

DISTINCT BUT INSEPARABLE:
PROCESS PHILOSOPHY AND THE ATTRIBUTION OF INDIVIDUAL VALUE IN A
HOLISTIC ENVIRONMENTAL ETHIC

by

DAVID C. MCDUFFIE

(Under the Direction of Sarah Wright)

ABSTRACT

One of the most contentious topics in contemporary environmental philosophy is whether an effective environmental ethic should be holistic or individualistic in scope. It is my opinion that this debate is misguided in that both forms of value should be respected if contemporary environmental ethics is to succeed in adhering to an ecological worldview as well as to the concerns of human culture. Therefore, the purpose of this thesis is to argue for individual value within an environmental ethic, which maintains ecological credibility. In the process, I will consider whether Alfred North Whitehead's process philosophy is a viable philosophical candidate to contribute to such an approach. In brief, while criticizing certain aspects of Whitehead's thought, I will use process categories to argue that the world's ecosystems are the source of all life and, therefore, that all individual value is necessarily related to the interconnected wholes of which they are inextricably a part.

INDEX WORDS: Ecosystem Sustainability and Human Culture, Environmental Ethics, Environmental Holism, Process Philosophy, Alfred North Whitehead

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AB, The University of Georgia, 2001

MA, The University of Georgia, 2006

A Thesis Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment
of the Requirements for the Degree

MASTER OF ARTS

ATHENS, GEORGIA

2008

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DEDICATION

To Jennie

ACKNOWLEDGEMENTS

I would like to thank my major professor, Dr. Sarah Wright, and my committee members, Dr. Victoria Davion and Dr. William L. Power, for their advice and support throughout this process. I would also like to thank Dr. Dorinda Dallmeyer and Dr. Peter Hartel for their leadership in the University of Georgia's Environmental Ethics Certificate Program. The EECF provided me with the opportunity to acquire the foundational knowledge upon which this thesis was built. In addition, I would like to recognize the late, Dr. Frank Golley, former Professor of Ecology at the University of Georgia. Dr. Golley first introduced me to the concept of 'ecological connectedness' which began the train of thought which led to the writing of this thesis.

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INTRODUCTION

The idea for this project first began to come to me after I had completed the requirements for the University of Georgia's Environmental Ethics Certificate Program. I had written my certificate capstone paper on the role of ecological knowledge in relation to forming a Christian theology of ecology, which would support a viable ethic of the natural environment. I had built this theological conception around the philosophical framework of Alfred North Whitehead's process philosophy arguing that Whitehead's system supported a theistic perspective, which was understood as being predicated upon the best available ecological science. In other words, I contended that process theism provided a theological option which would be compatible with modern science and would therefore be conducive to perpetuating an ethic, which would be ecologically credible. Furthermore, I held that a philosophical and theological approach to the natural environment supported by a process framework would perpetuate an ethic which would recognize ecological holism while maintaining attribution of value at the level of the biotic individual. In brief, I thought that process thought could provide a system which would adequately take into account the holism inherent within an ecological worldview while not negating the value of the individuals which exist within and contribute to the world's ecosystems.

Following my completion of the certificate, I presented a shortened version of my project at a seminar sponsored by the EECF as well as at a regional conference of the American Academy of Religion. Questions were raised in these settings, which led me to revisit some of the major issues with which I had dealt in this project. First among these was the difficulty of constructing an ethic which would simultaneously address value at both the holistic and individual levels. In situations of conflict, would one be able to adjudicate between these distinct

values? In other words, to paraphrase one of my questioners, what would prevent someone from gravitating to one pole or the other and ultimately arguing for either an individualistic or a holistic ethic despite a concern for value at both levels?

My answer to this concern was that, if one wanted to be consistent with an ecological worldview, an environmental ethic must begin with a concern for the interconnected nature of the entities found in our natural world. The science of ecology is concerned primarily with wholes. Eugene Odum, the so called father of modern ecology, offered the following definition:

“The term *ecology* is derived from the Greek root “oikos” meaning “house,” combined with the root “logy,” meaning “the science of” or “the study of.” Thus, literally ecology is the study of the earth’s “households” including the plants, animals, microorganisms, and people that live together as interdependent components.”¹

This is not to say that ecology is not concerned with the individual entities which comprise ecosystems but that it is concerned with these individual parts in relationship with as opposed to in isolation from the other contributing entities present within any given ecosystem as well as the Earth ecosystem as a whole. Therefore, if an environmental ethic is to be ecologically credible, it is necessary for it to be holistic in nature.

However, one does not want to argue for an unmitigated holism, which would supersede all concern for individual entities for an overriding emphasis on maintaining the characteristics of ecological wholes. In my opinion, this would negate much of the compassion for the natural world, which I believe is necessary for the establishment of an effective environmental ethic and which I think is often the impetus for human individuals cultivating care for the natural environment. As a result, we have a dilemma. Can a philosophical system effectively attribute value at both the individual and holistic level, and concurrently, is process philosophy a viable candidate to adequately support an environment ethic which can support such value attribution?

¹ Eugene P. Odum, *Ecology: The Link Between the Natural and the Social Sciences* (New York: Holt, Rinehart and Winston, 1975), 1.

Another concern was raised in relation to the question of God in process thought.

Whitehead's philosophical framework is clearly theistic in nature, albeit not theistic in the sense of being compatible with much of the tradition of classical theism. For instance, Whitehead's conception of theism will not support the traditional beliefs of creation ex nihilo, the potential separation of the divine entity from the created order, nor the unilateral intervention of God into that created order. Still, since Whitehead placed the locus of value in God and predicated his system on levels of experience, the criticism was brought to my attention that perhaps process thought placed too much of a concern for the value of individual human individuals to avoid the criticism of anthropocentrism, which would be a serious blow to any contemporary philosophy of the environment.

With these questions in mind, I wanted to return to this topic in order to address these problems from a philosophical perspective. Therefore, my purpose in this thesis is to examine the feasibility of establishing an environmental ethic, which is ecologically credible, and therefore holistic, as well as capable of effectively positing criteria of judgment for attributing value to individuals within an ethic that is necessarily holistic. Subsequently, I will consider whether process philosophy is a viable philosophical candidate to contribute to such an approach.

While the question of God must be addressed in a discussion of Whitehead, I do not consider this to be a work of theological scholarship. As Donald Viney notes in his article entitled "Process Theism," Whitehead was surprised to find that his conclusions led him to the belief "that philosophy's categories require reference to God."² As a result, this aspect of Whitehead's work cannot simply be ignored. However, the issue of God will only be considered concerning the way in which his theistic conception affected his philosophical system, and

² Donald Viney, "Process Theism," Stanford Encyclopedia of Philosophy, <http://plato.stanford.edu/archives/fall204/entries/process-theism/> (accessed March 21, 2006).

therefore, this system's subsequent potential use as a method for contributing to a sound environmental ethic.

Since this project is a work in environmental ethics, it is necessary to offer at least a brief discussion in order to be clear on what is meant by the disciplinary title, 'environmental ethics.' It is true that this discipline has been a bit of an enigma within Western philosophy and one that has not been easily accepted as an equal philosophical endeavor. In large part, this is due to the fact that environmental ethics is antithetical to the antirealist tradition, which has unfortunately held a prominent position in Western thought. In short, this antirealist trend can be seen as far back as Plato in the notion that true reality can be attained only by contemplating the eternal Forms whereas that which is present to us in the world contains only a semblance of the reality, which is perfectly exhibited in the Forms. Subsequently, Hume and those influenced by his legacy perpetuated the understanding that we do not have the ability to accurately comprehend substance and causality. This 'myth of the given' carried with it, at least implicitly, a lack of an impetus to take seriously the natural world and the ways in which it functions. As Eugene Hargrove writes in his *Foundations of Environmental Ethics*, no doubt with this in mind, "many of the basic elements of any environmental ethic adopted by Western civilization will almost certainly be incompatible with fundamental positions in the history of philosophy."³

Furthermore, the appellation 'environmental ethics' is itself not unambiguous. Hargrove actually laments that the field has been misnamed. Instead of its current title, he claims that 'environmental ethics' would be more appropriately termed 'environmental philosophy'. In his words: "Unfortunately, however, the field has taken the name of my journal, which was named *Environmental Ethics*, rather than *environmental philosophy*, to emphasize the value dimension

³ Eugene C. Hargrove, *Foundations of Environmental Ethics* (Englewood Cliffs, NJ: Prentice Hall, Inc., 1989), 2-3.

and to discourage the submission of philosophy science papers on evolution and the like without specific environmental and ethical implications.”⁴ In my opinion, however, the former and not the latter half of the disciplinary title is the more problematic.

For example, the descriptive terms ‘environmental’ and ‘ecological’ have become quite the household words in our contemporary Western society, and it is not uncommon to hear them used synonymously without any attempt to make a distinction in their meanings. First, the descriptor ‘ecological’ is a referent to the scientific discipline of ecology, which is, as Odums’ aforementioned definition implies, that branch of science concerned with the study of the interconnectedness and relationship of all things contained within the natural world. On the other hand, ‘environmental’ has become an umbrella term referring to anything related to concern for the natural environment. This could include anything from grassroots efforts to clean up local pollution to national efforts to develop an effective environmental policy. While natural science could be subsumed under this broadly encompassing description, the natural science of ecology is definitely not synonymous with all that would qualify as ‘environmental’ in nature.

In my aforementioned project for the EECF, I became aware that a clear distinction could be made between ‘ecological’ and ‘environmental’. For example, there has been much recent attention given to the establishment of an evangelical Christian environmental ethic. However, this ethic is based heavily on a Biblical worldview and is often hostile to such scientific bedrocks as the theory of evolution, an understanding of which is an integral part of the science of ecology. The ethic is based on the assumption that we should be good stewards of God’s creation while retaining hope, as the apex of that creation, for the future soteriological fulfillment, which is seen as the ultimate goal of human existence. While the goal is sustaining

⁴ Ibid., 3.

the integrity of the natural world, this form of environmental ethic is neither predicated upon nor necessarily compatible with an ecological worldview. Frank Golley, former University of Georgia ecologist as well as a former professor of mine, once stated that “Environmental ethics teaches that environmental destruction is wrong and points toward relationship and sustainability.”⁵ The evangelical ethic would be compatible with this definition but would not meet the criteria established by ecology concerning humanity’s relationship and connectedness with the other component parts of our ecological systems. Therefore, an environmental ethic will have the goal of protecting our natural systems from environmental degradation but will not necessarily be ecological concerning its explanation of the human species’ relationship to that environment.

Given the implications of this discussion, perhaps it would be more appropriate to refer to a philosophical system concerned with accurately addressing our natural environment as an ‘ecological’ as opposed to and ‘environmental’ ethic. However, I do not think that it will be necessary or beneficial to attempt to change the name of the discipline. In other words, it will suffice to distinguish between an environmental ethic which is predicated upon an ecological worldview and one which is not. In fact, Odum provides some guidance in relation to this issue in an article first published in 1977. He writes:

“As the environment-awareness movement began to emerge in 1968, some professional ecologists actually resented the public’s use of ‘their’ word, but we welcomed it as long overdue recognition of holistic concepts. Although *ecology* is frequently misused as a synonym for *environment*, popularization of the subject is having the beneficial effect of focusing attention on man as a part of, rather than apart from, his natural surroundings.”⁶

⁵ Frank B. Golley, *A Primer for Environmental Literacy* (New Haven: Yale University Press, 1998), 24.

⁶ Eugene P. Odum, “The Emergence of Ecology as a New Integrative Discipline” in *The Philosophy of Ecology: From Science to Synthesis*, ed. David R. Keller and Frank B. Golley, 196 (Athens, GA: The University of Georgia Press, 2000).

Therefore, while the distinction holds, I will not be referring here to an ecological ethic in opposition to an environmental ethic. Still, it should be understood that, when I make subsequent reference to environmental ethics, the environmental ethic for which I will be arguing will necessarily be ecologically credible. Consequently, the philosophical approach to the natural environment which I will advocate here will have to begin with a holistic approach since ecological credibility necessarily implies holism. Environmental philosophy must flow from ecological science. Departing from this agenda is departing from the goal of maintaining viability with the scientific discipline of ecology.

However, one must not stop here since value attribution cannot cease at the holistic level if an environmental ethic is to move beyond an unmitigated holism. In developing this argument, I do not intend to get bogged down in the dichotomous and often vitriolic debate between individualistic vs. holistic ethics. In Chapter One, I will argue that any sound environmental ethic must be grounded in a holistic perspective. In relation to this, I will discuss some of the leading options given in contemporary environmental philosophy as candidates for a viable environmental ethic. I will argue that ethics such as animal liberationism and consequentialism, which are based on the value of biotic individuals, are inadequate to address the interconnected characteristics of our world's ecosystems. Similarly, arguments predicated upon the aesthetics of individual, or even collective, aspects of the natural world also fall short in effectively addressing the 'connectedness' which is inextricably characteristic of all that exists on our planet. However, I will not completely discredit these approaches in favor of an exclusively holistic approach. While I will argue that the criticism of holistic ethics are often unfounded and frequently fail to meet the criteria necessary to achieve ecological credibility, I will not attempt to offer a systematic holism devoid of individualist concerns. Instead, I will

contend that the ecological systems which perpetuate and support life on Earth resist systematic formulation. As a result, the polarizing debates between individualism and holism are misguided. In brief, while holism is foundational for any credible environmental ethic, a pluralistic approach, which attempts to attribute value individually as well as holistically, is a more viable option for environmental ethics.

In Chapter Two, I will consider whether process philosophy offers a suitable framework with which to address environmental philosophy from the vantage point of theoretical pluralism. To be more specific, can process thought support an environmental ethic which will be predicated upon a holistic point of view while still supporting value attribution at the individual level? As alluded to previously, this will not be easy. Therefore, an examination of how these potentially conflicting levels of value can function within a single philosophical argument will have to be further clarified. In brief, I will not hold that process thought is the Rosetta Stone through which we can realize an environmental ethic, which is able to adequately attribute value both holistically with the respect to the functions of the world's ecosystems as well as individually with respect to value associated with the lives of biotic individuals. However, I will argue that Whitehead's system offers a potential point of view or avenue of thinking through which individual and holistic value can be simultaneously achieved along with discerning criteria for situations of potential conflict. Whitehead's metaphysical framework bestows non-instrumental value at the systems level as well as at the level of each individual organism, while maintaining criteria for assessment in situations of conflict. Therefore, I will explicate the potential for process philosophy concerning its contribution to an effective ecological ethic while taking various criticisms of process categories into account and offering my own critique of Whitehead's 'philosophy of organism.' I intend to argue for a position which can be seen as

Whiteheadian with slight qualifications. In short, I believe that Whitehead's philosophy of religion can be modified in a way which will allow for a more adequate expression of a philosophy of the natural environment. In addition, I believe that this modification will allow for the development of an environmental ethic, which more effectively states the criteria for the establishment of a hierarchy of value (comprising human, nonhuman and living, nonliving entities) contained within a holistic environmental ethic.

