Touro Institute מכון טרו

In Conjunction with

SEWANEE
THE UNIVERSITY OF THE SOUTH

Religion and Ecology

This course covers the relation between the natural and the sacred in selected traditions such as Amerindian religions, Hinduism, Buddhism, Taoism, Christian, and Jewish tradition, and contemporary "eco-religion." Emphasis upon analysis of latent ecological/environmental resources or conflicts in each tradition studied.

Instructor: Gerald Smith

Course Contents

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  - Polanyi: Tacit Knowing and the Ecological Crisis
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Introductory Lectures: Religion and Ecology

Our Disordered World: Polanyi and Ecological Thinking
- Read: Gore, Earth In The Balance, Pt. I

- Read: Nash, Loving Nature, pp. 11-67.

Reductionism Lectures

- Read: Environmental Ethics, Pt. I, A
- "Reductionism" Religion, Culture, Ecology
- Read: Gore, Earth In The Balance, Pt. II Environment and Ecology: Systems & Science
- Read: Gore, Earth In The Balance, Pt. III
- Read: Environmental Ethics, Pt. I, B General Discussion

Christianity and the Environmental Crisis

Christian Origins

- Read: Nash, Loving Nature, ch. 3 Key Christian Concepts of Nature/Creation
- Read: Nash, Loving Nature, ch. 4 Problems
- Read: Environmental Ethics, Pt. II
- Read: John Paul II, The Ecological Crisis: A Common Responsibility

Resources

- Read: Nash, Loving Nature, ch. 5-6

Amerindian Traditions: Survival vs Ecology

Amerindian Tradition

- Read: Environmental Ethics, Pt. IV, A Key Concepts/Problems/ Amerindian resources

Hinduism: Metaphysics of Maya

Hinduism/Traditions of India
Advaita concept/maya
Problems
Resources: advaita/yoga/meditation

Buddhism: The Original Mind of Not Harming

Buddhism: origins

- Read: Thinking Like A Mountain

Key concepts: Buddha mind, ahimsa, pure land, dharmas
Problems

Resources in Buddhism

- Read: Environmental Ethics, Pt. III

Taoism: Magical Ecology and Mystical Technology

Taoism: Chinese metaphysics

- Read: Lao-tzu, The Way of Life Key Concepts of Taoism

Problems: magical ecology vs. scientific ecology
Resources in Taoism

Gender Ecology: Resurgence of the Goddess

Ecofeminism--origins

- Read: Environmental Ethics, Pt. IV, D

Key Ideas, Problems in ecofeminism, Resources

Wise Use: Work Ethic vs. Eco-ethic

Realism/Wise Use--origins

- Read: Environmental Ethics, Pt. V, A-B

Key ideas, Problems

- Read: Environmental Ethics, Pt. VI, C

Resources

Concluding Lectures: Global Ecology, Religion, and Liberal Arts

Conclusion: The Global Problem of Population

- Read: Environmental Ethics, Pt. VI, A Global Problem of First World/Third World
- Read: Environmental Ethics, Pt. VI, D Greed vs Need: Global Peace & Justice
- Read: Nash, Loving Nature, ch. 7 Romantic Materialism/Divine Right Consumerism
- Read: Environmental Ethics, Pt. VI, B Future of Religion(s), Global Stability, and the Environment

Sustained Necessity & the Future of Environmentalism

- Read: Environmental Ethics, Pt. V, C Boy Scouts & Recyling: Problem vs. Solution
- Read: Environmental Ethics, Pt. VI, E Being & Doing: action & understanding
- Read: Environmental Ethics, Pt. IV, C Systems, Management, Liberal Arts
- Read: Environmental Ethics, Pt. VII
- Read: Eagan/Orr, The Campus and Environmental Responsibility

Culture of Acquisition vs. Culture of Affirmation

- Read: Nash, Loving Nature, ch. 8

Supporting Material

Appendices

Assignments

- **Instructions**
  - All papers are to be no longer than what can be read out loud in 5 minutes (about 2 single spaced pages – anything over this length will not be considered)
- **Assignments**
  - **Gore**
    Critical Review of Albert Gore's *Earth in the Balance*
  - **White**
    Critique of "Historical Roots of Our Environmental Crisis"

- **Mountain**
  Essay on *Thinking Like a Mountain*
- **University**
  Essay on *The Campus and Environmental Responsibility*
- **Readings**
  Your report of completion of the required readings
- **Final**
  Final exam instructions

- **White**
  - **Subject:**
    Critique of "Historical Roots of Our Environmental Crisis"
  - **Due:**
    2 weeks
  - **Description:**
    Read Lynn White's article "The Historical Roots of Our Ecologic Crisis" and write a substantial essay in which you evaluate his argument using the other materials available to you in the course readings: e.g. Nash, John Paul II, etc.

