dangerous, because the search for reaching within ourselves to find the positive, life-affirming profound motivation to respond creatively and constructively to the environmental and related crises, is rooted in a belief in our positive potential.

[23] Roszak, *Voice* 38.

[24] Roszak, *Voice* 36.

[25] Burgess, in Roszak, *Voice* 37.

[26] This statement is not meant to imply materialist hedonistic pleasures, since that superficial view of pleasure is by definition excessive and contradicts the ecological principle of balance. Rather, the intended meaning is a return to the joys of living in meaningful relationship, or, as Roszak calls it, "vital reciprocity" with the earth. This perspective implies a spiritual, and not just material relationship with the earth. Roszak, *Person/Planet* (NY: Anchor, Doubleday, 1979), xxx.

[27] Roszak, *Voice* 39.

[28] Dahl 46.

[29] Dahl 62, emphasis added.

[30] Dahl 62.

[31] Roszak, *Voice* 15-16, 38, and, see also; Theodore Roszak, *Where the Wasteland Ends: Politics and Transcendence in the Postindustrial Society* (NY: Anchor, Doubleday, 1973), xv-xviii.

[32] Yalom 302-303.

[33] Yalom 303-304.

[34] Yalom 302.

[35] Yalom 314.

[36] Yalom 314.

[37] Roszak, *Voice*.

[38] See the literature review on this issue.

[39] See literature review.

[40] Several scholars refer to the wide range of crises caused by the Western sense of human separateness from and superiority over nature, see: Greig et al., *Greenprints: For Changing Schools* (UK: WWF and Kogan Page Ltd., 1989), 5-17; P. Russell, 88-93; Macy, *World* 15, 198-199; Malcolm S. Knowles, "Creating Lifelong Learning Communities: A New Way of Thinking About Education," *New Horizons for Learning Newsletter*, n.d.

[41] Roszak, *Voice* 47.

[42] Arne Naess, *Self-Realization: An Ecological Approach to Being in the World*, N.p.: n.p., n.d. 6.

[43] See David Ray Griffin, ed., *Spirituality and Society: Postmodern Visions* (NY: State University of New York Press, 1988), 4.

[44] Although it may seem daring to suggest a causal relationship between the sense of identity or worldview and the broad crises we are facing today, this study is following Becker's suggestion that writers take responsibility for clearly expressing possible causal

relationships, rather than camouflage them behind non-committal language, so that they can be frankly examined. See Becker, Howard S. *Writing for Social Scientists: How to Start and Finish Your Thesis, Book, or Article*. (Chicago: University of Chicago Press, 1986): 7-10.

[45] Greig and colleagues use the term "fragmentalist" to describe the Western worldview. Greig et al. 5-17.

[46] Greig et al. 16-17.

[47] G. Bateson, in Greig et al. 8, and; Griffin 3-4.

[48] Greig et al. 8, and; Griffin 3-4.

[49] It is important not to confuse what human beings have made of religion, or how they have interpreted it, with the original messages. See Gregory Bateson, cited in Greig et al. 8, and Griffin 5, in regard to the lack of moral constraints on the use of nature.

[50] This point of view is widely supported in environmental literature, and has been extensively explored, therefore, no further attention is given to it here. Some references include: Greig et al. 5-17, and; Griffin 3-4.

[51] Heather MacLeod, "Healthy Soils, Healthy Bodies: The Organic Connection." *Between the Issues* (Summer, 1992), 13-15.

[52] MacLeod 13-15.

[53] MacLeod 13-15.

[54] MacLeod 13-15.

[55] MacLean, in Dee Dickinson, ed., *Creating the Future: Perspectives on Educational Change* (USA/UK: Accelerated Learning Systems Ltd., 1991), 49-51. For a discussion of the relationship between health and the environment, see Health and Welfare Canada's 1992 report on the issue, *Vital Link: An Overview of Health and the Environment in Canada.*

[56] See literature review.

[57] See notes 64-73, Chapter 2.

[58] See literature review.

[59] Rollo May, *Man's Search for Himself* (NY: Signet, 1967), 22.