In Chapter Three, I will offer some concluding remarks in relation to this subject concerning the necessarily interdisciplinary character of environmental ethics as well as the manner in which I believe the goals of the ethic for which I am arguing can be achieved. In other words, environmental philosophy will have to accept a close relationship with efforts pertaining to environmental policy, grassroots environmental education, and especially the natural sciences if environmental ethics has any hope of being applicable outside of the academy. Furthermore, I will state at the outset that I do not wish to establish a systematic philosophy which can be neatly applied to all issues which emerge in relation to the natural environment. Nature resists such a systematic treatment, and if we hope to achieve a proper relationship with our natural environment, we must accept that our approach must change with our further understanding of the natural processes of our planet. Rigid systematization will not be compatible with an attempt to adequately address this relationship. Given the dynamic nature of our natural systems on this planet, any such system would quickly be rendered inadequate by the very topic which it is meant to address. Instead, I intend to point toward the cultivation of an attitude of respect and understanding in relation to humanity's relationship with the natural environment, which will inform the way in which we, as humans, interact with those entities to which we are inextricably connected. With this in mind and with the aid of certain Whiteheadian

categories, I hope to present a philosophical approach to our natural environment which will be both credible in that it is compatible with the best available ecological science as well as appropriate in addressing the value of human and nonhuman lives each of which must not be ignored if a contemporary environmental ethic is to have any practical application at all.

It is necessary to state at the commencement of this discussion that this is one option for dealing with these issues. This particular option is being offered from a perspective, which has been formed in Western culture, and as a commentary on the ecological applicability of a philosophical system, which is a product of the Western philosophical tradition. I am aware that this approach may not be considered as appropriate, in terms of being the most effective method of addressing environmental concerns, in a different, non-Occidental setting. Furthermore, as in the case of all theories, which attempt to address the natural environment, entailed in this project is the understanding that my particular perspective may need revision and correction in light of criticism as well as subsequent information. Therefore, when I use the pronoun 'we' and refer to the proper relationship between humans and the natural environment, this is done with an acceptance that there will be competing viewpoints in relation to this matter and that the philosophical arguments which I am employing here may not be interpreted as being applicable in all cultural settings. In the space that I have here, I do not intend to exhaustively address the potential for applying Whiteheadian thought to non-Western cultures; this topic will have to be explored elsewhere. My purpose here is to assess whether this particular philosophical viewpoint is a viable option for properly addressing the issues relating to contemporary environmental philosophy with which I am dealing in this thesis and, subsequently, to argue for an approach, which simultaneously maintains ecological credibility and individual value in a holistic environmental ethic.

CHAPTER ONE

Parts and Wholes: Individual and Holistic Value in an Ecological Ethic

A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.¹

Aldo Leopold (*A Sand County Almanac*)

The holistic Leopold land ethic is not a case of ecofascism. The land ethic is intended to supplement, not replace, the more venerable community-based social ethics, in relation to which it is an accretion or addition.²

J. Baird Callicott (*Beyond the Land Ethic*)

To praise the individuals (as the creative actors) and to disparage the system (as mere stochastic, inert stage) is to misunderstand the context of creativity.³

Holmes Rolston, III (*Environmental Ethics* 172)

The Necessity of a Holistic Approach

At the outset of this chapter, I will state that I believe that any philosophy of the natural environment must be holistic in scope; therefore animal liberationist and animal rights positions are insufficient for forming a credible environmental/ecological ethic. I maintain that individualist ethics are inadequate in this capacity for a variety of reasons. First, any environmental ethic premised solely on concern for individuals does not deserve such a title. Individuals do not exist in isolation; instead, our lived experience is marked by the aspects of our world in interrelation with each other. Therefore, any attempt to form an ecologically credible ethic based exclusively on concern for the individual is actually antithetical to the creation of such an ethic. A concern for and understanding of wholes is necessary in the formation of an ethic which is ecologically sound. Systems are marked by emergent properties, which are unique to the systemic level, or as Frank Golley states, the “properties of the whole cannot be predicted from the knowledge of the parts. They emerge from the whole itself.”⁴ Therefore, an

¹ Aldo Leopold, *A Sand County Almanac and Sketches Here and There* (New York: Oxford University Press, 1968), 224-225.

² J. Baird Callicott, *Beyond the Land Ethic: More Essays in Environmental Philosophy* (Albany: State University of New York Press, 1999), 75.

³ Holmes Rolston, III, *Environmental Ethics: Duties to and Values in the Natural World* (Philadelphia: Temple University Press, 1988), 172.

⁴ Frank B. Golley, *A Primer for Environmental Literacy* (New Haven: Yale University Press, 1998), 10.

appropriate ethic cannot be stated solely as concern for individuals. Any attempt to do so, whether based on ‘sentience’, ‘aesthetics’, or otherwise, will lead to the perpetuation of an ‘environmental’ ethic, which is not applicable to discourse on the natural environment.

In the case of aesthetics, when an aesthetic argument is applied to environmental ethics, the ‘teddy bear’ syndrome often comes into play. In other words, we value disproportionately those entities which are ‘cute and fuzzy’ or ‘strikingly beautiful’ and tend to disvalue or express disinterest in that which is, to us, not aesthetically pleasing or mundane. According to Elliott Sober, “if environmental values are aesthetic, no difference need be discovered” between that which is artificial and natural.⁵ A beautiful portrait or a great piece of architecture can therefore be equated with the grandeur of a mountain range or the awe inspiring qualities of a large forest system. Echoing a similar sentiment in relation to nonhuman animals, Lilly-Marlene Russow writes that “individual animals can have, to a greater or lesser degree, aesthetic value: they are valued for their simple beauty, for their awesomeness, for their intriguing adaptations, for their rarity, and for many other reasons.”⁶ Both Russow and Sober are correct in that we place value on entities in nature based on their ‘aesthetic’ value, and I do not think that this is necessarily to be avoided. However, it does not provide adequate grounds whatsoever upon which to found an ecological ethic.

It is, I believe, inevitable for us to form preferences which are dictated by our subjective selves concerning the value we place on individuals of a certain species. Some see beauty in the pit vipers that can be readily located on a hot day in most locations in Georgia; others find them repulsive and seek to avoid or kill them when they encounter them. Many find awe-inspiring

⁵ Elliott Sober, “Philosophical Problems for Environmentalism” in *Environmental Ethics: What Really Matters, What Really Works*, ed. David Schmidtz and Elizabeth Willott, 156 (New York: Oxford University Press, 2002).

⁶ Lilly-Marlene Russow, “Why Do Species Matter?” in *Environmental Ethics: What Really Matters, What Really Works*, ed. David Schmidtz and Elizabeth Willott, 144 (New York: Oxford University Press, 2002).

beauty in the clear waters of a North Georgia river as it cuts a path through a landscape filled with the myriad colors of autumn hardwoods; perhaps not so many find the same beauty in a marsh wetland. Yet, are our aesthetic sensibilities always compatible with ecological sustainability? The answer is an abrupt No. Our attribution of aesthetic value has nothing to do with the ability of marshes to naturally cleanse the water supply of pollutants. Whether we find rattlesnakes and water moccasins beautiful or horrifying does not change the fact that they satisfy an integral niche within the biotic communities of which they are a part. There is nothing wrong with forming certain aesthetic preferences for aspects of our natural environments as long as our actions in relation to these preferences do not interfere with the sustainability of ecosystems. However, we make a big mistake in locating value solely with the aesthetic value which we subjectively place on individual entities within our natural environments.

In North America, we have for generations waged wars against predators, large and small, for various reasons such as the protection of livestock and, in cases of larger predators, our own protection. As a result, we have been largely 'successful', excepting recent efforts such as the reintroduction of the red wolf in the North Carolina mountains, in ridding inhabited areas (especially in the Eastern U. S.) of large predators. This is an aesthetic matter. Many have and still do find these predators lacking in 'aesthetic' value. To use the predator-prey relationship of deer and wolf populations as an example, the result has often been an exponential population boom for the prey leading to disruption of a sustainable relationship and eventual mass starvations if these populations are not culled by human hunting. The point is clear. If value is not systemic but based in the aesthetic value of individuals be they biotic or abiotic, our ethic is inferior in its ability to address the problems which threaten the very natural objects which we may find aesthetically appealing.

Second, many individualist ethics are predicated on concern for members, at least certain members, of the biotic community without extending this value to the abiotic factors, which are integral to the creation and sustenance of life. When abiotic factors are given value in relation to this line of thought, it is inevitably instrumental value in that a lack of care for, for example, our land and water systems will have a detrimental effect on the members of the biotic community which are objects of intrinsic value. For instance, Paul Taylor argues “that finally it is the good (well-being, welfare) of individual organisms, considered as entities having inherent worth, that determines our moral relations with the Earth’s wild communities of life.”⁷ He claims that each individual organism, conceived as a “teleological center of life,” is worthy of inherent worth.⁸ Abiotic elements of the environment are of value, at best, in an instrumental way. This is a problem since individual organisms cannot be separated from the environmental factors, which contribute to their continued existence. If only the biotic individual is the focus of the concern, the complex relationships which comprise ecological systems and upon which all life is dependent will not be properly understood and, subsequently, an ethic will be perpetuated that is inferior concerning its representation of the natural world.

Of course, concern for individuals must also be maintained within an effective ecological, and therefore holistic, ethic. For example, the prevention of human induced nonhuman animal suffering must be a part of our ecological consciousness. Thus, animal liberationist and animal rights philosophies have a place within a holistic ethic of the natural environment. However, a mistake is made by philosophers who claim that the decision to be made in formulating an adequate ethic is between individualism and holism. The question is not whether we should choose between individualism and holism but how to incorporate value for individuals into an

⁷ Paul W. Taylor, “The Ethics of Respect for Nature” in *Environmental Ethics: What Really Matters, What Really Works*, ed. David Schmidtz and Elizabeth Willott, 83 (New York: Oxford University Press, 2002).

⁸ *Ibid.*, 87.

ethic which is necessarily holistic in scope. That is why I believe that contemporary environmental ethics must be understood as synonymous with ‘ecological philosophy’ if the discipline is to adequately describe philosophical discourse on the natural environment. If we exhibit a proper understanding and respect for our ecological systems and our relationships within them, the philosophy which follows from this awareness should lead toward sustainability and, therefore, ecologically ethical viability. While an understanding of the component parts cannot be neglected, it is important to understand the characteristics of the systemic level if we wish to move toward a more complete understanding of the ecological systems on which we depend for life and the generation of value.

This brings to the fore the question of whether we can confidently speak of value attribution at the systems level in isolation of any human valuer. Many philosophers adamantly deny that this can be justified philosophically. For example, Sober suggests that “if there were no valuers in the world, nothing would have value.”⁹ For now, I will be brief and say that I accept that we, as humans, are the only species to have developed our level of moral agency in terms of value (this implies that moral consciousness is not absent from nonhuman entities). Of course, species and ecosystems can have no sense of value since they lack the unified cognitive ability which would generate agency. Furthermore, we most certainly cannot impose our sense of moral valuation derived from human culture on nonhuman natural entities. This would be antithetical to an ecological perspective. Still, given what we know as a result of our post-Darwinian worldview, making the attribution of natural value dependent upon a human subject is nonsensical. Arguing for natural value against this individualist viewpoint, Holmes Rolston makes the following comment: “The valuing subject in an otherwise valueless world is an

⁹ Sober, 156.

insufficient premise for the experienced conclusions of those who value natural history.”¹⁰ In short, making the human species the sole source of value for natural systems, which not only produced humans but are not dependent on humanity for continued existence, is highly problematic. As a result, I find arguments which render attainment of value as dependent on the human species to be a waste of time and antithetical to the worthy purposes of environmental philosophy. I will elaborate upon this issue later. First, however, it is necessary to consider and address some of the most prominent criticisms against the ethical credibility of environmental holism.

Arguments Against Environmental Holism

The chief target of critics of holistic approaches to environmental ethics has been Aldo Leopold. The often harsh criticism is due in large part to the views he explicated in his essay, “The Land Ethic,” which serves as the last chapter of his famous work, *A Sand County Almanac*. And, probably the most frequent object of vitriol is the oft quoted passage, included as a heading to this chapter, in which Leopold claims that a “thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.”¹¹ With the advent of the environmental movement of the late 60’s and early 70’s, Leopold’s vision has been praised as prophetic by those concerned with ecological sustainability and denounced by many philosophers who believe that, in Tom Regan’s words, it “is difficult to see how the notion of the rights of the individual could find a home within a view that...might be fairly dubbed ‘environmental fascism.’”¹² Criticisms such as this exhibit the stark polarization that has unfortunately developed between advocates of individualist approaches to environmental issues

¹⁰ Holmes Rolston, III, “Value in Nature and the Nature of Value” in *Environmental Ethics: An Anthology*, ed. Andrew Light and Holmes Rolston, III, 152 (Malden, MA: Blackwell Publishing, 2003).

¹¹ Leopold, 224-225.

¹² Tom Regan, “How to Worry About Endangered Species” in *Environmental Ethics: What Really Matters, What Really Works*, ed. David Schmidtz and Elizabeth Willott, 107 (New York: Oxford University Press, 2002).

and those who put forth philosophical viewpoints which value the holism necessary for ecological legitimacy.

In another example, Sober clearly demonstrates how this matter is often rendered as a black and white issue in current discourse on the natural environment: “Steel traps may outrage an animal liberationist because of the suffering they inflict, but an environmentalist aiming just at the preservation of a balanced ecosystem might see here no cause for complaint.”¹³ Taken quite literally, this interpretation may be valid; however, there is no reason to make individual value and holistic value mutually exclusive. I propose that philosophers such as Regan and Sober are attempting to philosophically systematize processes which resist any attempt at such a simple systematization. Our natural environment will rarely fit neatly into a philosophical system and most definitely not into an individualistic philosophy which is antithetical to the characteristics of that which it is attempting to address. Philosophy in general, and especially ecological philosophy, is at its best when it values common sense, critically analyzed, and in this case, common sense readily reveals that there is no reason to exclude consideration for individuals within an ecocentric environmental ethic. Failure to recognize this is a failure for philosophy and readily admitting its weakness.

While the above criticisms are indeed serious if understood the way in which Regan and Sober understand them, most holistic ethics do not ignore that the systems in which they are placing value also contain individuals, who are also worthy of value attribution. In the case of Leopold, one needs only to read an essay which appears previous to “The Land Ethic” in the same volume. In “Thinking Like a Mountain,” he describes the aftermath of a scene in which he and those with him emptied their rifles on a wolf mother and her cubs. He writes:

¹³ Sober, 146.

We reached the old wolf in time to watch a fierce green fire dying in her eyes. I realized then, and have known ever since, that there was something new to me in those eyes—something known only to her and to the mountain. I was young then, and full of trigger-itch; I thought that because fewer wolves meant more deer, that no wolves would mean hunters' paradise. But after seeing the green fire die, I sensed that neither the wolf nor the mountain agreed with such a view.¹⁴

He goes on to talk of the starvation and death of deer populations which were the consequences of the resultant removal of the predatory wolves. Therefore, we have here a clear concern and connection for an individual animal, which resulted in a greater understanding of the functions of the whole. The description of this scene and the consequent awareness it triggered can hardly be labeled as 'ecofascism.'