    This essay should be severely critical [in both the positive and negative sense] of White's argument and should reflect your ability to maturely evaluate the facts and significance of the claims White makes. The essay should also include a major section in which you develop your own views of the topic.

- **Gore**

  - **Subject:**
    Critical Review of Albert Gore's *Earth in the Balance*
  - **Due:**
    4 weeks
  - **Description:**
    Read Vice President Albert Gore's book, *Earth in the Balance* and write a review of it which explains and analyzes its argument and include in your review your personal assessment of his argument.

- **Mountain**
  - **Subject:**
    Essay on *Thinking Like a Mountain*
  - **Due:**
    6 eweeks
  - **Description:**
    Read *Thinking Like a Mountain* and write an essay which explores the basis of the

Buddhist approach to nature and the environment. What similarities or differences do you see between this approach and that of Judaeo-Christian thought?

- **University**
  - **Subject:**
    Essay on *The Campus and Environmental Responsibility*
  - **Due:** 8 weeks
  - **Description:**
    Read *The Campus and Environmental Responsibility* and write a critical review of it..
- **Readings**
  - **Subject:**
    Your report of completion of the required readings
  - **Due:**
    Submit with final
  - **Description:**
    Part of your grade is based upon your completion of the assigned readings of the course. Please indicate what percentage you completed for each of the assigned readings.
- **Final Exam**
  - **Description:**
    This will consist of a set of discussion questions to write on. You may use any resources available to you in answering them: the exam is "open book" in the broadest sense.

Field Work

In addition to the reading and composition assignments indicated in the syllabus and list of assignments, students are expected to accomplish one of the following practical or field work assignments. The purpose of the field work is to correlate direct experience and observation with the theoretical components of the course. A detailed report on one of the work areas must be submitted before the final exam.

Field Area I - Parks

Conduct a general ecological and environmental assessment of the present state of a major state park or local park in your immediate area. Questions to be answered are: What is the condition of the of the area? Are there areas of erosion or decay? What caused this condition? What could have been done to avoid this outcome? How would you have drafted the guidelines to be used to avoid this condition? What are your suggestions about how the area should be managed? Provide electronic versions of photographs to demonstrate the condition and support your hypothesis.

Field Area II Trash Inventory

Select a commercial site area of about 4 square blocks in your area. Inventory [i.e., count & classify] every piece of trash on the site [including bottle tops and cigarette butts]. For road areas your survey should include an area on both sides of the road reaching fifteen feet from the edge. What general observations do you draw about the origin and distribution of the trash you have logged? Provide electronic versions of photographs to demonstrate the condition and support your hypothesis.

Field Area III Walking Journal

Purchase a standard composition book and keep a walking journal of observations and reflections made by walking [or biking] around your area. The journal must contain a minimum of three observation accounts per week for twelve weeks. Entries should be a minimum of one paragraph in length. Your entries should be more than lists, but might include sketches of trees, counts of wildlife, your reactions to mowing or to the sounds of streams, solitude or distraction on your walks; you might include hand maps of the places you walk or even record a conversation you had with someone along the way. This journal is not meant to be simple log of your walks. Instead you should use the experiences and observations as occasions for extended meditations or reflections which you develop in the journal.

Field Area IV Site Photographic Documentation

Select and describe a site in your area you believe to be of ecological as well as aesthetic significance. Make a detailed photographic record of the site. Include with the slides a sequential list and a general commentary on the site you chose. Indicate the ecological, environmental, aesthetic or cultural reasons this site is important. For purposes of this assignment, a "site" may be understood to be a ravine, a stand of trees, a distribution of spring wildflowers, birds in a specific tract, the course of a single stream from spring to escarpment, or it might be the entire margin of a pond or a swamp bottom. Or, the "site" may be a collection of places such as micro-thickets, gullies, or the composition of a footpath. Your photos should include both perspective and close-up shots, and there should be not less than 72 frames in your documentation.