[60] i.e. the New Age Movement.

[61] Griffin 4-5.

[62] Griffin 5.

[63] Griffin 5.

[64] Broad societal trends are being stressed; there is wide agreement that a materialist scientific worldview dominates in the West. There are, of course, many exceptions to this aspiritualism. There are individuals and communities with vibrant spiritual lives, and these are people and communities which may make great contributions to overcoming the general spiritual malaise.

[65] Griffin 4-5.

[66] Griffin 5.

[67] Griffin 5.

[68] Viktor Frankl, *Man's Search for Meaning* (NY: Pocket Books, 1984); Viktor Frankl, *Psychotherapy and Existentialism* (NY: Pocket Books, 1984); Viktor Frankl, "Survival--for What?" *Uniquest* 6 (1976): 38; Viktor Frankl, *The Unheard Cry for Meaning: Psychotherapy and Humanism* (NY: Pocket Books, 1984).

[69] Dahl 69-72; Matthew Fox, *Creation Spirituality: Liberating Gifts for the Peoples of the Earth* (San Francisco: Harper, 1991), Chapters 6, 7, and 8; and Berry (11) all use nature as metaphor for the spiritual.

[70] Bahá'u'lláh, cited in John S. Hatcher, "The Metaphorical Nature of Physical Reality," *Bahá'í Studies* 3 (1977): 6.

[71] This theme of nature as a guide for human development, individually and as a society, is a recurring and dominant theme of most of the primary references.

[72] i.e. Macy, *World* Chapte 1; Dahl 69-72; Berry 11, and; Robert E. Carter, *Becoming Bamboo: Western and Eastern Explorations of the Meaning of Life* (Montreal and Kingston: McGill-Queen's University Press, 1992), 124-127.

[73] Norman Myers, ed., *Gaia: An Atlas of Planet Management* (NY: Anchor, 1984), 154.

[74] Berry 8.

[75] Berry 11.

[76] Griffin 4.

[77] Griffin 6.

[78] See Holland, in Griffin, and all of Frankl's books and articles.

[79] Griffin (5) discusses how when humans came to be thought of as machines and without spirit, the theoretical basis for regarding them with special respect disappeared. They could not be considered ends in themselves, but merely means for the ends of the most powerful.

[80] Griffin (3) talks about the view of nature as one of several possible origins for individualism.

[81] Greig et al. 8.

[82] See, for example, M. Fox (107-109) in regard to gender justice. According to the latest scientific understandings of nature, nature is heterarchical, and thus contain a dimension of hierarchy. Likewise it is true that there are qualitative differences among human beings--some individuals, or even groups of people, may be more skilled, knowledgeable or talented than others in some areas for cultural, environmental or other reasons--but it is *not* fair to say,

based on this analogy, that *as a whole* certain individuals or groups are *inherently* of greater worth than others. Diversity is a part of nature, and there is diversity within humanity. Nevertheless, all human beings are of equal inherent worth, just as all aspects of nature, wherever they may land in a heterarchical model of how they rate according to some specific criteria, are of equal worth to the overall functioning of the eco-system.

[83] Griffin 9.

[84] Griffin 9.

[85] Griffin 9.

[86] Alasdair C. McIntyre, "Against Utilitarianism," in *Aims of Education* (UK: Manchester University Press, 1964), 1-24.

[87] Griffin 9, 10-11, 13.

[88] McIntyre 1-24, and; Griffin 10, 13.

[89] Roszak, *Voice* 31.

[90] McIntyre 1-24.

[91] McIntyre 1-24.

[92] Holland, in Griffin 42. Even more dominant, according to Holland, than the economic dilemmas in the Second world, is the political crisis.

[93] Holland, in Griffin 42.

[94] Griffin 12, 20.

[95] Griffin 13.

[96] MacLeod 13-15.

[97] Berry 7, 31.

[98] Griffin 21-23.

[99] Griffin 21-23.

[100] Griffin 21-23.

[101] Griffin 22-23.

[102] Griffin 22-23.

[103] Griffin 22-23.

[104] Griffin 22-23.