I am not trying to imply the holism found in Leopold's work is mitigated. He was first and foremost a conservationist and concerned primarily with the sustainability of the biotic community. His concern for ecological wholes was such that it prompted J. Baird Callicott to refer to "The Land Ethic" as "holistic with a vengeance."¹⁵ Still, it is clear that individual value is far from being disregarded within Leopold's system; instead it is, in a sense, a path which leads to a more complex understanding of natural value. Our experience of the individual (biotic and abiotic) in nature opens the way for a greater understanding, a greater appreciation of the interactions which form ecological wholes. Our recognition of our 'connectedness'¹⁶ with other entities in our natural world allows us to broaden our vision of value and attribute value to that which is comprised of the interconnections within our planet's systems and which is the source of all natural value. It is not a matter of taking sides with either individuals or systems; instead, what is at issue is the protection of that which is a source of all else. It is therefore vital for environmental philosophy to formulate an ethic, which places primary value at the systemic

¹⁴ Leopold, 130.

¹⁵ J. Baird Callicott, "The Conceptual Foundations of the Land Ethic" in *Environmental Philosophy: From Animal Rights to Radical Ecology*, ed. Michael E. Zimmerman, J. Baird Callicott, George Sessions, Karen J. Warren, and John Clark, 109 (Upper Saddle River, NJ: Prentice Hall, 1998).

¹⁶ I was first introduced to the use of the term, 'connectedness', by Dr. Frank Golley, whose work will be cited at various points in this thesis.

level. Respect for individuals will necessarily inform this philosophical framework; however, concern for individual value alone will be inadequate if we wish for philosophy to validly address our relationship with the ecological systems of our planet.

Value at the Systemic Level

Given the anti-realism which has been prevalent in the Western philosophical tradition in addition to the reluctance of many philosophers to grant value which is separable from a human subject, the task of arguing for the intrinsic value of ecological systems is one that must be done without ample precedent. The extension of value, which is necessarily present with an entity's existence and not dependent on how other entities value this individual instrumentally, to individual non-human animals and even to plants is not difficult to attain drawing on the Western tradition. For example, Peter Singer extends utilitarian principles to form a consequentialist ethic based on concern for all individual animals who exhibit sentience. Anything less, he contends, would be what he refers to as 'speciesism.' In his words: "If a being suffers, the fact that it is not a member of our own species cannot be moral reason for failing to take its suffering into account."¹⁷ Singer's extension of intrinsic value does not extend to what we understand as non-sentient animals or plants. However, these organisms are still unified forms of life, who exhibit some form of 'consciousness,' albeit devoid of the level of self awareness which is noticeably present in sentient individuals. For Taylor, even individual plants, as 'teleological centers of life', meet his criteria for being worthy of non-instrumental value. In his "life-centered system,"¹⁸ any individual who is capable of "pursuing its own good in its own way"¹⁹ is worthy of this extension of value. Therefore, these expressions of individual value attribution

¹⁷ Peter Singer, "Not for Humans Only: The Place of Nonhumans in Environmental Issues" in *Environmental Ethics: An Anthology*, ed. Andrew Light and Holmes Rolston, III, 57 (Malden, MA: Blackwell Publishing, 2003).

¹⁸ Taylor, 83.

¹⁹ *Ibid.*, 87.

take, as their jumping off point, human centered ethics from the Western tradition and apply them more liberally in order to include, at least in Taylor's case, all living entities in the natural world.

Yet, the extension from individual value to systemic value concerning our relationship with our natural world is not such a logical progression. An ecosystem is most certainly not a unified organism but a loosely connected set of biotic and abiotic entities with characteristics which emerge as a result of the various relationships of these natural entities. Ecosystems are not clearly bounded and therefore are often difficult to neatly define. They contain within them a telos in the form of the genetic codes of the various organisms which contribute to the character of a particular system; however, they exhibit neither genetic teleology nor value for their own continued existence. Unlike individual organisms, they do not exhibit any form of 'conscious' agency, any unified 'personality' to which to extend value based on the Western philosophical tradition. Therefore, this has led many philosophers to reject that non-instrumental value can be extended to ecological systems. For instance, Harley Cahen contends that "ecosystems cannot be morally considerable because they do not have interests—not even in the broad sense in which we commonly say that plants and other nonsentient organisms 'have interests.'"²⁰ Value extension based on the value of individuals breaks down when the attempt is made to apply this value systemically. Therefore, we cannot attribute value to ecosystems in the same manner by which we attribute it to individuals premised on, for example, interests and desires.

This is a serious problem for environmental philosophy if, as I propose, the ethic has to be predicated upon value at the level of the ecosystem if it is to be ecologically viable. Fortunately, it is not necessary to argue for systemic value based on the individualist ethic of the

²⁰ Harley Cahen, "Against the Moral Considerability of Ecosystems" in *Environmental Ethics: An Anthology*, ed. Andrew Light and Holmes Rolston, III, 114 (Malden, MA: Blackwell Publishing, 2003).

philosophical tradition. I contend that there is a distinction to be made between *organismic* or *personal* and *ecological* value. Concerning the former, I mean that which is attributed value based on a unified center of experience. This category would include all individual living organisms including human and non-human animals (sentient and nonsentient), plants, etc. In other words, we can have a personal interaction between individual organisms based on the unique experience of each individual organism. *Ecological* value would be attributed to the interaction of all biotic as well as abiotic entities including the land and water systems which characterize our planet's natural environment. Ecological value would obviously include ecosystems. We do not relate to these nonpersonal wholes in the same manner in which we relate to personal individuals within our natural world. While we are affected by our experience and understanding of the interconnected nature of natural systems, they do not respond to us with any unified purpose or goal.

However, there is no reason to deny non-instrumental value at the systems level based on the fact that we cannot classify systems as individuals. Holmes Rolston offers the following: "To look at one level for what is appropriate at another faults *communities* as though they ought to be organismic *individuals*. One should look for a matrix of interconnections between centers, not for a single center; for creative stimulus and open-ended potential, not for a fixed telos and executive program."²¹ What is needed is an argument made on different grounds if we are to argue for the value of ecosystems beyond the instrumental level. It is necessary to move not only beyond anthropocentrism in our value attribution but take that next step and move beyond 'living entities' to that which contributes to and participates in life as our focus for value in environmental philosophy. This is what Leopold attempts to do when he states that the land ethic "enlarges the boundaries of the community to include soils, waters, plants, and animals, or

²¹ Rolston, *Environmental Ethics*, 172.

collectively: the land.”²² I contend that the best way to achieve this is through a recognition of the ‘connectedness’ of the entities within our ecosystems which can be broadened to a greater understanding of the unique characteristics which emerge as a result of the interactions of the entities contained within ecosystems.

It is not a secret that it is difficult, at times, to think holistically concerning our interactions with the natural environment. We often do not understand the complex interactions of natural entities, which form ecological wholes, and therefore, unfortunately, systemic concern is very often an ‘out of sight, out of mind’ problem. In reference to the entire Earth ecosystem, Golley speculates that the first photograph taken of our tiny planet from space “may do more to motivate humans to have a global consciousness than all the books and scientific papers written about the global environment.”²³ As in the case of Leopold and the mother wolf, it is true for most of us that our appreciation of the connectedness and holistic nature of the natural environment began with an experience which led to value attribution at the level of the individual. Personal value will remain and will remain strong among individuals, but the ideology of individual value is disastrous for our ecosystems, and this inevitably includes future individuals as well, if this is the sole source of value. Rolston claims that there “seems no reason to admire the inside and depreciate the outside; to do so is to include only half the truth about life. In result we will mislocate our sense of duty.”²⁴ How, then, can we pose a philosophical argument which can effectively attribute value at the systemic level?

The attribution of instrumental value to the system is not a difficult step. The recognition that the well-being of individual lives is contingent upon the sustainability of the ecosystem comes with a basic knowledge of ecological science. Even without a rudimentary education in

²² Leopold, 204.

²³ Golley, 29.

²⁴ Rolston, *Environmental Ethics*, 164.

ecology, we are readily aware that we depend on the entities with which we are connected within our natural environment for our continued survival. Therefore, the instrumental value of the interconnected nature of our ecosystems comes to us as a given. The difficulty arises in the attempt to equate intrinsic value with a locus of value not characterized by individual experience. The argument must therefore be made on different grounds.

If we take seriously the idea that the properties of the whole cannot be determined through a mere sum of its parts, then we have to consider the complex contributions to life, which are made by the interactions between individuals and groups of individuals. Essentially, the complex interaction of the dynamic aspects of the ecosystem contributes to life in a unique way. As such, these aspects, which are comprised within the interactions of the system, contribute to the formation of intrinsic value. While the ecosystem cannot be conceived as a ‘teleological center of life,’ to borrow Taylor’s terminology, the interconnection of all biotic and abiotic elements can be presented as the source from which each teleological center derives life. The connectedness of entities within the process is the source of all value, intrinsic and instrumental, and therefore it is justifiable to claim that ecosystems have value ‘in themselves’ and not just in relation to individual, experiencing entities.

The creativity of the Earth’s systems has led Rolston to argue for what he refers to as “systemic value” which he claims is the source of both intrinsic and instrumental values: “Systemic value is the productive process; its products are intrinsic values woven into instrumental relationships.”²⁵ He admits that “the highest value attained in the system is lofty individuality with its subjectivity, present in vertebrates, mammals, primates, and preeminently in persons.”²⁶ However, he claims that the process which is the locus of systemic value is “an

²⁵ Rolston, *Environmental Ethics*, 188.

²⁶ *Ibid.*, 191.

overriding value” due to the process being both “prior to and productive of individuality.”²⁷ In addition, he argues: “Against the standard view that all value requires a beholder, some value requires only a holder, and some value is held within the historic system that carries value to and through individuals.”²⁸ I find Rolston incredibly convincing concerning this matter. It is difficult to perceive how the source from which all natural value is derived is not a candidate for value which is distinct from the valuable individuals which are produced from the interconnected processes of natural entities. That which is the primary contributor to further value must be an object of value as well. If we accept that all value is generated from the connectedness which characterizes ecological wholes, we must agree with Rolston that, while the system has no value *for itself*, it has value *within* itself as the source from which all value flows. In his words: “The possibility of valuation is carried to us by evolutionary and ecological natural history, and such nature is already valuable before humans arrive to evaluate what is taking place.”²⁹

Still, many critics hold that this argument is not adequate to attribute natural systems any more than instrumental value. However, a closer look reveals that such critics are wrong. This criticism is based on a couple of misconceptions: 1) systems are not capable of attaining subjective value and therefore holding value for themselves 2) ecosystems’ contribution to life is merely worthy of instrumental value the same as any individual values his or her food source instrumentally. It is most definitely true that ecosystems have instrumental value, but a mistake is made in the understanding of the unique manner in which the process of connectedness present within the system contributes to life. The instrumental values of individual entities are attributed value pertaining to their contribution to other life within the natural world. Therefore, a deer

²⁷ Ibid., 191.

²⁸ Holmes Rolston, III, “Challenges in Environmental Ethics” in *Environmental Philosophy: From Animal Rights to Radical Ecology*, ed. Michael E. Zimmerman, J. Baird Callicott, George Sessions, Karen J. Warren, and John Clark, 142 (Upper Saddle River, NJ: Prentice Hall, 1998).

²⁹ Rolston, “Challenges in Environmental Ethics,” 142.

would have instrumental value for a wolf or a river would have instrumental value for those members of a particular watershed who gain sustenance from its water supply. Intrinsic value is usually attributed at the level of the valuing individual in terms of the value attributed to an individual concerning that individual's interest in continued existence. As a result, arguments for non-instrumental value based on the systems contribution to the maintenance of life in particular individuals and communities is rejected as being unworthy of a higher level of value.

However, this is not the whole story. This criticism falls short when one more closely examines what is meant by the unique contribution to life by the system. It is not that the system contributes only to sustenance or maintenance of life but that it is the wellspring of all living entities and all value which is attributed to them. Without it, not only would the value of any particular system not subsist but it would never have existed. With this in mind, we can attribute instrumental value to a river ecosystem as a source of water for the sustenance of life.

Concurrently, we must also attribute ecological or systemic value, to use Rolston's notion of a third level of value, to this river ecosystem for the unique contributions of life which emerge as a result of its interconnected components. If we fail to recognize that which is the source of all values within the natural world, we will fail to attribute value to all that is worthy of value in a credible ecological ethic.

Human Culture and Ecological Ethics

Many have expressed concern that the implications of a holistic environmental ethic will be antithetical to the value of human life achieved in human culture. Returning to Leopold again, it is often pointed out that Leopold refers to our species as only a "plain member" of the land community.³⁰ Therefore, interpreting Leopold very rigidly, some claim that, in any situation in which the preservation of the "integrity, stability, and beauty of the biotic

³⁰ Leopold, 204.

community” is, in some way, threatened, the protection of the sustainability of the ecosystem always supersedes the human right to life. Given interpretations such as these, it is not difficult to understand the antecedent causes of Regan’s criticism of Leopold’s ethic as “environmental fascism.”

In his assessment of this critique, Callicott cites a litany of such criticisms.³¹ However, instead of agreeing with the conclusions of those such as Regan, he offers a defense of Leopold. According to him, Leopold did not intend the land ethic as “substitute for” but rather as “an addition to...our venerable and familiar human ethics.”³² Therefore, he concludes “that the duties attendant upon citizenship in the biotic community (to preserve its integrity, stability, and beauty) do not cancel or replace the duties attendant on membership in the human global village (to respect human rights).”³³ Callicott concedes that the holism of the land ethic is simultaneously its “principal strength” as well as its “principal liability” because of the polarizing reactions that have resulted in the wake of its publication; however the extreme criticisms of fascism and utter disregard for individual, and particularly human, life are largely unfounded.³⁴ In fact, by referencing the entire passage in which Leopold refers to humans as mere “plain members” of the biotic community, one will see that the alternative to plain member, for Leopold, is “conqueror of the land-community.”³⁵ Therefore, given the alternative, plain member is most certainly a better option. In the case of Leopold or other advocates of a holistic approach to environmental philosophy, a holistic ethic does not necessarily imply environmental fascism. This is only the case if one accepts that support for a holistic ethic implies an

³¹ Callicott, *Beyond the Land Ethic*, 70-71.

³² *Ibid.*, 71.

³³ *Ibid.*, 71-72.

³⁴ *Ibid.*, 70.

³⁵ Leopold, 204.

unmitigated holism and therefore a complete disregard for the concern of individuals, human as well as nonhuman.

In fact, most holistic thinkers are quick to defend their position against criticisms of insensitivity to the concern for the welfare of individuals or hostility toward the value of human life, which is a product of human culture. For instance, Arne Naess, who coined the term ‘deep ecology,’ recognizes that a holistic perspective is often interpreted in a manner which leaves little room for the distinction of humans as a unique species and therefore qualifies his view of environmental holism. He writes that views such as his are “sometimes interpreted as denying that humans have ‘any extraordinary’ traits, or that, in situations involving vital interest, humans have no overriding obligations towards their own kind.” “But,” he claims, “this would be a mistake: they have!”³⁶ Echoing a similar sentiment, Callicott tempers his holism in order to make certain concessions for human culture: “Thus, when holistic environment-oriented duties are in direct conflict with individualistic human-oriented duties, the human-oriented duties take priority.”³⁷ However, he is quick to add that “when holistic environment-oriented duties are in conflict with individualistic human-oriented duties, and the holistic environmental interests at issue are significantly stronger than the individualistic human interest at issue, the former take priority.”³⁸ Therefore, the issue at stake here is how environmental philosophy can remain ecologically credible while retaining respect for the unique value of humanity, albeit not separable from the natural environment, which comes to us through human culture.