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Appendices

Polanyi: Tacit Knowing and the Ecological Crisis

"We know more than we can tell and we can know nothing without relying upon
those things which we may not be able to tell."
-- Michael Polanyi

In the corpus of his philosophical writings culminating in *Personal Knowledge* and *The Tacit Dimension*, the chemist Michael Polanyi articulates an alternative to the reigning objectivist epistemology which has characterized western scientific and philosophical thought since the time of Descartes. According to the objectivist view, authentic knowledge is acquired when the "subjective"--emotional, aesthetic, moral, religious--elements in knowing are strictly and rigorously eliminated; such elements, it is held, taint or distort knowing and the derivative knowledges by introducing elements of ambiguity and commitment. If not isolated, these extra-scientific, subjective elements would determine the foundational paradigm upon which science is erected and leave science in the realm of opinion and rationalized superstition. In the standard view, it becomes the purpose of a rigorous scientific method to insure that knowledge is obtained by "objective" and "verifiable" means. In the grading of levels of knowledge according to their degree of objectivity, knowledge is most certain which has the smallest amount of personal contamination--mathematics and physics would be pure sciences in this view--while knowledge is most problematic where the personal element is greatest--as in arts, literature, philosophy, as well as in those 'complex' sciences such as biology or psychology.

In contrast to this view which has prevailed in western science into the Twentieth Century, Polanyi argued that there is an inescapable and essential personal element that is a structural component of all knowlege whether the case be physics, biology, medicine, painting, or poetry. This personal element is two-fold: it includes as part of the foundational paradigm of knowing a passionate commitment to reality as pursued in the context of a community of knowers upholding self-set standards held with universal intent. Polanyi calls such knowledge 'personal' and distinguishes it carefully from the extremes represented by 'private' [=wholly interiorized] and 'objective' [=wholly exteriorized]. Science as the outcome of

personal knowledge is not a matter of always tentative hypotheses ready to be abandoned at the first sign of a contaradictory piece of data; instead science and other knowledges are exemplified in patterns of knowing relying upon the passionate assumption of the truth and meaning of the acquired knowledge. This knowledge is in part validated by our passionate commitment to it. Such patterns of knowing are also upheld and validated within communities which sustain the standards and skills of knowing, and these communities contain an ineradicable element of tradition, even in the "hardest" of sciences. The social dimension of knowing is retained in our references to the "scientific community" or "academic community." In Polanyi's technical vocabulary, the community of knowing is referred to as a 'convivial order' sustained by its 'fiduciary commitments'.

The second personal element is the indeterminate contribution--present in every act of knowing over the whole range of knowledge--of many subsidiary or tacitly held particulars which are integrated into a focal sense or meaning that includes these particulars.[1] Polanyi says that, when we know any thing at all, we "dwell in" tits particulars in order to understand the 'comprehensive entity' [whole, or Gestalt] which is the meaning of these particulars. Such an integration of particulars into wholes, into Gestalten, is a dynamic process anchored in the from-to structure of knowledge and in the somatic particularity of our own bodies as the primordial foundation of our indwelling the particulars of the world thus known. We make sense of the world by dwelling in its particulars and attending from those particulars to the whole pattern which includes them as their sense: scientists do this when they incorporate data into theory; doctors do this when they read from the signs of illness to the disease that is the meaning of the symptoms; dancers do this when they resolve the complex ballistics of their hurled bodies into the patterns of grace, form, and rhythm we call dance; it is also what poets do when they dwell in the opacity of simple phonemes and fragments of sense and integrate them into a poem. It is also what you do as you read these words.

Now what is the relevance of this way of thinking to our consideration of religion and ecology? Let us consider physics--astronomy--for a minute. Perhaps the most dramatic from-to integration of particulars into pattern--of data into new theory--is the work of Nicolai Copernicus.[2] Copernicus not only performed the from-to integration of particulars into pattern common to all scientists, he paid special attention to the irregularities in the pattern of the old Ptolemaic data and integrated these irregularities into an entirely new way of looking at--of making sense of--the heavens. So compelling was the novelty of the Copernican from-to integration that historians of science refer to his achievement as a paradigm shift: Copernicus forever shifted the observational framework of astronomy into new patterns of meaning that are not yet exhausted.[3] According to Polanyi, we can say that Copernicus sensed in the irregularities of the Ptolemaic data a good scientific problem: a problem containing the particulars of a new order of knowledge. It is the character of genius in science to perceive such irregularities and to generate the syntheses of pattern that comprehends them into discoveries. In the Twentieth Century Einstein performed a similar, but far more comprehensive, integration of irregularities into a new foundational paradigm of knowledge.[4]