[105] Griffin 22-23.

[106] Berry 123.

[107] For example, many people are deeply disturbed by the current violence in former Yugoslavia.

[108] Holland, in Griffin 42.

[109] According to Berry (31), the industrial economy is "dissolving."

[110] Holland, in Griffin 42.

[111] Holland, in Griffin 42-43. He stresses that each of the spiritual, political, and economic crises in the so-called first, second, and third worlds, respectively, is not to say that those are the only problems in those areas. It is simply that those are the pivotal crises for each of those parts of the world.

[112] Berry 31.

[113] For example, there is a common theme among the key references examined for the research that getting in touch with spiritual, emotional, and physical well-being is needed to address the present crises.

[114] This theme is addressed in Roszak, *Voice*.

[115] Yalom 305-307. Whenever the term "feeling" is used, it refers to both sensual and emotional feeling.

[116] See literature review.

[117] Greig et al. 16-17.

[118] Yalom 305.

[119] Yalom 299-301.

[120] Yalom 299-301.

[121] Yalom 299-301, 313-314.

[122] M. Fox x, 70, 82.

[123] This term is used throughout Berry's book. For an example, see Berry 7.

[124] Berry says that addictions to mythic visions function like physical addictions; even when they are destructive, the psychic fixation does not permit change. Moment by moment survival, dependent on servicing the addiction, becomes of primary importance. (Berry 30-32.)

[125] Berry 31-32.

[126] Berry 32.

[127] P. Russell 72.

[128] Berry 16.

[129] Yalom 313.

[130] Yalom 313.

[131] Yalom 313.

[132] Yalom 313-314.

[133] Yalom 314.

[134] Yalom 314.

[135] Yalom 314.

[136] Yalom 299-301.

[137] Berry 17.

[138] Holland, in Griffin 43-47.

[139] Yalom 312.

[140] Yalom 318.

[141] Yalom 317-319.

[142] Yalom 311-312.

[143] R. May, in Yalom 312.

[144] Yalom 312.

[145] Yalom 319-321.

[146] Roszak, *Voice* 50.

[147] Roszak, *Voice* 50.

[148] Joanna Macy, *Despair and Personal Power in the Nuclear Age* (U.S.: New Society, 1983); Macy, *World*.

[149] Roszak, *Voice* 38.

[150] Roszak, *Voice* 36.

[151] Burgess, in Roszak, *Voice* 37.

[152] Yalom 321-328.

[153] Yalom 317.

[154] Yalom 317-319.

[155] R.E. Allen, *The Concise Oxford Dictionary of Current English* (Oxford: Clarendon Press, 1991), 275.

[156] Rank, in Yalom 346-350.

[157] Griffin 4-5.

[158] Yalom himself expresses this view about death. See Yalom 319.

[159] Yalom 318-319.

[160] Heidegger, in Yalom 318.

[161] Although Yalom's relating of attitudes toward death to those about decision-making may seem abstract, in fact, the widespread symptoms of the modern alienation suggest that this existential anguish is experienced at a very concrete and personal level. Therefore, the impact of the basic Western aspiritual existential outlook on the fundamental personal

orientations to willing merits serious attention.

[162] Griffin 19-20.

[163] This connection from visionary to administrators to enactors is not meant to imply a linear process, since the experience of acting shapes the vision, and no one factor operates in isolation at any one time.

[164] Griffin 4.

[165] Griffin 4.

[166] Griffin 4.

[167] Griffin 7.

[168] Griffin 7.

[169] Carter addresses the relationship of sensory feelings as a basis for emotional feelings repeatedly as a theme of his book.

[170] Yalom 305. The distinction between therapy and education is blurring as educators turn their attention to integrating the neglected non-rational dimensions of people's physical, personal and spiritual education with the traditional cognitive, reason-oriented education.

[171] Yalom 307.

[172] Yalom 307-308.

[173] By referring to the destructiveness of Western living it is not meant to imply that all of Western life has been disastrous. On the contrary, later, in the latter parts of this argument, it is argued that the current state of the world seems to be a stage in humanity's collective maturation. Also, Western civilization has led to many of the capacities which will facilitate an ecologically sustainable and harmonious, enriching global civilization should we choose to put the benefits of Western learning to good use.