This is no easy question to answer. While human culture and ecological sustainability are not antithetical, they can most certainly be in conflict with each other. The reason for this is

³⁶ Arne Naess, “The Deep Ecological Movement: Some Philosophical Aspects” in *Environmental Philosophy: From Animal Rights to Radical Ecology*, ed. Michael E. Zimmerman, J. Baird Callicott, George Sessions, Karen J. Warren, and John Clark, 204 (Upper Saddle River, NJ: Prentice Hall, 1998).

³⁷ Callicott, *Beyond the Land Ethic*, 76.

³⁸ *Ibid.*, 76.

that ecological value is not synonymous with the theory of individual value derived from human culture even when this value is extended to nonhuman organisms. Some have attempted to merge the two by arguing for some form of species egalitarianism. However, species egalitarianism implies a moral imperative that is contrary to what we know of the process of our natural environment. Extending the value placed on human life to non human entities exhibits an anthropocentric approach since we are attributing aspects of human culture to organisms that are not compatible with these criteria.

In particular, the criteria necessary for the maintenance of human rights is often incompatible when applied to the interactions of nonhuman organisms. According to Callicott, “the multispecies *biotic* community is so different from all our human communities that we cannot assume that what is wrong for one human being to do to another, even at every level of *social* organizations, is wrong for one fellow member of the *biotic* community to do to another.”³⁹ It would be absurd for us to apply the moral imperatives of human culture concerning the death of other humans to nonhuman individuals. Despite the fact that it is often not resected, human culture has developed the understanding of the value of all human life. This understanding has led us to morally, at least, remove humans from the dynamics of our natural environment in terms of being objects of prey. In other words, we do not consider the predation of humans by other species as a preferable contribution, given our self-imposed status, to the system as a whole. This obviously does not mean that we are removed from the possibility of being preyed upon, only that we are removed from it being an acceptable option in relation to humans’ right to life within culture. For example, if we were to witness a human individual being attacked by, for example, a shark, we would hopefully attempt to do what is in our power to prevent the human death. Conversely, if the object of attack were a seal, while it may be a

³⁹ Callicott, *Beyond the Land Ethic*, 69.

painful site to witness, it would be irresponsible to aid the seal in opposition to the predatory shark. This would be an aversion to the process of life. The sustenance of life is predicated on the death of other organisms. As Callicott points out, “the integrity and stability of the biotic community depends upon death as well as life.”⁴⁰ Denying this is a denial of respect for the connectedness of our natural systems as well as ecological value.

Therefore, we must admit that human culture has, in some ways, removed us from being ‘plain members’ of our ecosystems. Rolston provides an example in which he compares the potential starvation of members of a human group and members of a population of deer. He claims that the relations “between individual and community have to be analyzed separately in the two communities” since members of the former population reside as members of the human community and are therefore conferred the rights that pertain to human culture. He concludes that it would be permissible to allow the starvation of members of the deer population if this restored the sustainability of the population so that it would not crash in the future while taking this course of action in relation to the human population “would be monstrous.”⁴¹ Referring to the human population in question, he writes: “Even if their problems are ecologically aggravated, there are cultural dimensions and duties in any solution that are not considerations in deer management.”⁴² In short, he is dealing with two sets of criteria of value with the values of human culture not easily translating to those related to the interactions of nonhuman entities. Human rights as developed through human culture are being upheld while extending rights to include a holistic valuation of ecosystems. One would not want to deny such rights in an ecological ethic.

⁴⁰ Callicott, *Beyond the Land Ethic*, 69.

⁴¹ Rolston, *Environmental Ethics*, 182.

⁴² *Ibid.*, 182.

In brief, there is no denying the uniqueness of our species among our fellow species. Some consequences of this are to be valued; others are dangerous. For example, among the members of the earth's biotic community, we have the greatest capacities for destruction of natural, as well as built, environments as well as the greatest abilities to exact positive change in order to alleviate threats to the sustainability of ecosystems. Therefore, we are left with the great responsibility of recognizing the demands attendant upon human culture while simultaneously attempting to maintain ecological sustainability, the achievement of which does not depend on the same criteria.

What then does this say about the value of individual nonhuman animals in relation to values in human culture and ecological value? Earlier, I argued that we are often led to an understanding and appreciation of systemic value through our experience with individual nonhuman entities. Therefore, we are led to a respect for these individuals and the intrinsic value represented by their existence. This individual value is not only valuable instrumentally in that it leads us to an understanding and acceptance of ecological values but is predicated on the intrinsic value of each organism. However, since we cannot apply the same criteria to nonhuman organisms which we apply to humans as a part of human culture, we cannot say that we should intervene in all situations of conflict in order to save nonhuman animal life.

The proper resolution of this issue is not always clear. Using the same criteria for humans and nonhuman animals concerning when we intervene in order to prevent an individual death would be antithetical to an appreciation for an ecological worldview. If we employed this strategy, we would be committed to police the globe preventing as much suffering as possible in reference to predator-prey relationships and, in the process, upsetting the balance of often delicately balanced food webs. We would also be inflicting suffering and eventually death on

many major predators. Therefore, such an extension of ethics from human culture to nonhuman culture would be self defeating not to mention wholly unrealistic. Nature is marked by competition and death. We would do well to recognize that life is predicated on death and accept that we cannot always apply equally the values from human culture onto nonhuman entities.

However, this can be taken too far in a holistic ethic. For instance, Rolston mentions two scenarios which I think shed some light on the criteria of decision making in these situations. In the first, he presents a situation in which a bison has fallen through the ice in Yellowstone Park and is struggling to regain firm footing in order to prevent freezing to death. Rolston cites the Yellowstone ethic of “letting nature take its course” as he relates that the decision was made not interfere and allow the bison to freeze to death.⁴³ In another situation, also in Yellowstone Park, he describes a population of bighorn sheep who had contracted pink eye. The decision was made not to treat them in order to let natural selection run its course. The sheep eventually suffered from blindness and subsequent starvation. According to Rolston, to “have interfered in the interests of the blinded sheep would have weakened the species.”⁴⁴ In both of these cases, he offers the following justification for the actions taken: “To treat wild animals with compassion learned in culture does not appreciate their wildness.”⁴⁵ In this case, I think too much of a distinction is being made between human culture and the ‘integrity’ of the natural functions of ecological systems. It is true that a direct application of all value from human culture onto the connectedness of individual organisms in the natural world would be disastrous. However, natural selection is not a teleological or deterministic system; therefore, an interference in order to alleviate nonhuman animal suffering that does not compromise ecological sustainability will

⁴³ Rolston, “Challenges in Environmental Ethics,” 127.

⁴⁴ *Ibid.*, 128.

⁴⁵ *Ibid.*, 127.

not be an infringement of human culture concerning the maintenance of ecological value and therefore should be permissible.

Of course, in both examples, other animals inevitably benefited from the misfortune of the single bison and the population of sheep. Therefore, one could argue that the methods employed were ultimately beneficial for organisms within the system and for the system as a whole. However, natural selection has no agency and would move forward in both situations without any significant alteration to the sustainability of the system. Perhaps, the species of sheep would have been weakened, as Rolston claims, with human medical care; however, in the case of the bison, those organisms which fed upon the carcass, would have the option of finding other sources of food. As a result, human intervention should not be avoided for the sake of preserving what are, in fact, chance occurrences in natural systems if these interventions will not compromise sustainability or the natural processes inherent in the dynamics of the world's ecosystems.

A dichotomy has thus been presented between honoring the achievements of human culture concerning the value of human life and the value which is attributed to nonhuman animals as well as the ecosystems of which we are all a part. In developing an ecological ethic, which is, in fact, a product of human culture, no one wants to advocate such extreme measures as the culling of human populations in order to ensure the preservation of ecological value. However, it is detrimental to ecological sustainability to create a rigid system of hierarchical value with humans as the apex of that value. For instance, ensuring that the entire human population is properly fed and satisfied before we show concern for nonhuman animals is not a priority or even a valid option for ecological ethics. We have a kinship with nonhuman natural entities within our natural world, and we are inextricably linked to our local systems, which are,

in turn, linked with other systems, all which collectively comprise the earth ecosystem. In short, we have no primordially privileged place on our planet; therefore, our attribution of higher value to humanity is not ecological but is a product of human culture. Our lack of awareness of this will be detrimental not only to us but to nonhuman individuals as well as the systems of which we all are a part.

Although distinct, human culture is inextricably linked to the connectedness inherent in our ecological planet. If we mean to maintain that value, which is the impetus for all other value, individual and holistic, human culture must move toward compatibility with ecological sustainability. Commenting on a monument erected in commemoration of the extinction of the passenger pigeon, Leopold ponders:

Above all we should, in the century since Darwin, have come to know that man, while now captain of the adventuring ship is hardly the sole object of its quest, and that his prior assumptions to this effect arose from the simple necessity of whistling in the dark. These things, I say, should have come to us. I fear they have not come to many. For one species to mourn the death of another is a new thing under the sun...Had the funeral been ours, the pigeons would hardly have mourned us. In this fact, rather than in Mr. Dupont's nylons or Mr. Vannevar Bush's bombs, lies objective evidence of our superiority over the beasts.⁴⁶

No ecological ethic can supersede the values which we have inherited through the evolutionary process. The cultural position which we have inherited through evolution has given us the ability to perceive value at different levels, levels which transcend the very culture from which we develop our systems of value. Yet, the current state of human culture can be both an impetus for compatibility with our ecological systems as well as a compromise in relation to the maintenance of sustainability. No one wants to consider the subordination of human life and culture to ecological value as a valid option for us in the development of an ethic of the natural environment. However, if we do not work toward making our culture conducive to perpetuating sustainable ecosystems, if we do not heed the call of ecological value, our ethic could very well

⁴⁶ Leopold, 110.

result in the loss of vast amounts of value for ourselves, individual members of our fellow species, and the systemic process in which lies the origination of all natural value including our own.

In brief, I am claiming that aspects of both individualism and holism are necessary in any effective philosophy of the environment. Therefore, this is, to reiterate, not an argument concerning whether individualism or holism is a more viable option. It is my opinion that this debate is misguided. Holism is a necessary aspect of an ecologically credible ethic. As a result, if one wants to accurately address ecological systems from a philosophical perspective, holism must be accepted as that characteristic upon which any environmental ethic must be predicated. The question then is how individual and holistic value can be viewed as compatible and not as being mutually exclusive. I do not think that this can be achieved merely by accepting terms of blatantly individual value systems into a holistic ethic. Many of these 'environmental ethics' envision these two types of value as mutually exclusive, and therefore, any attempt at merely creating an amalgam of existing individual value systems with an understanding of holistic value would likely render the resultant philosophy schizophrenic. What is needed is a philosophical outlook, which can support an approach to the natural environment predicated on the interconnectedness inherent in ecological wholes while maintaining criteria of judgment concerning how the specific value attributed to individuals (human and nonhuman) by Western culture can also be respected without being in competition with the holistic value upon which all individuals depend for existence and survival.

In this chapter, I have attempted to argue for the necessity of holistic value in environmental ethics, while citing examples of the manner in which individual value can be respected in such systems of thought. In the Introduction, I mentioned process philosophy as an

example of a philosophical system, which can potentially live up to the criteria stated above. Therefore, it is now necessary to ask whether process philosophy provides a framework of thought which can adequately address this issue. This is a question to which I will turn in the next chapter.

CHAPTER TWO

Process Philosophy: A Middle Way?

The *process philosophy* of Alfred North Whitehead...offers a rationale for respecting all human and nonhuman creatures, along with a principle for assigning priorities...The portrayal of interdependence is similar to that in ecosystem ethics, but the center of value lies in individuals, not in the whole.¹

Ian Barbour (*Ethics in an Age of Technology*)

The Whiteheadian God...is a deep ecologist, but one whose deep ecology includes animal and human liberation.²

David Ray Griffin ("Whitehead's Deeply Ecological Worldview")

The purpose of God is the attainment of value in the temporal world.³

Alfred North Whitehead (*Religion in the Making*)

Attempting to argue for an ecological ethic based on Whitehead's process philosophy proves more difficult than it would appear on the surface. After all, one would think that a philosophical system labeled 'philosophy of organism' would be conducive to contributing to such and ethic and when possible contributions from the Western philosophical tradition to an effective ethic of this kind are considered, Whitehead's philosophical framework is often at or near the top of the list. In fact, one of the first book length contributions to the fledgling field of what would become known as environmental ethics came from John Cobb, Jr.⁴, one of if not the foremost proponents of the applicability of process categories in relation to our modern ecological crises. Subsequently, philosophers such as Cobb and Ian Barbour, the work of both of whom will be discussed in detail further in this chapter, have relied heavily on process categories when arguing for a more compatible relationship between Western society and our natural environment. One needs only to check the bibliographies of the literature from this relatively new philosophical discipline to see evidence of the influence of Whitehead's thought in this area.

¹ Ian Barbour, *Ethics in an Age of Technology: The Gifford Lectures Volume 2* (New York: HarperCollins Publishers, 1993), 70.

² David Ray Griffin, "Whitehead's Deeply Ecological Worldview" in *Worldviews and Ecology*, ed. Mary Evelyn Tucker and John A. Grim, 204 (Lewisburg, Pennsylvania: Bucknell University Press, 1993).

³ Alfred North Whitehead, *Religion in the Making: Lowell Lectures, 1926* (New York: The MacMillan Company, 1957), 100.

⁴ Cobb's *Is It Too Late? A Theology of Ecology* was first published in 1972.

However, when one traces the wake of this influence from those who have explicitly dealt with environmental issues with the aid of process categories back to the source, it seems that the waters become a bit muddied. First, while Whitehead was most certainly well educated in the biological science of his time, he was first and foremost not an ecologist but a mathematician and a physicist. It should be noted that it is unfair to use this as a criticism since what we know as the discipline of modern ecology would not begin in earnest until more than five years after Whitehead's death and long after he had completed much of his work in philosophy.⁵ With this in mind, it should not be surprising that in Whiteheads' writing, there are a relative dearth of terms such as 'ecosystem' which are readily associated with current literature in environmental studies.

Further, in the writings of Whitehead, we do not find a systematic explication of ethics, environmental or otherwise. Victor Lowe, one of the greatest interpreters of Whitehead, states this fact very clearly: "Unlike most systematic philosophers, he never wrote an essay or a chapter on ethical theory; in fact he disliked the subject."⁶ This is not meant to imply that his work was devoid of any ethical consideration, only that the development of a comprehensive ethical system was not his primary goal. Lowe goes on to assert:

He was more concerned with tragedy, the disclosure of ideals, and the union of these two. One implication of his work is that instead of separating ethics and aesthetics we should bring them together in such notions as "harmony," "feeling," "adventure," and, of course, "value."⁷

Therefore, Whitehead's philosophy does not present us with a system of ecological ethics, which we can simply apply directly to the issue at hand; instead, the primary source of process thought is a complex metaphysical system built primarily around the concept of value. Obviously, this

⁵ While the term 'ecosystem' was coined by Sir Arthur Tansley as early as 1935, *Fundamentals of Ecology*, the foundational text for modern ecological science written by brothers Eugene P. and Howard T. Odum, was not published until 1953 more than five years after Whitehead's death.