Unfortunately, for most of the last four centuries, despite the achievements of genius, the official ideology of science has denied the means by which these revolutionary scientists

accomplished their innovations, holding instead that their breakthroughs were the outcome of ever more rigorous application of objectivist method rather than the passionate and creative vision that yielded the transforming sense of the new hypothesis. Unfortunately also, the focus of this objectivist science has consistently been the stars and nature to the extent that it could be described by physics and chemistry. Thus in the name of this objectivism, many branches of knowledge--notably biology and psychology--but also social sciences such as history and anthropology and the study of literature and language have been subjected to the withering scrutiny of the objectivist ideal. Such scrutiny has transformed many disciplines into robotic exercises in categorization, taxonomy, and inventory; this transformation took the original creative passion of science out of them.[5] In this view, the true meaning of any known thing is in the detailed array of the particulars composing it, not in the dynamic relation of those particulars to any Gestalten of meaning; also in this view, such Gestalten are useful fictions, but are ultimately unreal. The particulars, not their meaning, are given priority in the process and reporting of any probative science. Polanyi refers to this view of the artificial priority of particulars over their meaning as reductionism. Reductionism, then, keeps us from seeing as whole entities the things we know, and it keeps us from accrediting the tacit means by which we in fact know those things to be real, whole, entities. Reductionism keeps us from knowing what we know.

The effect of reductionism upon our view of the world around us--nature--is to sanitize nature in all the sciences which concern it: this process of sanitization has inspired the useful differentiation of sciences into sub-sciences and has fostered the necessary development of disciplinary boundaries and precise analysis of limited topics.[6] It has also caused most sciences to lose the larger patterns of sense in terms of which those sciences could remain intelligible whether in the republic of science or in the body politic of society. This specialization meant that fewer and fewer scientists could understand the workings of any sciences outside their immediate specialties, and it meant that the procedures of day-to-day science were more and more narrowly identified with a choking impersonalism in the service of objectivity. This way of thinking extended across the range of knowledge has given us musicians who understand notes but not songs, dendrologists who know trees but not forests, geologists who understand rocks but not rain. Most of us are aware of these difficulties but we persist in seeing in them the need for better communication; we do not see in them the symptoms--the particulars of a problem--of an intellectual illness affecting not only all our sciences but the all the domains of knowledge in western culture.[7]

Reductionistic thinking about nature has led in the course of four centuries to the eclipse of natural theology/philosophy as a intellectually legitimate category of thought and along with it, the eclipse of the naturalist or informed generalist who might be the bearer of creatively insightful and integrated knowledge that reaches across the boundaires of academic scientific disciplines but also reaches across the familiar and conventional boundaries of the ordered social world and its peculiar distortions of nature.[8] This thinking, mirroring the fragmentation of the sciences, kept us, both in science and in society, from seeing the general nature of the enviromental problem until it was critically advanced, and it has perpetuated the academic specialties of environmental studies and ecology as the step-children of academia, lacking the maturity or investiture of other disciplines. And again we persist in the outdated, distorted, modes of objectifist thinking: we think of the environment as the special domain of

scientists, particularly ecologists, and we think of ecology almost exclusively as the ecology of natural systems and have ignored, until it has imperilled both these disciplines and the planet itself, both the human systems nature of environmental studies and the necessary human context of ecology. Such narrow objectivist, specialist thinking, has produced a firestorm of integrationist or wholistic alternatives which represent some helpful general features but which include so much of the magical, romantic, and the absurd that they endanger sound environmental knowledge more than aid it. The recrudescence of Gaia mythology is one of many examples.

We need then to revise our general understanding of science while at the same time developing modes of knowing that allow us to build bridges of knowledge and action that reach across the boundaries of academic disciplines and across the structural divisions of the social order. Ecology must be an integrative science as environmental studies must become an integrative discipline, spanning not only natural and social sciences, but reaching also to humanistic studies which include art as well as religion. But it is not just a matter of getting sedimentational geologists to talk to hydraulists, nor of geologists talking to biologists; it is rather a matter of how we see the venture of knowing itself across the range of all branches of knowledge from math and physics to biology and earth sciences to art, religion, and philosophy. We must, as a culture as well as disciplines of knowledge, repudiate the objectivist ideal as both limiting and false wherever it occurs. We must repudiate that reductionism based upon objectivist thinking that collapses insight into data, wisdom in to bits of knowledge; moral vision into limited acts of amelioration. We must repudiate that reductionism of our being in the world that severs knowledge from being, being from belonging: we must begin to recover in the ways that we live and do and know not only the connectedness of knowledge but the connectedness of ourselves--to each other across intellectual disciplines, across regional boundaries, across ethno-political boundaries--and the connectedness of ourselves to the body of the world. What is the whole, the comprehensive entity, the sense and meaning that includes the particulars of the environmental crisis in a vision which sees those particulars as the elements of a problem which can be solved, and in its solving, resolve our confusion into a foundational paradigm shift that will once again enable us to see this planet as our natural home?