[174] Macy, *World* 4-5.

[175] Macy, *World* 5.

[176] N. Myers 154.

[177] Macy, *World* 15.

[178] Macy, *World* 15.

[179] Griffin 3.

[180] Individualism has been central to modern Western culture (Griffin 3, 14).

[181] Macy, *World* 18.

[182] Macy, *World* 18-19.

[183] Macy, *World* 15-16.

[184] Macy, *World* 15-16.

[185] Macy, *World* 21-22.

[186] Macy, *World* 21-22.

[187] Macy, *World* 16.

[188] Macy, *World* 4.

[189] Macy, *Despair*.

[190] Macy, *World* 17.

[191] Berry discusses the need for withdrawal from our mythic addiction, and suggests that if we can imagine how difficult breaking addictions at a personal level is, how much more so it must be to break our social addiction to the current destruction vision. Nevertheless, withdrawal must be passed through (Berry 32).

[192] Yalom 305-307.

[193] Yalom 307.

[194] Yalom 332-334.

[195] Yalom 319-321.

[196] Yalom 307-308.

[197] Yalom 340-342.

[198] Yalom 334-336.

[199] Huston Smith, *Beyond the Post-Modern Mind* (Wheaton, Ill: Theosophical Publishing House, 1982), 79-84; M. Fox, 36; Macy, *World* 77.

[200] See Macy's extensive discussion of the Buddhist concept of "dependent co-arising" which describes the dynamics of the relationship between competence and action or effort (Macy, *World* xii, 65-68, 75-76, 88-89, 177-178). See also: M. Fox 36, and; Carter 142.

[201] The term "environmental" includes both the ecological and the social, since nature or the environment is considered in this study to include humanity and its social functions. The precise definition of eco-will is: the desire and ability to act in ecologically and socially responsible ways.

[202] This kind of will might be viewed as a "deep" kind of will. Eco-will resonates with "deep ecology" and "deep learning." Nevertheless, "eco-will" is the term used here because it is more self-explanatory than "deep will." Furthermore, eco-will is compatible with Roszak's "eco-psychology."

[203] *Spiritual* and *soundness* are not usually thought of as belonging together, because soundness is usually associated with reason, and, according to the Western view, reason stands on its own, divorced from the sensual, emotional, and spiritual. Nevertheless, Roszak's main theme in *Voice of the Earth* is that Psychology has never had a standard for sanity, or soundness of mind, and that ecology can provide the basis for that standard of sanity. Further, he says that this standard for sanity must be grounded in some notion of the sacredness of nature, or, in other words, an understanding about the ultimate meaning of nature as the base line or context for judging sanity.

[204] i.e. M. Fox 60; Dahl 58-60, and; Berry 16-17.

[205] Berry 16-17.

[206] M. Fox xii.

[207] M. Fox 60.

[208] P. Russell 73, and; Griffin 13.

[209] Roszak's *Voice of the Earth* focuses on the *insanity* of our ecological behavior.

[210] Griffin xiii.

[211] Holland, in Griffin 42-43.

[212] Roszak, *Voice*.

[213] Einstein, in P. Russell 60.

[214] By criticizing the technological wonderworld vision, as Berry (7) calls it, no criticism of technology as a whole is intended, since technology, used properly, can be of great assistance in these times.

[215] John S. Hatcher, *The Concept of Spirituality* (Canada: Bahá'í Studies, vol. 11, 1982), 7.

[216] Roszak, *Voice* 40.

[217] Roszak, *Voice* 16, 43-45.

[218] Berry, a Catholic theologian, uses the term *story* throughout his work to refer to the spiritual dimension, perhaps as a way of making the spiritual which has become meaningless for many people, accessible. See Berry, Chapter 5.

[219] Dahl 63.

[220] Dahl 63.

[221] Dahl 63.

[222] Hatcher, "Concept" 22.