⁶ Victor Lowe, *Understanding Whitehead* (Baltimore: Johns Hopkins Press, 1968), 111.

⁷ Lowe, 111.

concept will be very helpful in assessing the credibility of a process system of ecological ethics. Whitehead's contribution to the 'environmental movement' as it began to take shape in the 60's and 70's is obviously in retrospect. As a result, it will suffice to say that a Whiteheadian ecological ethic can only be said to be implicit.

In addition, a not so insignificant fact in relation to Whitehead's system is that it is, to say the least, incredibly complex. George Thomas, who finds much value in his work, admits that many find Whitehead's metaphysics "so difficult as to border on the unintelligible or so speculative as to appear fanciful."⁸ Referring to Whitehead's most influential text, *Process and Reality*, Bowman Clarke, also a proponent of Whitehead, comments that it is "without question one of the most difficult books to read in the history of philosophy."⁹ This is not helpful. Perhaps more than any other branch of philosophy, there is a need for environmental ethics to provide clarity concerning the manner in which we, as human animals, should live as members of our planet. Therefore, there is a need to, in some sense, universalize Whitehead's very esoteric language if the process system is to be used with any effectiveness in environmental studies.¹⁰

However, given what has previously been asserted here, my intention is obviously not to dismiss Whitehead's work as a potential contribution to the field; instead I am simply stating some of its limitations at the outset. As will be shown, much of Whitehead's work can be classified as 'ecological' despite the fact that his work predated the modern ecological era. Still, an unqualified reliance on Whiteheadian metaphysics, or any metaphysical system for that

⁸ George F. Thomas, *Religious Philosophies of the West* (New York: Charles Scribner's Sons, 1965), 352.

⁹ Bowman Clarke, "Alfred North Whitehead," in *Great Thinkers of the Western World*, ed. Ian P. McGreal, 443 (New York: HarperCollins Publishers, 1992).

¹⁰ As I will discuss here, several post-Whiteheadian process thinkers such as Ian Barbour, John Cobb, Jr., and David Griffin have attempted to accomplish this by applying Whiteheadian categories to contemporary conversations in environmental studies.

matter, for the establishment of an ethic of the natural environment is misguided. Whitehead himself stated this very aptly: “Metaphysical categories are not dogmatic statements of the obvious; they are tentative formulations of the ultimate generalities.”¹¹ Therefore, we must, in some sense, ‘stand still, tentatively’ in our conception of an ecological ethic. This will allow us to act with confidence in order to exact effective change while accepting that our views, and subsequently, our actions may have to change with new evidence from ecological science.

Consequently, accepting that Whiteheadian metaphysics alone is not adequate for discernment in establishing criteria for an ecological ethic, I will include both an assessment of Whitehead as primary source and of those who have subsequently interpreted his framework in order to apply process categories to environmental ethics. In addition to Whitehead, I have relied most heavily on the contributions of John Cobb, Jr. and Ian Barbour as representative examples of the latter. Those familiar with process studies may be disappointed with my limited treatment of the many process thinkers, who have contributed to this area of inquiry. However the purpose of this chapter, as its title implies, is to examine the credibility of process philosophy as a mediating position between an individualistic ethic and a holistic approach, which places the locus of value with biotic systems over the interests and values of individuals which comprise the community. In other words, can process thought support individual value attribution within an ethic that is necessarily ecocentric in approach? Therefore, my intention is not to provide an exhaustive explanation of process philosophy in relation to every aspect of environmental philosophy; instead, I intend to place this philosophical tradition in conversation with contemporary environmental ethics concerning the attribution of value and how this is to be accomplished while simultaneously taking into account both holistic and individual concerns . I

¹¹ Alfred North Whitehead, *Process and Reality: Corrected Edition* (New York: The Free Press, 1978), 8.

have a particular problem in mind; therefore, I will examine the meritorious and problematic aspects of process philosophy, which are applicable to this discussion.

Process and Value

Despite Whitehead's esoteric and often difficult language and the aforementioned fact that his contribution to philosophy preceded the birth of modern ecology, he exhibits very clear examples of attributing value in an ecological sense. In *Science and the Modern World*, he writes that "the assumption of the bare valuelessness of mere matter led to a lack of reverence in the treatment of natural or artistic beauty."¹² This, in turn, has led to two evils, which are, for him: "one, the ignorance of the true relation of each organism to its environment; and the other, the habit of ignoring the intrinsic worth of the environment which must be allowed its weight in any consideration of final ends."¹³ In reference to these quotations, Eugene Hargrove confirms indisputable evidence of an "environmentalist aim" in Whitehead.¹⁴ I agree. We see in these lines the very clear attribution of value for the interconnectedness of individual entities as well as the holistic communities of which they are a part. However, to properly understand Whitehead's system of value, it is necessary to begin with a discussion of his concept of 'actual entities.'

Actual entities of experience are the center of value in the process framework. They are, for Whitehead, "the final real things of which the world is made up...The final facts are, all alike, actual entities; and these actual entities are drops of experience, complex and interdependent."¹⁵ Yet, all actual entities are not equal. Indeed, they "differ among themselves" and therefore there are "gradations of importance" among actual entities ranging from God to

¹² Alfred North Whitehead, *Science and the Modern World: Lowell Lectures, 1925* (New York: The Free Press, 1967), 196.

¹³ Whitehead, *Science and the Modern World*, 196.

¹⁴ Eugene C. Hargrove, *Foundations of Environmental Ethics* (Englewood Cliffs, NJ: Prentice Hall, Inc., 1989), 103.

¹⁵ Whitehead, *Process and Reality*, 18.

“the most trivial puff of existence in far-off empty space.”¹⁶ As a consequence, there is a hierarchy of value within the Whiteheadian system based on levels of experience. Ultimately, these expressions of value are experienced, according to Whitehead, in the consequent nature of God¹⁷, the greater the level of experience, the greater value which is attributed to any actual entity or what Whitehead refers to as ‘societies’ of occasions since, “God’s purpose in the creative advance is the evocation of intensities.”¹⁸

In order to provide clarification, a society is comprised of a set of actual entities which adhere to a specific criteria. In Whitehead’s words, “a set of entities is a society (i) in virtue of a ‘defining characteristic’ shared by its members, and (ii) in virtue of the presence of the defining characteristic being due to the environment provided by the society itself.”¹⁹ A society can be classified as an individual animal body or, writ large, as the entire “natural universe”.²⁰ I will deal with the larger, more loosely connected society later; at this point, I am concerned with the society as experiencing subject and the manner in which higher experience equates to higher value for Whitehead.

This is described through the explanation of what Whitehead refers to as the ‘two poles’ of actual entities. In the actualization of any actual entity, “there is a twofold aspect of the creative urge. In one aspect there is the origination of simple causal feelings; and in the other aspect there is the origination of conceptual feelings.”²¹ Whitehead refers to the former as the ‘physical’ pole and to the latter as the ‘mental’ pole. According to him, “no actual entity is

¹⁶ Ibid., 18.

¹⁷ For a more complete discussion of the dipolar aspects of Whitehead’s conception of God, see pp. 56-57 of this chapter.

¹⁸ Ibid., 105.

¹⁹ Whitehead, *Process and Reality*, 89.

²⁰ Alfred North Whitehead, *Adventures of Ideas* (New York: The Free Press, 1967), 206.

²¹ Whitehead, *Process and Reality*, 239.

devoid of either pole; though their relative importance differs in different actual entities.”²² As a result, those with higher ‘mental’ poles have higher levels of experience and are therefore attributed with greater value. Whitehead describes it as follows:

The living body is a coordination of high-grade actual occasions; but in a living body of a low type the occasions are much nearer to a democracy. In a living body of a high type there are grades of occasions so coordinated by their paths of inheritance through the body, that a peculiar richness of inheritance is enjoyed by various occasions in some parts of the body.²³

He is very clear that, in the case of non-human animals, “the mental poles in the occasions of the dominant personal society do not rise to the height of human mentality.”²⁴ In summary, all actual entities have intrinsic value, yet these entities are valued according to level of intensity or experience. Therefore, a hierarchy of value is established in the natural environment in which humans are attributed a higher level of value because of the level of experience, which we have arrived at through the evolutionary process. This hierarchy of value has subsequently been interpreted in relation to environmental ethics by some post-Whiteheadian process thinkers, who are concerned with the implications of process thought for environmental philosophy.

Ian Barbour, for instance, uses the aid of process categories in arguing for an ethical framework, which values ecological communities while simultaneously placing the center of value with the individual. Like Whitehead, he adheres to a system based on levels or intensity of experience in which humans ultimately attain the highest value status. All individuals have both intrinsic value in relation to their experience as well as instrumental value in relation to their connection to other parts of their environment; however, “[m]ore complex beings are capable of both greater intrinsic good and a greater contribution to the experience of other beings.”²⁵

Therefore, value is attributed at a holistic level since “ecological integrity is a precondition of life

²² Ibid., 239.

²³ Whitehead, *Process and Reality*, 108-109.

²⁴ Whitehead, *Adventures of Ideas*, 206.

²⁵ Barbour, *Ethics in an Age of Technology*, 71.

and therefore of other values” but the hierarchy of value is understood such that there are criteria for discernment in situations of conflict. He therefore avoids what he refers to as a ‘biocentric’ ethic because he believes that such an ethic “provides no grounds for decisions when the interests of diverse members of the biotic community conflict.”²⁶ Thus, Barbour holds that process philosophy can support a mediating position between an individualistic ethic which denies value at the holistic level and a holistic ethic which overshadows the value of individuals while maintaining a higher value status for humankind: “The process view thus leads to respect for all forms of life, commitment to the distinctive values of human life, and a general framework for judging their relative importance when they conflict.”²⁷ I will return later to a discussion of the justification for such an ethic.

In *The Liberation of Life*, Charles Birch and John Cobb, Jr. argue for a position similar to that of Barbour’s. Like Barbour, they argue for the intrinsic and instrumental value of all individuals with value equated on a graduated scale according to intensity of experience. The intrinsic value of entities with low levels of experience “is so slight that for practical, and therefore ethical, purposes, it can safely be ignored” while humans receive the highest levels of intrinsic worth among the living things of our planet.²⁸ This continuum of value spans all levels of experiencing subjects and dictates how we should react toward entities at various levels of intensity of experience: “In proportion to their capacity for rich experience we should respect them and give consideration to making this experience possible. In short, they make a claim upon us, we have duties toward them.”²⁹

²⁶ Barbour, *Ethics in an Age of Technology*, 63.

²⁷ *Ibid.*, 72.

²⁸ Charles Birch and John Cobb, Jr., *The Liberation of Life: From the Cell to the Community* (Denton, TX: Environmental Ethics Books, 1990), 152.

²⁹ *Ibid.*, 153.

I agree with these process thinkers in the sense that some criteria of discernment is necessary. Absolute species egalitarianism is an impossibility. In our lived experience, it is simply not feasible to exhibit equal concern for all forms of life. If we could, it would be difficult to explain what would be an acceptable food source; in fact, even scratching an itch or taking medication for an infection would eliminate forms of life that are inaccessible to the naked eye. Some criteria of judgment concerning hierarchy of value necessarily enter into the equation whether we acknowledge it or not. Our continued existence is inextricably dependent on the loss of life of members of other species. This will not change. Also, I believe that it is inevitable, and in some sense justified, that human life will be attributed higher intrinsic value in most situations. For example, my wife and I were recently travelling in North Georgia and passed a Canadian goose, who had a severely broken leg. He was very near to a lake where an entire flock of geese currently resided, and after returning and examining the leg, it appeared that the wound was not fresh and had healed in a manner, which left the goose in a state where walking was awkward and seemingly laborious. We had a few options before us. We could 1) get back in our car and leave the goose to his or her own devices and hope for the best concerning his or her continued survival with some sense of quality of life 2) attempt to transport the goose back to the flock of geese in the nearby lake or 3) contact some form of animal control to offer some assistance in the situation. The first option was not much of an acceptable option. Option number two seemed on the surface to be the most appealing; however, in species of colonial animals such as geese, a member of the community with any type of abnormality is often ostracized if not killed by the other members of the group. Thus, we did not want to risk returning the goose to the flock only to have him suffer a very ignominious and painful death perpetrated by the members of his or her own species. Therefore, after a series of phone calls,

we managed to get in touch with a Department of Natural Resources agent, who was willing to come pick up the goose late on a Friday afternoon. We waited with the goose until the agent arrived to catch the injured animal. We both knew that, given the implications of the bird's injury for his or her continued survival in the wild, that the agent most likely put the animal down later that afternoon. However, given the other options, neither of us regretted our decision. Our actions and options would have been decidedly different if the victim on the side of the road had been human. Likewise, imagine if one came across a predator attacking a human child. We would attempt to intervene in order to prevent the death. On the contrary, if the victim were a deer or a rabbit we would not react in the same manner accepting that the predator had a right to survival as well and this is the manner through which he or she is sustained. In short, some form of 'speciesism', to use Singer's term, is a part of life at least if we hope to live based on an ecological worldview.

However, absolute criteria for discernment in situations of ecological 'conflict' are not only unrealistic but irresponsible. I do not believe that it is feasible to rigidly systematize a general system of value based on level or intensity of experience. Concurrently, the preservation of human life as an end to all means is not an ecological goal. Birch and Cobb seem to recognize this in passages such as the following: "No one can provide mathematical formulae for determining the relative worth of different entities. Ethical living is an art and not a science."³⁰ Additionally, they admit that "when the conflict is not subject to resolution in favour of both parties[,] "the ethical requirement is a compromise of human interests for the sake of the interests of other species."³¹ Elsewhere, Cobb asserts that the "absolutization of human life at the total expense of nonhuman life seems to lead to a mode of being in which human existence

³⁰ Birch and Cobb, 152.

³¹ Ibid., 174.

itself would be nonhuman in quality.”³² Furthermore, they attempt to implement holistic value by “emphasizing the internal relatedness of living things to their environment” while avoiding an unmitigated holism, which would subordinate individual to holistic value.³³ Therefore, we have, in these post-Whiteheadian process thinkers, individuals who have placed value on natural entities at both the holistic and individual levels. All forms of life are valued as well as the processes which lead to the creation and sustenance of new life. This seems to be a mediating position between the polarizing extremes of strictly individual value and rigidly interpreted ecocentric value. However, if interpreted strictly, there are inherent problems in this experiential system of value.

Despite the advocacy against granting humanity the unqualified rights to fulfill perceived ‘needs’ without regard for our land, air, and water systems and the life which is found within them, Birch and Cobb seem to place too much confidence in the credibility of their value system in relation to nonhuman natural entities. This becomes apparent in statements such as: “We can confidently affirm that the intrinsic value of a porpoise is greater than that of a member of these other species. Accordingly, porpoises make claims upon us beyond those made by tuna and sharks.”³⁴ This type of wording has the potential to lead toward a slippery slope. As we implicitly place higher value on human over non-human life, we may do the same for highly intelligent animals such as porpoises over members of other species. However, to systematize this into criteria for judgment in any conceivable situation of conflict is not ecological in character. The sustainability of our world’s natural systems does not depend on the capacity of their members’ intensity of experience for sustainability. A species or even a ‘non-living’ natural entity such as a river may be more integral to the maintenance of a system than those

³² John B. Cobb, Jr., *Is It Too Late? A Theology of Ecology* (Denton, TX: Environmental Ethics Books, 1995), 24.