Our task then is a Polanyian one: indwelling the particulars of the world. Our knowledge and our being is as large or as small as the set of particulars we indwell. As we indwell the particulars of soil, water, air--along with the particulars of garbage, waste, abuse--our consciousness expands. We become part of--we take up the incarnate knowledge of--a larger comprehensive entity that is the meaning of those particulars. In the Copernican revolution, the particulars of the solar system were so indwelt that consciousness was both expanded and changed, but we have too long focused on the stars. We have indwelt the particulars of the puzzle of the stars; it is now time to dwell in the particulars of the disorder of the world in order to envision a new order beyond the mess we now have. Star consciousness has cost us in forest consciousness, in river and air consciousness, in moral and community consciousness. We must now indwell other particulars in order to see and solve the problem that the world has become.

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[1]See *The Tacit Dimension*, Chapter 1.

[2]The standard monograph is Thomas Kuhn, The Copernican Revolution.

[3]The discussion of paradigms is closely associated with the work of Thomas Kuhn , particularly his xxx and his yyy.
[4]A paradigm shift has also taken place in the area of the earth sciences with the emergence of "plate tectonics" as a broadly integrative view comprehending what had formerly been several separate problems.
[5]Unfortunately, there are good reasons why even among educated people their first exposure to science defeats their commitment to it or why students persist in describing science as boring. It should be noted that under the influence of the reductionism characteristic of modernity many other disciplines are also "downwardly" transformed into primary focus upon the subsidiary particulars of knowledge: statistical textual studies, political science, and history sometimes suffer this effect.
[6]Note carefully: Polanyi is NOT quarreling with the need for experimental design, accummulated data, or rules of scrupulous inference and analysis; he is not arguing for a generalist natural philosophy to take the place of scientific research. Polanyi was a productive physical chemist who authored hundreds of scientific papers, who pioneered x-ray crystalography, and among his students are at least three Nobel laureates.
[7]The "need for better communication" leads to "interdisciplinary" meetings and courses. While helpful, these are the starting point, not the solution to the problem at hand. Our thinking must become transdisciplinary: that is, we must find a way of viewing how we study and know, how we see the world that goes far beyond the narrow segments of it addressed by our typical disciplinary boundaries. It is in response to this need that the more directly wholistic disciplines such as religion and philosophy, art and literature, have become involved in the revision of thinking in the current academic debate about knowledge, texts/, and cultures. The number of studies involving the application of religion to ecological and environmental thinking is now in the hundreds and growing rapidly.
[8]'Wisdom' [either as divine wisdom, sophia, or as collective human wisdom] for instance is no longer part of the vocabulary of either science or political thought. With the abdication of wisdom by the communities of science and government, it is perhaps no coincidence that the environmental movement has sought "wisdom keepers" among the shamans of both the Asian and Native American traditions, and it has turned to poets more readily than scientists to summon communities to that heightened consciousness necessary for global action. Elizabeth Sewell, Annie Dillard, Gary Snyder, and Wendell Berry are among many whose poetry has been shaped by passionate concern for our being upon the earth.

Religion, Culture, Ecology

I. Religion as an interpretative concept

Resources:

- Paul Tillich
- Robert Bellah
- Clifford Geertz

- Peter Berger

Key Concepts:

- social, trans-individual nature of religion
- religion as ultimate concern, not just theism
- religion as wholistic, integrative
- religion as the "theory" of culture
- religion as framework of general ideas
- study of religion as "verstehen": understanding

II. Culture as an interpretative concept

Key Concepts:

- culture supplies image or metaphor for individuals
- culture supplies rationale for social organization
- culture supplies symbolic systems for integration of individuals into social order
- culture supplies rationale for cooperation of the divisions of the social order
- canopy model of internalization of values: cosmos, nomos, psychos
- canopy model of cooperation of social components
- cultures as dynamic social systems