[223] Jay H. Vest, in Dolores LaChapelle, *Sacred Land, Sacred Sex: Rapture of the Deep* (Silverton, Colorado: Finn Hill Arts, 1988), 310.

[224] Bahá'u'lláh, cited in Dahl 4, 93.

[225] Dahl; Berry, and; M. Fox.

[226] Berry 37, 134.

[227] See Berry's (16-17) description of our "autism" in relation to nature.

[228] Berry 37, 134.

[229] Hatcher, "Concept" 7.

[230] For example, Berry (Chapters 6 and 7) and M. Fox (Chapters 6, 7, and 8), speaking from Christian Creation Spirituality orientations provide examples of what ecologically and spiritually receptive living would look like. Also, Dahl (Chapters 8 and 9) talks about the ecologically and spiritually grounded community oriented model of social order promoted by the Bahá'í religion as a response to the contemporary global situation.

[231] Griffin (14) suggests that the dominant Western industrial worldview provides no reason to be hopeful about changing the current destructive trajectory along which humanity is travelling, but that a fresh worldview illuminates hopeful possibilities not previously seen. We cannot solve problems from the consciousness that created them (Einstein, in P. Russell 60).

[232] In regard to not being able to solve any problem from the mindset that created it, see Einstein, in P. Russell 60.

[233] Harvey A. Feit, "Hunting and the Quest for Power: The James Bay Cree and Whitemen in the Twentieth Century," in R. Bruce Morrison and C. Roderick Wilson, *Native Peoples: The Canadian Experience* (Toronto: McClelland & Stewart, 1988).

[234] Macy, *World* 16.

[235] The metaphor of dance is often used in contemporary literature to describe the emerging sense of the interconnectedness of things, for example, Aldous Huxley's novel describing his utopian vision, *Island* (Toronto: Triad Grafton, 1962), 196.

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[236] P. Russell 9; Macy, *World* 16.

[237] Dahl 88-89.

[238] Yalom 290.

[239] Frankl, in Yalom 444.

[240] Frankl, in Yalom 444, and see also Frankl references at end of this study.

[241] Steffenson 7, and, see also; Viktor Frankl, "Survival--for What?".

[242] Frankl, "Survival--for What?".

[243] M. Fox 148 (and all of Chapter 9).

[244] Dostoevsky, *Crime and punishment*, Trans. David Magarshack (UK: Penguin Classics, 1966). See especially pages 557-559 (or Appendix III where those pages are cited.)

[245] Appendix III contains the complete excerpt to which this section of the argument refers.

[246] This kind of Hobbesian expression would be typical of the early Western scientific period.

[247] Greig et al. 12-13.

[248] According to Jean Houston she and her colleagues have noticed a dramatic rise in the number of feminine archetypes in clients' dreams. See Jean Houston, "Sacred Psychology and the Feminine" and "The Rise of the Feminine," in *Woman of Power: A Magazine of Feminism, Spirituality, and Politics* 12 (Winter, 1989): 25. Further, Matthew Fox (n17) says that when there is a rise in archetypes, human transformation occurs.

[249] Greig et al. 5-15.

[250] Houston, "Rise" 25.

[251] Holland, in Griffin 51-52.

[252] i.e. Gardner (68-75) and Sternberg (76-80), in Dickinson.

[253] i.e. Houston (2-9), Rose (134-135), and Clark (32-33), in Dickinson.

[254] Houston, "Rise" 25.

[255] Houston, "Rise" 25.

[256] Houston, "Rise" 25.

[257] Holland, in Griffin 51-52.

[258] Houston, "Rise" 25.

[259] Dostoevsky 559.

[260] Dostoyevsky 559.

[261] This concept of "unity in diversity" is fundamental to the Bahá'í Faith (see Dahl 57-58), and, more recently, has become a central principle of the environmental movement.

[262] Dahl 57-58.

[263] The "power-through" is like an experience of Grace and results from a receptivity to the biological and Divine.

[264] Harold R. Hungerford and Trudi L. Volk, "Changing Learner Behavior Through Environmental Education," *Journal of Environmental Education* 21.3 (1990): 8-21. (includes the *Hines Model*).