³³ Birch and Cobb, 94.

³⁴ *Ibid.*, 155.

members with higher cognitive capacity. Therefore the pragmatic application of such criteria into an ecological ethic will be antithetical to the perpetuation of ecological credibility.

Clare Palmer, in her extensive critique of process thought in relation to environmental ethics, recognizes the process concern for the consequences of increased human population growth, but claims that the implications of a process position are more closely aligned with a version of utilitarianism, in this case the goal being the maximization of human experience for the greatest generation of value: “It would seem to follow from this that unless the human population had reached a point of collapse, an increase in human population might, in every instance, be said to outweigh the value generated by wild ecosystems.”³⁵ I think that Palmer has overstated the problem here. William J. Garland, in his review of Palmer’s text, while accepting that there are consequentialist goals in the process system, claims that the implications of a Whiteheadian ethic are much more holistic in nature. As a result, he holds that “process views occupy a middle ground between...individualism...and the unmitigated holism of deep ecology.”³⁶ However, while I disagree with many of Palmer’s conclusions, her criticisms are not completely unfounded.

To clarify, to my knowledge, neither in Whitehead nor in the thought of the post-Whiteheadian thinkers mentioned here can one find support for Palmer’s aforementioned comments. While placing more intrinsic value on human individuals, there is no evidence that they would systematize an ethic based solely on value maximization the implications of which would necessarily lead to the detrimental treatment of nonhuman individuals and natural systems. Nevertheless, the perceived confidence from process thinkers such as Cobb and Barbour concerning such a systematization of an ecological ethic of experiential value leaves

³⁵ Clare Palmer, *Environmental Ethics and Process Thinking* (Oxford: Clarendon Press, 1998), 160-161.

³⁶ William J. Garland, “Palmer, Clare. *Environmental Ethics and Process Thinking*” (Book Review). *Ethics*, Vol. 110, No. 4 (July, 2000): 861.

process thought open to this critique. Take, for instance, the above quote from Birch and Cobb concerning porpoises and shark and tuna. The process framework does not support the application of an ethic that would protect porpoise life at all costs at the expense of the relative disregard for the life of other marine species, and evidence has been provided here that would support this assumption. However, claims, which support clear criteria for discernment based on levels of experience, need to be clarified or they will remain vulnerable to criticisms such as Palmer's.

It seems to me that it is counterproductive for an environmental ethicist to systematize an aspect of an ethic, which is already implicit in our daily experience, and if interpreted rigidly, antithetical to an ecological worldview. Human priority in situations of conflict cannot be absolutely systematized if ecological credibility is to be achieved and sustainability maintained. The same can be said for other entities of experience, which comprise a hierarchy of value. Based on our experience, it is inevitable that we will attribute different levels of value to different entities. However, a rigid interpretation of such prioritization will be disaster for an ecological ethic, which has as one of its criteria the sustainability of natural systems. For the most part, I believe that this criticism can be easily averted by process thinkers. If one means to argue for what is conceived as a mediating position between the extremes of individualism and bio- or ecocentrism, some criteria of discernment is necessary. In Barbour's words, while "ecological integrity is a precondition of life...it cannot serve as a definition of all value."³⁷ Therefore, process thinkers have attempted to set up criteria of judgment based on levels of experience. Some will still claim that this implies anthropocentrism since human beings are attributed the highest levels of value based on our level of capacity for experience. However, Barbour's commitment to the interdependence of all forms of life excludes him from this

³⁷ Barbour, *Ethics in an Age of Technology*, 63.

criticism. Instead of being anthropocentric, he is simply providing criteria by which to judge potential situations of conflict. As long as these criteria are not interpreted in a manner that endorses the absolute maximization of human endeavor and, consequently, the subordination of all nonhuman entities, a position can be arrived at which will maintain ecological sustainability. While we implicitly attribute higher value to human life, this value attribution need not imply an anthropocentric impetus for human goals to supersede the recognition and protection of non-human natural value. According to Barbour, process thought simultaneously leads us “to work for the welfare of all forms of life” while suggesting “priorities when the needs of human and nonhuman life conflict.”³⁸ This does not imply support for the perpetuation of maximizing human population numbers in order to achieve higher levels of human value at the expense of non-human and all other natural value.

However, the process value system in relation to environmental ethics is not so easily justified. One must also take into account the role of God in the systems of Whitehead as well as many subsequent process thinkers. As a result, before proceeding further, it is necessary now to turn to a discussion of ‘God,’ the source of this hierarchical application of value within Whitehead’s philosophical framework.

Divine Experience and Hierarchy of Value

It should be noted that some philosophers influenced by Whitehead have sought to develop a Whiteheadian system without God.³⁹ I am not concerned here with the details of these arguments. Whitehead explicitly involved a discussion of God in developing his philosophy and

³⁸ Barbour, *Nature, Human Nature, and God*, 131.

³⁹ Notable affiliates with what has been referred to as the “Whitehead-without-God” school include Frederick Ferre and Donald Sherburne. For more information, see William L. Power’s “Ferre without God: A Shift to a Neo-Whiteheadian Humanistic Naturalism” and Donald Wayne Viney’s “A Lamp to Our Doubts: Ferre, Hartshorne, and Theistic Arguments” in *Nature, Truth, and Value: Explaining the Thinking of Frederick Ferre* edited by George Allan and Merle Frederick Allshouse.

a significant number of those who have subsequently been influenced by this philosophical framework, especially in relation to environmental ethics, have been concerned not only by Whitehead's system of interconnected entities but also by his conception of God in relation to this system. Therefore, I am concerned here with how this conception of God affects the process value system in relation to environmental philosophy and, subsequently, how the post-Whiteheadian process thinkers with which I am dealing here have applied the idea of God to contemporary environmental ethics.

As alluded to earlier, the locus of value in the Whiteheadian system resides in God. In addition, it is God's teleological 'aim' which persuades entities toward the maximization of value in the world. In Whitehead's words: "The purpose of God is the attainment of value in the temporal world."⁴⁰ It is therefore necessary to understand the Whiteheadian conception of God, how it relates to the value system described above, and, subsequently, the implications of this relationship for an ecological ethic. First, the God of process thought differs drastically from the God of classical theism in that the former is characterized by metaphysical limitations, which preclude God from unilaterally intervening into the processes of the natural world. God does not act upon the world as a separable entity but, although remaining distinct, is inseparably related to the natural world acting with the world's entities of experience and not upon them from the outside. While God is present in the actualization of each event, God is never the sole cause of any one actualization. Therefore, as Barbour states, "Process metaphysics understands every new event to be jointly the product of the entity's past, its own action, and the action of God."⁴¹

⁴⁰ Whitehead, *Religion in the Making*, 100.

⁴¹ Ian G. Barbour, *Religion and Science: Historical and Contemporary Issues* (New York: HarperCollins Publishers, 1997), 104.

For Whitehead, God is the source of all order and novelty, “aiming at intensification.”⁴² This intensification of experience is brought forth by the persuasive powers of God through the divine ‘initial aim’: “Thus an originality in the temporal world is conditioned, though not determined, by an initial subjective aim supplied by the ground of all order and of all originality.”⁴³ In addition, these ‘aims’ for each entity are “relevant to its actual world, yet with indeterminations awaiting its own decisions.”⁴⁴ As I mentioned previously, the God of Whitehead aims for the “evocation of intensities,” and concurrently, the higher the level of intensity, the higher the attribution of value. Therefore, a logical conclusion which can be drawn from this is that God aims for the highest manifestations of intensities of experience and consequently values most those entities which achieve the highest levels of experience.

Subsequently, when this notion is applied to the value hierarchy presented above, it does not require much of an imaginative leap to posit that human individuals are attributed a higher value not only among members of our own species but also by God. This is exactly the position taken by the post-Whiteheadian process philosophers of the environment with whom I am concerned here. For example, with this hierarchical framework as a background, Barbour is able to state that a “human being is more valuable than a mosquito to itself, to other beings, and to God.”⁴⁵ Referring to ‘Life’, understood here as an alternative title for God, Birch and Cobb offer a similar sentiment:

Life aims at the realization of value, that is rich experience or aliveness. In some measure it realizes value in every living thing. But it aims beyond the realization of trivial value for the realization of richer experience. To this end it produces creatures in profligate abundance so that through the processes of selection some will emerge with greater intelligence and capacity for feeling.⁴⁶

⁴² Whitehead, *Process and Reality*, 67.

⁴³ *Ibid.*, 108.

⁴⁴ *Ibid.*, 224.

⁴⁵ Ian G. Barbour, *Nature, Human Nature, and God* (Minneapolis: Fortress Press, 2002), 131.

⁴⁶ Birch and Cobb, 197

Birch and Cobb qualify this statement by affirming that “Life does not aim specifically at the creation of human beings. It has no goal for the course of evolution on our planet.”⁴⁷ Later, they write: “Life favours all living things, and precisely for that reason does not take sides in our inevitably competitive existence.”⁴⁸ Still, this attribution of hierarchical value to God is very problematic for process thought in relation to environmental ethics.

The problem arises with the assessment of value, which seems to be inherent in the process system. God acts for the fulfillment of value on earth in a system which values ecological wholes but places the highest value on those individual animals with the greatest intensity of experience. Viewing process thought in this way, the process framework is left open to such criticisms levied by Palmer when she claims that process thought resembles a form of what she calls “individualistic consequentialism”⁴⁹ which attributes the nexus of value to sentient animals with the highest levels of experience.⁵⁰

A similar criticism is cited against post-Whiteheadian process theists by George Sessions in an appendix to *Deep Ecology*, a text co-authored by Bill Devall:

But many of these theorists, who also happen to be Christian theists, when applying Whiteheadian process metaphysics to the problems of environmental ethics, argue that, in their estimation, humans have the greatest degree and highest quality of sentience...hence humans have the highest value and the most rights in Nature.⁵¹

Sessions’ criticism here is not wholly unjustified. For instance, given the nature of the process God in that God is not understood to unilaterally intervene into the natural world but works with members of that world, Barbour asserts that “we would expect the divine influence to be more effective at *higher levels* where creativity and purposeful goals are more prominent.”⁵² This

⁴⁷ Ibid., 197.

⁴⁸ Ibid., 198.

⁴⁹ See Palmer, Chapter 2.

⁵⁰ Palmer, 49.

⁵¹ Bill Devall and George Sessions, *Deep Ecology* (Salt Lake City: Peregrine Smith Books, 1985), 236.

⁵² Barbour, *Religion and Science*, 197.

leads him to the conclusion that it “is in *human life*...that the greatest opportunities for God’s influence exist. In religious experience and historical revelation, rather than in nature apart from humanity, the divine initiative is most clearly manifest.”⁵³ It is clear that Barbour is implementing Whitehead’s concept, described above, of the twofold aspect of creative urge present in each actual entity. Those entities, which exhibit higher conceptual feelings at the mental pole, consequently have a greater intensity of experience resulting from a “presiding personality.”⁵⁴ This personal order allows the individual to respond more freely to God’s initial aim and therefore maximize intensity of experience through response to God’s creative aim. In turn, this heightened experience endows the experiencing subject with greater intrinsic value for God. While I will argue below that it may be possible to interpret Whitehead in a manner that does not lead to the conclusions drawn here by Barbour, this interpretation does not seem helpful for the establishment of an effective environmental ethic.

In an attempt to explain the undeniable waste that is characterized by nature at all levels, Birch and Cobb offer the suggestion that ‘Life’ (understood here as another, perhaps more applicable option to the traditional title of God) “produces creatures in profligate abundance so that through the processes of selection some will emerge with greater intelligence and capacity for feeling. Life has achieved rich value in dolphins as well as in human beings. We cannot guess the forms it may have achieved on other worlds.”⁵⁵ As I argued earlier, process thinkers can avoid claims of perpetuating an individualistic ethic by not rigidly systematizing their value hierarchy in relation to the attribution of value and priority in situations of conflict. However, by bringing God and therefore teleology into the equation, the conflict within the process value system between the value of the intensity of experience of ‘higher’ individuals and the value of

⁵³ Ibid., 327.

⁵⁴ Whitehead, *Process and Reality*, 108.

⁵⁵ Birch and Cobb, 197.

ecological communities becomes more acute and more difficult to adapt to a credible ecological ethic.

Placing God as the source of a value hierarchy with humanity at its zenith can be highly problematic in relation to maintaining ecological credibility. As stated previously, in our lived experience, we inherently equate higher intrinsic value to members of our own species in the majority of instances, but this allotment of higher levels of value is ours and cannot be equated with God, if God exists, if we are to be true to our understanding of the natural world. Nothing in our reason and experience leads us to believe that God ‘favors’ us over the members of any other animal species or ecological communities on our planet. Therefore, any hierarchy of value which includes us as well as the other entities of the natural world rests within our own species and not within any perceived persuasive aims of God. Any expression of God’s greater value for humanity is vulnerable to criticisms such as Dewey’s and Feuerbach’s—that our conception of God is simply humankind’s projection of our highest ideals onto the divine.

The crux of the problem lies with the inclusion, by the process framework, of divine teleology into an ethic for the natural environment. It should be noted that this teleology is not hindered with eschatological expectations of Omega points in history as early theistic conceptions of the scope of history and the natural world have been. Instead, as Birch and Cobb point out, God’s “teleology is simply the creation of values moment by moment.”⁵⁶ Still, references, for example, to God having “brought forth living forms upon this planet”⁵⁷ and God “selecting particular possibilities for particular entities”⁵⁸ belie the notion of ‘active’ divine teleology, which does not perfectly cohere with our understanding of natural science. The notion that God ‘acts’ in order to ‘provide’ each actual entity with an initial aim, which is applicable to

⁵⁶ Birch and Cobb, 189.

⁵⁷ Ibid., 189.

⁵⁸ Barbour, *Religion and Science*, 287.

its environment and conducive to the actualization of this value generating aim within that environment, does not cohere with what we have learned from ecological science.

The words of Golley seem to me particularly applicable at this point: “Nature has no purpose, as we humans define purpose, and we soon learn that it does not care about us one way or another.”⁵⁹ There is some form of order and novelty but no clear teleology, which emerges from our experience of the natural world. Therefore, I think that it is problematic to speak of God as ‘providing’ the initial aim for each particular entity as if God ‘presents’ each entity with the most applicable aim. If this were the case, it would be difficult to reconcile an understanding of a purposeful God with the waste and inevitable extinction, which is prevalent in ecological communities. Birch and Cobb attempt to explain this fact by stating that “Life accepted the price of enormous waste,” and they therefore accept death as inextricably linked with the continuation of life on our planet.⁶⁰ Still, the understanding of God persuading entities by providing aims tailored to particular needs in order to achieve higher levels of experience lacks compatibility with ecological science. I believe that an ethic, which supports theism, is still a viable option; however, for an ethic to be effective ecologically, a proper theistic ethic will not deviate from a nontheistic ethic concerning our understanding of the natural world. Process thinkers do not always live up to this criterion.