III. Ecology, Environment, Culture, Religion

- Ecology is the scientific theory of nature as nature considered as system.
- Environment includes nature and therefore ecology, but environment exceeds and is not identical with nature
- Environmental issues are necessarily issues of human social organization--values and beliefs and visions--and therefore include cultural and religious concerns
- When environmental issues become ultimate--i.e., when they become matters of life and death, matters of social responsibility, matters of social coherence, matters of vision and meaning, then they become religious issues
- Today, environmental issues are increasingly becoming religious issues: issues of ultimate meaning and coherence

Science, Systems and Ecology

Science and System

Systems thought is the disciplined [i.e., scientific] effort to consider the connections between things. Systems are about relationships. Science is about essence [i.e., the identity or nature of a given thing--orange] and process [i.e., the transformations of a given thing--rotting orange]. Systems go beyond given things to their connection with other things: oranges and apples and pears and walnuts and christmas and Vitamin C and colds and Burt Reynolds.

Nodes, relations, network

A system is an organization of energy or information consisting of nodes, relations, and a network. A node is any concentration of energy or information. A relation is a flow of energy or information between two or more nodes. A network is the set of relations and nodes of a given system. There can be different kinds of systems; each system is distinguished by the specific content of its information or its energy flow. For practical purposes systems can sometimes be treated independently, but in terms of the ultimate energy flow that is the basis of all systems, all systems are interconnected and interdependent. Systems may be simple or complex: in simple systems, the number of nodes and their relations are finite and directly measurable; in complex systems, the number nodes and value of relations may not be fully knowable knowable or measurable. The science of statistics is used to measure complex systems. A systems analyst discloses and describes the nodes and relations of a network; a systems manager monitors, adds, removes, and alters nodes and relations and the network array of a system in order to attain a goal. A goal is a desired configuration of a system. Technology is the manipulation of a system in order to attain a goal.

Types of systems

- **physical systems:** thermodynamics, gravity, light, photosynthesis
- **mechanical systems:** HVAC
- **information systems:** DNA, binary logic, dictionary, phone book
- **natural system:** watershed, estuary, soil, oak-hickory biome, long grass prairie
- **social system:** agriculture, monogamous marriage, monasticism, street gang

Systems thought

- **Industrial commerce**
- **Medieval Latin**
- **Creedal Christianity**
- **World War II** --the first integrated, large-scale, globally conceptualized effort at systems thinking. WWII was not significant for who won or lost but for what both winners and losers discovered about social and industrial and information organization at the global level. WWII carries the human race across a threshold--horizon--like that from hunting &

gathering to agriculture, from agriculture to metalworking, from industry to information based society.

Modes of Systems

- All systems are solar powered: all systems require energy to introduce the order which lifts them above chaos
- Energized mode: input of energy yields information--order
- De-energized mode: inability to maintain energy inflow yields loss of information, hence loss of order [comprehensive de-energization is called chaos or dis-order]
- The natural tendency of energized systems is to lose their energy; the amount of energy in the universe is finite and is dissapated in the conversion into heat energy which is lost through cooling. The ultimate state of the universe is fragmentation and cold. The tendency of systems to lose energy/information, cool down and become disorganized is called entropy.

System and environment

SYSTEM	CHAOS
house with a roof	leak in the roof
phone book	shredded pages
gravity/solar powered hydrologic cycle	flood "control" dams
cokes or beers in a pack	can by the road

To restore a can to "order"--to reverse the process of entropy--requires the infusion of energy. This is why recycling will never work: it ultimately requires more energy to sustain than was required to produce the products needing to be recycled: all energy is costly; recycling only works if there is excess energy or if it is free and not paid for. The energy required to reassemble the trash represented by the purchased merchandise of Walmart will never equal the energy which was required to produce it: in a capitalist [profit driven] society production means that trash is inevitable. It is impossible for such societies to generate social energies in excess of the economic energies which drive production. The economic cost of such social energy would destroy the capital base of such societies. The economic cost of social energy is called taxes. The best enviromental fixes/solutions are those that are system-oriented: it is better to fix the roof, not buy buckets. It is better to build the cost of recycling into the product than it is to try to derive it from the social system at a later point: objects that are intrinsically worthy--costly--will be recycled sooner than worthless objects. [Cost of coke can]. It is better not to build in flood plains and not to build dams and levees; dams & levees do not "control" flooding; they use enormous infusions of energy to re-distribute flooding--that is, to make sure that Fayetteville, Tennessee floods but not New Orleans. Dams are always political and economic structures of power before they are ever sources of hydro-electric "power". In the long run, it is more energy efficient not to build on land that floods.