NOTES - CHAPTER 5

[1] In regard to the concern that integration of factors from another model might distort them by taking them out of context, Hungerford and Volk integrated the variables from the *Hines Model*, leaving some, and taking or revising others. This study also follows that approach. In addition, it is interesting to note that both models begin by emphasizing personal factors and end with more emphasis on skills and knowledge, which is similar to the will process as expressed in the eco-will models. See Harold R. Hungerford and Trudi L. Volk, "Changing Learner Behavior Through Environmental Education," *Journal of Environmental Education* 21.3 (1990): 8-21.

[2] Hungerford and Volk 10.

[3] Hungerford and Volk 11.

[4] Hungerford and Volk 12.

[5] Another way of describing locus of control is that an internal locus of control means that a person feels they have the ability to influence something, and an external locus of control means that the person perceives that it is forces outside her or himself which will have influence. Locus of control is a psychological orientation or belief about where the power to influence or change things lies, within or outside of the person. Hungerford and Volk have used this concept somewhat differently, focussing on reinforcement. Nevertheless, the two ways of describing locus of control are not incompatible, since believing that one has the power to influence things could be associated with the belief that positive reinforcement will be experienced, while the belief that the power to influence things lies outside oneself could be associated with the belief that no reinforcement will follow action.

[6] Hungerford and Volk 11.

[7] Hungerford and Volk 11.

[8] Peter Schwartz and James Ogilvy, *The Emergent Paradigm: Changing Patterns of Thought and Belief*, Analytical report 7, Values and Lifestyles Program (Menlo Park, CA: Stanford Research Institute, 1983), 33.

[9] David Ray Griffin, ed., *Spirituality and Society: Postmodern Visions* (NY: State University of New York Press, 1988), 3-4.

[10] Ervin Laszlo, "The New Concept of the Environment," *Journal of Environmental Education* 3.3 (1972): 17.

[11] i.e. the central themes of Dahl, P. Russell, and Berry. See: Thomas Berry, *The Dream of the Earth* (San Francisco: Sierra Club Books, 1988); Arthur Lyon Dahl, *Unless*

and Until: A Bahá'í Focus on the Environment (London: Bahá'í Publishing Trust, 1990), and; Peter Russell, *The White Hole in Time: Our Future Evolution and the Meaning of Now* (San Francisco: Harper, 1992).

[12] Berry 23.

[13] Healy, in Dee Dickinson, ed., *Creating the Future: Perspectives on Educational Change* (USA/UK: Accelerated Learning Systems Ltd., 1991), 55-56.

[14] Healy, in Dickinson 55-56.

[15] Ann E. Jewett and Catherine D. Ennis, "Ecological Integration as a Value Orientation for Curricular Decision Making," *Journal of Curriculum and Supervision* 5.2 (1990): 128.

[16] Jewett and Ennis 128.

[17] Jewett and Ennis 128.

[18] See Houston (in Dickinson 2-9) in regard to the "multi-perceptual" term. See Dickinson in general for a wealth of current research and educational discussion on strategies for multi-perceptual teaching.

[19] Rose, citing Gardner, in Dickinson 133.

[20] Several of the essays in Dickinson address this topic.

[21] Rose, in Dickinson 133-135.

[22] Houston (7) and Rose (134-135), in Dickinson.

[23] Dickinson xii-xiii, 7-8, 134.

[24] In regard to action and learning, see: McCune (163-182) and Houston (6-7), in Dickinson. On another point, perhaps the "flow state" addressed by Csikszentmihalyi and Entwistle (both in Dickinson) are at some level parallel to an experience of Grace. Both are experiences of interconnectedness and meaning, although at different magnitudes.

[25] Yalom 286.

[26] James A. Swan, "Sacred Places in Nature: A Unitive Theme for a Transpersonal Approach to Environmental Education," *Journal of Environmental Education* 14.4 (1983): 33-36.

[27] Bill Devall, "A Sense of Earth Wisdom," *Journal of Environmental Education* 16.2 (1985): 2. An example of a body therapy is rolphing (Dolores LaChapelle, *Sacred Land, Sacred Sex: Rapture of the Deep* (Silverton, Colorado: Finn Hill Arts, 1988), 301).