Whitehead is obviously complicit in developing the train of thought which led to the failure of the process system in this regard. In fact, the expression ‘initial aim’ in relation to divine action is a part of the language he incorporated into his metaphysical system. And, his notion that these aims are relevant to the actual world of each entity is open to the interpretations of Whitehead given by those process thinkers previously mentioned. However, I think that

⁵⁹ Frank B. Golley, *A Primer for Environmental Literacy* (New Haven: Yale University Press, 1998), x.

⁶⁰ Birch and Cobb, 193.

Whitehead's conception of God, while still problematic due to its inherent teleological structure, can be interpreted in a manner that is more conducive to maintaining ecological credibility. I am not implying that post-Whiteheadian process thinkers such as Barbour and Cobb have misunderstood Whitehead; however, I think that they have departed from Whitehead in some significant ways. Barbour readily admits that he differs from Whitehead in terms of his conception of God when he writes that he defends a "stronger assertion of God's power" than does Whitehead.⁶¹ I contend that this departure places emphasis on aspects of Whitehead's thought which are antithetical to the type of ethic for the environment for which I am arguing here.

Whitehead's conceives of God as 'dipolar,' consisting of both a primordial and a consequent nature. These two natures are distinct but inseparably related concerning God's experience of value and God's inextricable connection with the temporal world. First, God's primordial nature is that 'ground of all order and of all originality' mentioned previously. In the primordial nature, God's "feelings are only conceptual and so lack the fulness of actuality."⁶² God is, in this sense, that immutable source from which each entity in the actual world derives its purpose and completes its actualization.

In this capacity, God "is the lure for feeling, the eternal urge of desire." Understood in this way, God's 'action' is not so much of a conscious action but a primordial metaphysical necessity, which is the source of "particular relevance to each creative act, as it arises from its own conditioned standpoint in the world."⁶³ In fact, the primordial nature of God is characterized by a lack of consciousness, due to its conceptual character, until its initial aim is

⁶¹ Barbour, *Nature, Human Nature, and God*, 6-7.

⁶² Whitehead, *Process and Reality*, 343.

⁶³ *Ibid.*, 344.

actualized by entities in the temporal world.⁶⁴ Consciousness is found only in God's consequent nature through which God experiences the temporal world. In Whitehead's words: "The consequent nature of God is conscious; and it is the realization of the actual world in the unity of his nature, and through the transformation of his wisdom" which is contained within God's primordial nature.⁶⁵

There is still is a very clear aspect of teleology in Whitehead's conception of God and it is clear that he perceives of God as exhibiting characteristics of 'mind.' He conceives of God as "the poet of the world, with tender patience leading it by his vision of truth, beauty, and goodness."⁶⁶ Mind inevitably implies teleology and this must be dealt with by process thought. However, given Whitehead's understanding of the two natures of God, despite the fact that his language can be ambiguous and misleading, it seems to me possible to interpret him in a manner which can avoid some of the criticisms associated with many contemporary process thinkers. The 'action' of God and the provision of God's subjective aim is a product of the primordial nature, which lacks consciousness. Consciousness is found only in the consequent nature of God and this nature is characterized by God's experience of the temporal world, which is integrated into God's eternal experience. This experience can be classified as 'passive' since it is determined by the response of entities within the temporal world to the aims derived from the primordial nature. Therefore, we can understand God's action in the world in a way, which exhibits a mitigated teleology. To clarify, God's initial aim does not have to interpreted as God 'acting' in the sense that each initial aim is 'provided for' each actual entity and tailored to that entities specific needs within the entities environment; instead, Whitehead's God can be seen as the source from which the aims of each entity are derived. God does not 'present' each entity

⁶⁴ Ibid., 343-344.

⁶⁵ Whitehead, *Process and Reality*, 345.

⁶⁶ Ibid., 346.

with the most applicable aim. The ‘aim’ is ever present. It must be responded to with the risk that it may not be tailored to a particular entity’s specific needs. God, conceived in this way, shows no preference and has no hierarchy of value for entities with varying levels of experience.

In addition, Whitehead seems to place less explicit emphasis on the subordination of the value found in collective wholes to the intrinsic value of the individual. Statements such as “the growth of a complex structured society exemplifies the general purpose pervading nature”⁶⁷ could possibly point toward an ethic where the systematizing of individual value does not overshadow holistic value. In this case, the goal of the teleological system is clearly placed with holistic value which is not placed in opposition to the intrinsic value for individuals. However, the implications of Whitehead’s thought for ecological ethics are ambiguous at points. There seems to be a contradiction in goals inherent in a teleological system in which God ‘acts’ for the fulfillment of value in ecological wholes but places the highest value on those individual animals with the greatest intensity of experience. While the process system is at times vague in regard to the conflict between individual and holistic value, the ambiguity can be overcome with clarification from process thinkers. However, the problem of teleology inherent in the Whiteheadian system is a bigger one. It can be interpreted in a manner that does not produce adverse consequences for the logic of an ecological ethic. Still, if God is to be incorporated into an ethic of the environment, process thinkers must interpret Whitehead in a way which avoids some of the potential implications of process thought which lead to a framework that exhibits aspects which are antithetical to contemporary ecological science. The process move to a God of persuasion and not coercion is a positive development in the history of philosophy of religion; however, persuasion can be interpreted as implying an agency within a conception of God which

⁶⁷ Whitehead, *Process and Reality*, 100.

is at odds with our experience with the natural environment and which lies beyond the boundaries of our reason and experience.

Process Thought and Ecological Credibility

I have already mentioned some difficulties with applying Whitehead's thought to contemporary ecological studies as well as some examples in which Whitehead seems to exhibit very clearly what we would refer to as an ecological conscience. Therefore, at the conclusion of this chapter, I want to provide a further discussion, albeit brief, of Whitehead's metaphysical framework as it relates to modern ecological science. He clearly shows an appreciation for the interconnected nature of all things, which I claim is integral to the formation of an effective ecological ethic. In *Science and the Modern World*, he writes: "What is wanted is an appreciation of the infinite variety of vivid values achieved by an organism in its proper environment."⁶⁸ Later, he acknowledges the existence of "associations of different species which mutually cooperate" and speaks of "the environment of friends" which is required by all organisms "partly to shield it from violent changes, and partly to supply it with its wants."⁶⁹ Passages such as these led Eugene Hargrove to speculate that Leopold could possibly have been influenced by Whitehead's concept of organism. In Hargrove's words, "It is a small step from Whitehead's 'environment of friends' to Leopold's 'biotic community'..."⁷⁰ Even Clare Palmer, in her aforementioned critique of the process system in relation to environmental ethics, admits that Whitehead's understanding of his concept of society would have included ecosystems and species.⁷¹

⁶⁸ Whitehead, *Science and the Modern World*, 199.

⁶⁹ *Ibid.*, 206.

⁷⁰ Hargrove, 103.

⁷¹ Palmer, 143.

In addition, in his understanding of the interconnected relationship of all entities, Whitehead recognizes that the natural world is characterized by a competition for continued existence by characterizing the maintenance of life within living societies as taking “the form of robbery.”⁷² This statement, as well as the previous statements, is clearly compatible with our understanding of our natural environment. As a result, we can most assuredly speak of Whitehead as a valid candidate for contributing to environmental philosophy.

However, there is an aspect present here which seems to occupy an uncomfortable position in relation to the image of God’s nature as that “of a tender care that nothing be lost.”⁷³ As I have argued, the process position in relation to divine teleology often seems incompatible with ecological science. As a result, while the Whiteheadian system is true to modern ecology in terms of its portrayal of the interconnectedness of all entities, the implications of Whitehead’s metaphysical system in terms of God’s purpose and action in this system is vulnerable to an interpretation that would hinder the potential for Whitehead’s philosophy to be pragmatically applied to contemporary environmental studies.

Whitehead envisages a conception of reality in which all entities are drawn forward by the ‘persuasive aims’ of God for greater intensities of experience. While he admits that life can be viewed as robbery in the sense of living beings having to steal life from members of other species in order to survive, he places much more stress on the importance of cooperation within nature than he does on competition. Take, for example, the following quotation which introduces his statement concerning the necessity, for all organisms, of having the aforementioned ‘society of friends’:

In the history of the world, the prize has not gone to those species which specialized in methods of violence, or even in defensive armour. In fact, nature began with producing animals encased in hard

⁷² Whitehead, *Process and Reality*, 105.

⁷³ *Ibid.*, 346.

shells for defence against the ills of life. It also experimented in size. But smaller animals, without external armour, warm-blooded, sensitive, and alert, have cleared these monsters off the face of the earth. Also, the lions and tigers are not the successful species. There is something in the ready use of force which defeats its own object. Its main defect is that it bars cooperation.⁷⁴

This clearly does not cohere with a contemporary understanding of ecological relationships especially in terms of predator-prey relationships and the integral role these relationships often fill concerning the maintenance of the sustainability of natural systems.

I think that Palmer is justified, concerning this aspect of process thought, when she raises the question “of whether Whitehead is actually imposing metaphysical categories on biological science.”⁷⁵ She claims that the notion of predation “fits only awkwardly” into the system of process metaphysics since Whitehead “wants to affirm the priority of persuasion over coercion throughout the universe, and as the driving force of the evolutionary process.”⁷⁶ There is truth in this criticism but I think that examples such as this exhibit in Whitehead less of a lack of regard for the way in which ecosystems function than it does a lack of understanding for what we now know as a result of ecological studies. Unfortunately, this teleological view of evolution has been carried on by some subsequent process thinkers. A proper understanding of the ecological relationships of our planet must not be compromised for a closer adherence to a metaphysical system if we wish to put forth an ethic of the environment which is coherent with our understanding of these relationships.

I am not trying to perpetuate the idea that the natural world is devoid of cooperation or purpose (when properly defined). Nature is not ubiquitously ‘red in tooth and claw’ as Alfred Lord Tennyson once wrote.⁷⁷ There exists within the natural world cooperation, mutualism, altruism. Yet, this cooperation exists alongside competition, which is often ruthless and

⁷⁴ Whitehead, *Science and the Modern World*, 206.

⁷⁵ Palmer, 149.

⁷⁶ *Ibid.*, 150.

⁷⁷ Tennyson referred to “Nature, red in tooth and claw” in his poem *In Memoriam*.

unforgiving. Therefore, nature is at once forgiving and unforgiving from one moment to the next. It has an order but no clear purpose in the sense of a goal for each actual entity although it does contain purpose in the sense of being a source for meaning and significance. As a result, this order, whether forgiving or unforgiving, is beautiful. Whitehead would agree that nature exudes the aesthetic. Even when we find it most unforgiving, a harsh art emanates from within. Yet, the artist is not singular. The art form is a collaborative effort and, from what we can garner from our reason and experience, there is no reason to speak of a divine ‘persuader’ for the purposeful actualization of each actual entity.

Furthermore, in my opinion, Whitehead’s philosophy of religion needs to be modified in a way which will allow for a more adequate expression of an environmental philosophy. As it stands, Whitehead’s work is still a valuable contribution to the latter in that it attempts to integrate all areas of human inquiry into a single metaphysical worldview. Concerning Western religion, Whitehead is of vital importance in that his work can be seen as a bridge, which attempts to integrate credible ecological thinking into discussions of deity. Consequently, although the process metaphysical conception seems to fall short in places concerning its application to ecological ethics, the importance of his thought for the history of Western theism in relation to an ecological worldview cannot be underestimated. Also, Whitehead offers a valuable corrective to the mechanistic ‘scientific materialism’ of his day by endorsing a philosophy of science, which emphasizes the notion of change, as all entities are characterized by an act of becoming influenced by their past, their current environment, and how they respond to the primordial initial ‘aim’.

In this sense, Whitehead can be seen as an individual of great insight who recognized the importance of the interconnected nature of all things on our planet and the necessity for

assigning non-instrumental value to environmental communities as well as to individuals decades before 'environmentalism' became a part of our vernacular. In fact, Whitehead's writing seems to be more applicable, in places, to modern ecology than many post-Whiteheadian process philosophers. Still, some aspects of his work are difficult to reconcile with contemporary ecological understanding. Combine this, with the fact that Whitehead's system is rife with esoteric language and, at times, extremely difficult to interpret, and it is clear that Whitehead's metaphysics alone cannot stand as the basis for a contemporary ecological ethic. However, Whitehead makes it clear that no metaphysical system should be dogmatized but must remain open to further inquiry and possible criticism. Viewed in this manner, there is much in process philosophy which can be a valuable contribution to environmental philosophy. Therefore, it is necessary for contemporary process thinkers to adapt aspects of Whitehead's thought, which are conducive to the perpetuation of such an ethic, and offer alternative interpretations for those aspects which diverge from ecological credibility. Interpreters must avoid some of the problems pointed out here that arise with a rigid interpretation of process categories. If this is done successfully, there is much potential for a process contribution to ecological ethics, which can successfully attribute value holistically as well as at the level of individuals. Any expression of a process ecological ethic, which places God as the source of a rigidly systematized, teleological value hierarchy based on intensity of experience for the attribution of value, will not meet these criteria. However, Whitehead's philosophy of religion is predicated on an adherence upon human reason and experience for the justification of any truth claim. If this is observed, even the theistic claims of process thought can avoid many of the criticisms, which have been levied against it. While a conception of God is most certainly not necessary and can often be problematic when incorporated into a philosophy of the natural

environment, Whitehead's theistic categories can maintain ecological credibility if interpreted within the range of our reason and experience and not based on a teleological point of view which lies beyond these capacities.

Therefore, with this in mind, what then can we conclude about the potential for process thought in relation to establishing a middle way in environmental ethics in which both individual and holistic value are respected within a single ethic of the environment? First, it is clear that Whitehead assigns value at both the holistic and individual levels and that the process system is pluralistic in that it is capable of promoting the support of value at both levels. This should not be interpreted as a mere amalgam of competing theories representing the respective viewpoints of individualism and holism. For instance, the animosity in a system such as Regan's is far too divisive to work efficiently alongside a theory which also supports the ecological or systemic value of ecosystems. Conversely, the same could be said for attempting to incorporate individual value into a philosophy supporting unmitigated holism. To reiterate what I wrote in the previous chapter, taking this approach would most likely render a philosophy schizophrenic. What is needed is an outlook that welcomes both types of value into a single system of thought. I believe that process thought is a potential candidate for providing such an example.

For example, the usual problem in the dichotomous debate between individualism and holism is that the values are presented as being in competition. However, if the value of individuals is interpreted as being inseparably related to the value of the ecosystems of which they are a part, we need not speak of forms of value in conflict. Speaking of these in separation is possibly the greatest problem for environmental ethics in relation to value attribution. Properly interpreted, process thought offers a potential example of the way to move forward. If the goal is value maximization, and individual and holistic value cannot be viewed in isolation,

one need not supersede the other. Concerning individual value, if humans are attributed a higher value based on the criterion of level or intensity of experience, this does not have to be viewed anthropocentrically if the goal of individuals is to work for the maintenance of holistic value given that our ecosystems are the source of all life, which includes individual value, on our planet. Consequently, our level of experience need not be interpreted as a dominion over other aspects of the natural world but as an obligation to work toward the maintenance of sustainable human societies thereby protecting natural environments, which are the source of all value. In brief, the community is distinct but inseparably related to the individuals of which it is comprised. The notion of connection binds the parts to the whole and offers the possibility to effectively argue for holistic as well as individual value.