Conclusion

The purpose of liberal education is to allow you to become effective, humane systems managers. The ultimate profit is not the generation of capital but the saving of energy; by saving energy, you enable the nodes of the human community to establish relations in terms that escape the entropy of the universe. Community is possible only when love exceeds entropy. Make friends, not profits; rethink, not recycle.

General Discussion

Topic Review

- Polanyi and personal knowledge [vs. subjective/objective]
- From-to integration of parts to whole in solution of problems
- Reductionism
- Systems
- Ecology [general theory of nature as nature]
- Environment
- Field Work topics

Christian Origins

I. Cultic Background of Christian Religion

- ANE polytheism, Council of the Gods in Gilgamesh Epic
- Mythos of Marduk and Tiamat
- Prophetic truncation of polytheism: High God Monotheism
- Rigorous anti-idolatry theology

II. New Testament Syncretism

- Cultic/cultural background of NT
- Roman, Egyptian, Hellenic, Jewish, Zoroastrian & other religions
- Incorporation of non-Jewish imagery; modification of monotheism
- Incorporation of goddess imagery: Mary

III. Medieval Hierarchialism

- Development of Book/Creed/Church

- Ptolemaic cosmology
- Great Chain of Being
- Orders & grades of society; of nature
- Providence: Theological rationale for all events

IV. Reformation/Modern Individualism

- Reformation Agenda: Priesthood of believer
- Disruption of prevailing political/economic order
- Reductionist philosophies/science
- Accommodation of faith & reason: natural theology
- Appearance of "piety" as normative Christian behavior

V. Post-Modern Emotionalism

- Ultimate privatization of religious belief and behavior
- Strong association of religion with feeling & emotion
- Anti-rational return to pentecostal religion
- Spiritualization of nature: recrudescent natural theology

Key Concepts

Creation

- "heaven and earth", the waters, animals, Adam & Eve [Gen. 1]
- distinct from the Creator
- being of the creation is derivative, not original, not self-existent
- real, but not eternal nor ultimate
- despite some theologies, not seen in biblical terms as static
- spiritual not merely "natural"

Providence

- creation in its benign structure and moral order; general providence
- God's purposive governace of the creation
- Includes political order as well as natural order
- Included miracles as interruptions of natural order: special providence

Fall

- concept of both ontological and moral disorder in creation
- loss of an original nature which distorts both man and the creation

Sin

- relational concept rather than specific deeds or objects
- refers to broken relations in the creation
    - between God and man
    - between man and nature
    - between man and man

Justice

- the integrity of God's being
- the intended integrity of human relations in the created order
- involves not only "what is right", but also making right what isn't
- God's measure of sin
- associated with the work of the biblical prophets

Love

- NT category of relationality to overcome the alienation caused by sin
- agape: non-selfish concern which intends the best for the other
- compassionate justice bringing to pass "what is right"
- emblematic in the life and work of Jesus
- basis of Christian moral order and action

New Creation

- rectification of the creation to remove the effects of sin
- re-establishment of justice/love in the creation
- renewal of the natural order
- removal of natural defects
- restoration of original human nature

People of God

- also Israel, the Chosen People, the Elect, the church
- both the historic community of the Judaeo-Xn faith but also all people
- community as based upon love and justice
- community as People of God reconciled to creation: man & natu

Problems

Rigorous separation of God from Nature

- implicit, often explicit, desacralization of nature
- avoidance/loss of natural metaphors of the divine
- transcendence implies divine detachment
- immanence implies idolatry=nature worship

Exclusivism of "election" theology

- separates the "people of God" from other peoples and from creation
- is oriented to people and not nature

Dominion passage in Genesis

- suggests a human right to "exploit" the creation
- currently interpreted in terms of exploitation not stewardship

Hierarchialism of Medieval Christianity

- Great Chain of Being
- Places man above other animals, natural order

Tendency of religious organization to seek political expression

- results in association of church with power rather than compassion
- results in focus upon society instead of nature

Association of Protestantism with Capitalism

- results in association of religion with exploitation of nature
- tends to ally religious interests with structures of power
- tendency to associate good works with virtue

Protestant tendency to construe sin in moral not ontological terms

- sin is seen as particular deeds rather than as a condition of being
- tendency to remedy sin through corrective action
- tendency to view sin in individual rather than corporate terms

General Christian acceptance of religious/secular division of culture

- church and culture become isolated from each other
- church tends to avoid criticism of culture
- culture tends to avoid self-analysis in religious terms
- secular culture tends to increasing autonomy