[28] Christine Foster Myers, "A Personal Inquiry Through 'Currere' into the Person/Earth Relationship, Using the Hermeneutic Spiral as a Model," DAI 44.03 (1983): SECA, PP661 (Microfilm No.ADG83-15649).

[29] Yaakov J. Garb, "Psychological and Moral Responses to Environmental Knowledge: Reflections on the Impact of an Introductory Course in Environmental Issues," *Educational Horizons* 67.3 (Spring, 1989): 82-87.

[30] LaChapelle 132.

[31] LaChapelle 136.

[32] LaChapelle 139, 170, 204.

[33] LaChapelle 186-202.

[34] LaChapelle 303.

[35] LaChapelle 295.

[36] Hal Hartzell, in LaChapelle 156.

[37] Sage, according to LaChapelle, is essential in all ritual (272). According to her, herbs have a Divine significance (173).

[38] For example, the Bahá'ís of Canada are developing such gardens.

[39] Robert E. Carter, *Becoming Bamboo: Western and Eastern Explorations of the Meaning of Life* (Montreal and Kingston: McGill-Queen's University Press, 1992), 110-115.

[40] Joanna Macy, *World as Lover, World as Self.* (Berkeley, CA: Parallax Press, 1991), 26.

[41] Fowler, in Dickinson 124.

[42] Fowler, in Dickinson 124.

[43] See Yanagi (in Carter 118) in regard to the ability of the arts to suggest something beyond themselves.

[44] Fowler, in Dickinson 124.

[45] Fowler, in Dickinson 125.

[46] Fowler, in Dickinson 126.

[47] Fowler, in Dickinson 126-127.

[48] Fowler, in Dickinson 127. It is interesting to note that the Ontario's new Common Curriculum has as one of its goals that students be able "to appreciate and participate in the arts" (Ottawa Citizen, August 31, 1993, B3).

[49] Carter 108.

[50] Carter 26-27, 104.

[51] Rose, in Dickinson 129-138.

[52] Rose, in Dickinson 133.

[53] LaChapelle 221-222.

[54] Rose, in Dickinson 137, and; Irvin D. Yalom, "Willing," Chapter 7 in I. Yalom *Existential Psychotherapy* (NY: Basic Books, 1980), 307-308.

[55] Houston, in Dickinson 2.

[56] Jewett and Ennis 129.

[57] Jewett and Ennis 129.

[58] Jewett and Ennis 130.

[59] Rose (citing Sternberg and Lewin, 137) and Entwistle (92), in Dickinson.

[60] Entwistle, in Dickinson 92.

[61] Entwistle, in Dickinson 92-93.

[62] Entwistle, in Dickinson 95.

[63] Jewett and Ennis 130.

NOTES - CHAPTER 6

[1] David Ray Griffin, ed., *Spirituality and Society: Postmodern Visions* (NY: State University of New York Press, 1988), 10-11.

[2] Joanna Macy, *World as Lover, World as Self* (Berkeley, CA: Parallax Press, 1991), 34-35; and Harvey A. Feit, "Hunting and the Quest for Power: The James Bay Cree and Whitemen in the Twentieth Century," in R. Bruce Morrison and C. Roderick Wilson, *Native Peoples: The Canadian Experience* (Toronto: McClelland & Stewart, 1988).

[3] Matthew Fox, *Creation Spirituality: Liberating Gifts for the Peoples of the Earth* (San Francisco: Harper, 1991), 148.

[4] Yvonna S. Lincoln and E.G. Guba, *Naturalistic Inquiry* (Beverly Hills: Sage, 1985), 41, 102-103, 108, 188, 201, 208-211, 250-251, 285.

[5] Lincoln and Guba 83-84, 87.

[6] Many social researchers have observed that "the techniques of qualitative data analysis rank among the least explicitly formulated of all research methods" (Miles, in Bryan Pfaffenberger, *Microcomputers in Qualitative Research*, Qualitative Research Series #14 (CA: Sage, 1988), 26.