Some will still argue that this view does not offer any clear criteria for discernment in situations of conflict between biotic individuals. I would answer this criticism again by saying that a systematic set of criteria for judgment to be universally applied in relation to individual instances of conflict is not feasible. A value hierarchy that would value elephants over rhinos or dolphins over shark or fish over invertebrates in all situations of conflict seems not only unfeasible but utterly ridiculous, lacking in compassion, and antithetical to ecological concern. In this case, philosophy must relinquish the urge to systematize if it is to remain applicable to the discourse concerning the natural environment. As I have pointed out, certain interpretations of process thought are susceptible to this criticism. This must be corrected as well as other problems which I have pointed out here which would hinder the ecological viability of a contemporary process philosophy. However, these problems should not overshadow the fact that the philosophical method of viewing the natural world and our place in it which was put forth by

Whitehead offers insight into the manner in which we can cultivate a worldview which holds individual and holistic value as distinct yet inseparably related.

It should be reiterated that we cannot depend solely on Whitehead's work to support this interpretation. While providing for value at holistic and individual levels, the framework which he left us is not always explicit concerning the relationship between the two. Moreover, Whitehead was not arguing from the perspective of a contemporary environmental ethicist; therefore, there is work yet to be done. Whitehead's framework provides an excellent basis for addressing contemporary environmental concerns, but his philosophy must be modified and applied with an intent to clarify that which he left unsaid as well as to correct those aspects of his philosophy which are not compatible with an ecological world view. That is what I have attempted to begin here.

CHAPTER THREE

Human Experience and Ecological Compatibility: A Conclusion

...in Wildness is the preservation of the World.¹

Henry David Thoreau

Experience is the trigger for environmental literacy. It ignites the curiosity and tests the muscles. It teaches us that we live in a world that is not of human making, that does not play by human rules... You can distinguish a man or woman of the forest, the desert, the mountains, or the sea from the farmer and the city person. Nature marks the human.²

Frank B. Golley

Humanity is exalted not because we are so far above other living creatures, but because knowing them well elevates the very concept of life.³

Edward O. Wilson (*Biophilia* 22)

In 1939, American writer Henry Miller set out on a cross country road trip of the United States, which he would later document in his book entitled *The Air-Conditioned Nightmare*. In describing the land of his birth, he wrote: “Topographically the country is magnificent—and terrifying. Why terrifying? Because nowhere else in the world is the divorce between man and nature so complete.”⁴ I think that Miller’s quote provides an interesting perspective concerning how we are to pragmatically implement and perpetuate a way of thinking about the natural environment that is simultaneously ecologically credible as well as coherent with contemporary human culture. A quick answer, which will necessarily require further justification, is experience. In short, that sense of connection which is necessary for an understanding of the ecosystems of which we are a part can most effectively be realized through experience. In other words, we need to recognize and directly experience our connectedness to all other interconnected components of ecological systems not just understand it as a learned fact.

Edward O. Wilson even goes so far as to posit that human beings have a genetic affinity for the natural world, which is a product of our evolutionary development. In his words, he

¹ Henry David Thoreau, “Walking,” <http://www.transcendentalists.com/walking.htm> (accessed March 18, 2008).

² Frank B. Golley, *A Primer for Environmental Literacy* (New Haven: Yale University Press, 1998), x.

³ Edward O. Wilson, *Biophilia* (Cambridge: Harvard University Press, 1984), 22.

⁴ Henry Miller, *The Air-Conditioned Nightmare* (New York: New Directions Books, 1970), 19-20

understands this affinity, which he refers to as ‘biophilia,’ “as the innate tendency to focus on life and lifelike processes.”⁵ In the same discussion he writes: “The conclusion I draw is optimistic: to the degree that we come to understand other organisms, we will place a greater value on them, and on ourselves.”⁶ Basically, we come to realize value for that which is beyond ourselves by coming into contact with these nonhuman (biotic and abiotic) entities and experiencing them as they exist within their environments. Whether the impetus for us to engage in this connection is a part of our evolutionary development is not really an applicable question in this discussion. The question to be asked is what is the most effective way for human populations to come to an understanding and appreciation of the holistic character of our world and consequently achieve an ecologically credible relationship between human culture and the ecosystems upon which this culture is predicated and upon which it necessarily depends for continued subsistence?

We cannot hope to achieve this goal solely through philosophical discourse on the environment. Environmental ethics is necessarily interdisciplinary and must accept the potential contribution from a broad range of human endeavor including religion, government, and education to name just a few. For instance, current issues of overpopulation and overconsumption can be more immediately addressed through the implementation of environmental policy than they can through the publication of articles or books in the field of environmental ethics. However, I am offering what I believe is a viable option for addressing many of the ecological problems associated with the human relationship with non-human nature in order to address the need for human societies to avoid paradigms of constant production and consumption in favor of a paradigm of cooperation and sustainability.

⁵ Wilson, *Biophilia*, 1.

⁶ *Ibid.*, 2.

To summarize, the goal of this thesis has been to argue for an environmental ethic, which can support the attribution of value at both the holistic and individual levels. In order to address the potential in such a philosophical point of view, primary issues of ecological credibility and human culture must be taken into account. Concerning the former, environmental philosophers must accept that our planet is ecological in nature and no clear purpose acting for the well being and prosperity of individuals within these ecosystems can be deciphered from an empirical perspective. The relationship of biotic and abiotic entities is all that remains constant. Individuals come to be and perish often in a manner that seems to us to be wasteful of individual life.

On the other hand, human culture, which obviously includes the philosophical tradition, has provided grounds upon which arguments can be made for the value of human as well as nonhuman individuals. To be clear, the value of biotic and abiotic individuals, as well as the wholes of which they are a part, is not predicated on the presence of humanity, but humans are necessary for this value to be explicitly recognized. The problem immediately presented is that human culture can potentially conflict with the maintenance of sustainable ecosystems and the realization of ecological understanding by members representing this culture. As the quote from Henry Miller, which began this chapter, implies, human culture can lead to a technological detachment, which provides the illusion of a separation between ourselves and the natural environment of which we are inextricably a part. In other words, our culture can desensitize us to the dependence we necessarily have on our natural environment to the detriment of individual and holistic and, consequently, human and nonhuman value.

However, human culture can be used to develop an outlook which will bring human culture closer to compatibility with the world's ecosystems, which will, in turn, promote the

establishment and maintenance of human systems. I have proposed that this can best be achieved through human experience with the natural world. Through experience, individual humans can become aware of the connections which bind them to all other entities in the ecosystems in which they currently reside as well as, at least loosely, to all that exists on our planet. What is needed then is a synthesis, a way of thinking which can cooperatively incorporate individual value into a system which maintains ecological credibility.

I have proposed here that process philosophy provides a viable framework with which to address such a system of value. I have already discussed some of the weaknesses in the process system, so I will not repeat them but will instead focus on those aspects of process thought which are conducive to this aforementioned synthesis. First, in the process framework, value is given to individuals because of level of experience. In relation to this, I have already stated that we implicitly place higher value on human life. Of course, this must be qualified since we have no primordially privileged place in the natural environment. We have achieved our 'status' among our fellow biotic species through the evolutionary process. The value placed upon humanity is not divine and need not be systematized into a rigid system in which humans are granted absolute value over other forms of life in any and all situations of conflict.

In addition, this experience, which is the object of value attribution, is somewhat of a double edged sword in that our level of experience has allowed members of our species to contribute to catastrophic levels of environmental degradation, which can match those of no other species, while simultaneously providing us with the potential to rectify situations that compromise ecosystem sustainability. I think we would do well to emphasize the latter expression of our experience and heed the words of Wilson cited at the beginning of this chapter:

“Humanity is exalted not because we are so far above other living creatures, but because knowing them well elevates the very concept of life.”⁷

Of course, we are dealing here with two different understandings of the term ‘experience.’ Process thought attributes value to levels of experience in terms of cognitive capacity and ability to reason beyond mere sense perception. I have been referring to experience in a strictly empirical sense as in that which we observe and perceive in our environments. While it is necessary to point out the distinction, there is no need to separate the two as the latter necessarily informs the former. In other words, that which we observe in our lived environment informs our capacity for thought, and, subsequently, our ability to act upon that which we have observed. If we seek to cultivate, through our lived experience, a greater understanding of the ecosystems of the earth, the environmental ethic which emerges will be more likely to adeptly address the ecological dilemmas currently plaguing our planet.

Furthermore, process thought provides a framework, which recognizes non-instrumental value at both the level of the ecosystem as well as at the level of the individual. I have discussed the notion of intrinsic value primarily in relation to individuals due to the realization that it is extremely difficult to convincingly argue for the attribution of intrinsic value at the systemic level. I have heard conversations on this issue literally come to a standstill over whether we can arrive at a definitive definition of what exactly is intrinsic value and how we can properly attribute it to ecological wholes. Unfortunately, these conversations inevitably languish on over semantics and rarely turn to a discussion of the matter at hand, which is, in this case, the proper human relationship with the natural world. This is truly a serious problem for philosophy and one that must be overcome if philosophy has any hope to contribute to the alleviation of environmental quandaries. Metaphorically speaking, exhaustive arguments over the proper

⁷ Ibid., 22.

definition of intrinsic value fail to see the forest for the trees with the potential result being that we will have neither left upon which to gaze. Essentially, if environmental philosophy fails to translate arguments into practical application, other disciplines will make greater contributions to the alleviation of environmental degradation. Therefore, instead of arguing for the intrinsic value of ecosystems, I have instead chosen to refer to ecological or systemic value⁸ as that form of value which is attributed to the life producing interconnectedness characteristic of ecological systems. This type of value is attributed to ecological wholes due to their role as the source and sustenance of all value, intrinsic and instrumental, which is contained in the natural environment. In process language, all actual entities have intrinsic value through experience as well as contribute to ecological value through their relationship with the interconnected parts of Whiteheadian societies.

What then emerges from this way of thinking which has any pragmatic value for practical implementation? Beginning with experience, individuals can come to understand the interconnected nature of their natural environments. From this exposure, experience, in terms of capacity for reflective thought, can become compatible with an ecological worldview. With continued experience comes an expansion of knowledge in relation to the interconnected nature of the entities of our planet. In other words, experiencing the connections present in nature leads us inevitably to an understanding of the holistic nature of life on our planet. With further experience, the experience becomes more profound and the ecological awareness more acute.

I am not as explicit as some contemporary process thinkers, mentioned in the previous chapter, in placing higher levels of value on individuals within an ethic that is also holistic in scope. Instead, I have focused upon an approach, which maintains that these two levels of value cannot be spoken of in isolation from each other. In brief, we cannot separate individual from

⁸ This would be similar to Rolston's notion of 'systemic value' mentioned in Chapter One.

holistic value since the former is predicated upon the latter and therefore holistic and individual value are distinct yet inseparably related to each other. How then can we have any criteria for judgment in situations of conflict? As I alluded to earlier, we implicitly place a higher value on human life. However, any type of systematic criteria for how we should decide in all situations of conflict is simply not feasible, and, moreover, any attempt to do so in reference to other non-human species leads down a slippery slope and the inevitable arbitrary attribution of that which has greater intrinsic value. Still, we are inevitably presented with situations in our daily lives which could potentially make such decisions necessary.

I think that an understanding that individual value emerges from ecological wholes can lead us to act in a manner, which will exhibit respect for both forms of value. We can respect individual life while also recognizing that death is a part of our ecological worldview. This will not translate into an effort to preserve all forms of individual life. We cannot deny our position within ecological systems, and despite the level of culture we have achieved, we are still subject to the same laws of individual subsistence which characterize the members of other species. Therefore, our existence also depends on the termination of experience of other living organisms, whether animal or plant life. Perhaps we need to reinterpret our valuation of death. Support for an ethic which holds connectedness as its primary attribute involves accepting that death is a part of the life process, and even in death, there is the recognition of a contribution to this process. While we do not consider humanity as a viable source for contributing to this aspect of the web of life, human culture has not removed us from this web entirely. In other words, while we are inextricably a part of our natural systems, we do not consider ourselves, for example, to be candidates for making a contribution to the latter half of the predator/prey relationship.

To an extent, this extends beyond humanity. We implicitly favor forms of life with higher levels of experience over, for example, the microorganisms which we cannot see with the naked eye and to which many of us give little thought. Yet, our ecological systems would collapse if not for the presence of these microorganisms; therefore, making individual levels of experience the basis of a value system is antithetical to an ecological perspective. Individual value cannot be systematized in isolation from the ecological value to which individual value owes its existence. To do so would be to compromise ecological credibility. In other words, individuals are attributed value without this superseding the value attributed to the whole. Protecting ecological value will inevitably benefit individual value since ecological wholes are the source of all value, ecological and individual. To value the former is, to a certain extent, to value both.

Some may not be satisfied with what may be perceived as a lack of specific instruction in situations of conflict. However, any systematization of criteria for discernment in all situations of conflict will be a threat to ecological value. Therefore, instead of promoting one form of value over another, we can form an ethic which recognizes the necessity of complying with ecological concepts while maintaining value for all of the biotic life which is a product of the biotic and abiotic interactions characteristic of the world's ecosystems. Critics may claim that this is still an ecocentric ethic since I have claimed that a valid environmental ethic must be predicated upon holistic value. I would not disagree but would qualify this by saying that the ethic for which I am arguing is not characterized by an unmitigated holism. Instead, while ecological value must always be maintained, this value is inseparably linked with a recognition and respect for individual value. Concurrently, holistic value is the ground upon which individual value is established and sustained.

Furthermore, following the process framework, which attributes value holistically and individually, while recognizing both the critiques of process thought outlined in Chapter Two as well as the impetus put forth by Whitehead to reject any philosophical dogmatism and therefore to accept the fallibilist criteria of human reason and experience as justification for all claims, human culture and an ecological worldview need not be in conflict. Still, as I have pointed out, process thought does not always provide answers to all of the environmental questions we have. In particular, given that Whitehead was not explicitly constructing an environmental philosophy, notions of holistic and individual value are often spoken of with no clear criteria for which type of value is greater. It should be clear at this point that I do not regard this as a necessarily negative aspect of Whitehead's process framework. The ranking of value in environmental philosophy threatens ecological credibility. Perhaps this is even more of a reason to avoid the attempt to identify the intrinsic value of the system in favor of speaking, in relation to ecological wholes, of an ecological value, which transcends intrinsic and instrumental value and includes individual and holistic value within a unified system of value.

An ecological/environmental ethic is necessarily predicated upon holistic value since our ecosystems are the source of all life on our planet. We can begin to cultivate this through individual experience expanding upon this experience until we arrive at an understanding and respect for the interconnected nature of all entities. Value for parts and wholes need not be addressed separately but as values which overlap and contribute to a mutual understanding of value. When we view our natural world and our relationship to it in this manner, we can value the forest as well as the trees to the mutual benefit of each.

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