NOTES - APPENDIX II

[1] *Writers' Directory, 1990-1992*. Chicago: St. James Press, 1990.

[2] In addition, Berry was born in 1914, and his education has focused on philosophy and theology-religion. *Writers' Directory, 1990-92*.

[3] He was born in California in 1942. He obtained his degree in Biological Sciences from Stanford University, and his Ph.D. (Biology) from the University of California, Santa Barbara (Arthur Lyon Dahl, *Unless and Until: A Bahá'í Focus on the Environment* (London: Bahá'í Publishing Trust, 1990).

[4] Further examples of Bahá'ís' extensive environmental activities and participation in international environmental forums is available in Dahl's book (85-87).

[5] From Harvey A. Feit, "Hunting and the Quest for Power: The James Bay Cree and Whitemen in the Twentieth Century," in R. Bruce Morrison and C. Roderick Wilson, *Native Peoples: The Canadian Experience* (Toronto: McClelland & Stewart, 1988), ix.

[6] He was born December 21, 1940 in Madison, Wisconsin, and was educated at: Aquinas Institute of Philosophy, Dominican College of St. Rose of Lima, River Forest, Ill. (now Aquinas Institute, St. Louis, Mo.), M.A. 1964; Aquinas Institute of Philosophy and Theology, Dubuque, Iowa (now Aquinas Institute, St. Louis, Mo.), M.A. 1967; Institut Catholique de Paris, S.T.D. (summa cum laude), 1970; postdoctoral study at University of Muenster, 1970. See Susan M. Trosky, ed., *Contemporary Authors*, vol. 126 (Detroit: Gale Research Inc., 1989).

[7] Greig et al., *Greenprints: For Changing Schools* (UK: WWF and Kogan Page Ltd., 1989): 11.

[8] Greig et al. 11.

[9] from the jacket of Jean Houston, *The Search for the Beloved: Journeys in Sacred Psychology* (Los Angeles: Jeremy P. Tarcher, Inc., 1987).

[10] from the jacket of Houston, *Search.*

[11] *Effective Leadership* and *Imaginal Education: Learning to Learn* (Toronto: Institute for Cultural Affairs, n.d.).

[12] *Effective Leadership.*

[13] Rodney T. Ogawa and Betty Malen, "Towards Rigor in Reviews of Multivocal Literatures: Applying the Exploratory Case Study Method", *Review of Educational Research* 61.3 (Fall, 1991): 265-286.

[14] Dolores LaChapelle, *Sacred Land, Sacred Sex: Rapture of the Deep* (Silverton, Colorado: Finn Hill Arts, 1988), 8-9.

[15] LaChapelle 8.

[16] Joanna Macy, *Despair and Personal Power in the Nuclear Age* (U.S.: New Society, 1983), vi ("About the Author").

[17] Hal May and Susan M. Trosky, eds., *Contemporary Authors*, vol. 125 (Detroit: Gale Research Inc., 1989).

[18] Macy was educated at: Wellesley College, B.A., 1950; graduate study at the University of Bordeaux; Syracuse University, Ph.D., 1978. She received a Fulbright scholarship, and Ford Foundation grant, 1979-80. She is a member of: Society for Values in Higher Education, Society for General Systems Research, American Academy of Religion, Buddhist Peace Fellowship. (Hal May and Susan M. Trosky.)

[19] Theodore Roszak, *The Voice of the Earth* (NY: Simon & Schuster, 1992), jacket.

[20] Russell was born in Leicester, England, 1927. His education includes: Wyggeston GS Leics; Univ Coll Leics; M.Sc., Ph.D. He is a member of: Fell Phys Soc. His address is: Stamford Hall, Stoughton Drive South, Leicester LE2 2ND, Oadby 5875. See Robert Bradfield, ed., *Who's Who in Education*, (London: Mercury House Business Publications, Ltd., 1974).

[21] Peter Russell, *The White Hole in Time: Our Future Evolution and the Meaning of Now* (San Francisco: Harper, 1992): jacket.

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