Environment is associated with science and not religion

- church resists seeing environmental problems as moral issues
- secular culture imagines only technical/systematic solutions

Resources in the Christian Tradition

Psalm 65 vs. Genesis 1

New Creation Theology

Liberation Theology

Sin/Justice/Prophetic Criticism

Concept of agape as basis of community

Universalist vision

Institutional Resources

- Long tradition of trans-cultural communication
- Large, global network

Amerindian Tradition: Survival vs. Ecology

I. Fantasy & Stereotypes

- "Straight Arrow" cards in cereal boxes
- "Iron-eyes" and pollution [TV ad campaign]
- Ernest Seton Thompson: "Gospel of the Redman"
- Noble Savage, Natural Theology, Native Ecology
- Edenic imagery

II. Amerindian Diversity

- Culture Areas

- Modes of Subsistence
    - Hunter-Gathering
    - Planting

III. Religions and Visions

- Animism, Wakan, Polytheism
- Black Elk
    - Man/Pipe/Universe homology
    - Man and the Earth: "With this sacred pipe you will walk upon the Earth; for the Earth is your Grandmother and Mother, and She is sacred. Every step that is taken upon Her should be as a prayer." The Sacred Pipe, pp. 5-6.
- Sacred Ecology

IV. Contact & Conquest: European Culture & Accommodation

- Transformative impact of land acquisition & trade
- Effect of European goods upon Amerindian "ecological economy"
- Christianity & transformation of religion

Key Concepts

Sense of harmony and interconnectedness

- a kind of "pre-system" systems awareness
- prevalent use of natural metaphors for the divine

Alternative metaphysics: pre-critical monism, not dualism

- neither objectivist nor reductionist
- avoids the bifurcation of "fact and value"

Social reality of the individual

- neither group nor individual is given priority

Community as transcending human members

- "Peoples": winged peoples, four-legged peoples
- human community is interwoven with the plant, animal communities

Memory, narrative, & communal history: story vs. statute

- absence of "history", formal records
- formulation of group memory as narrative
- story as a better vehicle for wisdom

Problems

Indigenous vs. imported technology: insufficient parameters of control

Guns, traps, hatchets, whiskey

Trucks, snow mobiles, power boats

Barter/trade consumerism: European trinkets and fur

consumption leads to excess harvest

trade usage exceeds survival needs

Forced migrations and removals

disruption of culture area/tribal group balance

fragmentation of tribal groups

loss of "lived-landscape"

Reservations as anti-ecosystems

tribal inability on reservation to live in harmony with nature

problem of food supply, local density, sanitation

Reactive hostility to eco-management

game laws perceived as white exploitation to continue suppression

over-fishing/hunting as a token of independence of US gov't

Disenfranchisement, poverty & exploitation

culture of "disposession" leads to enviromental abuse

compare Battle Creek~reservation

centuries of oppression generate culture of despair

current needs pit powerful economic forces against Amerindians

New Consciousness

legal and other confrontations to restore rights

convergence of Native American & other minority environmental interests

importation of legal/media/organizational skills from outside

stronger sense of tribal identities & of rights of ownership

some emerging sense of ecological responsibility

Amerindian Resources:

- occupation of some critical areas of American wilderness
- sovereign nation status as bargaining power via federal courts
- developing consciousness as bearers of an ecologic heritage
- polarization with European/white culture which is seen as anti-ecological
- developing political clout in conjunction with other minority groups
- capacity to publicize environmental abuse as human rights violations
- availability of religious, spiritual, wisdom traditions as strong motivation

Hinduism/Traditions of India

Brief overview of geography, culture

- Deccan, Mountains, Monsoon seasons
- Village culture, large poplulation
- Cultural, religious diversity

Early religion in India

- Pre-Aryan religon: Indus, Deccan, Bengal
- Early Aryan Religion: the world of the early Vedas

Illusion in the brahmanas

- Vishnu's dream

Upanisadic transcendence

- Critique of the phenomenal world: neti, neti; nama-rupa
- positing of the absolute: Brahman

Synthesis in the Bhagavad-gita

- reconcilation of Aryan and non-Aryan religion
- puja combined with yoga

Devotional religion as work ethic: Dharma shastras

- full economic development of the caste system
- full development of the dharma-karma system

Other developments: Jainism, Buddhism

- radical dualism supports strong "other worldly" emphasis
- increasing use of the ahimsa concept

Dualism, Half-dualism, Non-dualism

- Review Platonic, Neo-Platonic, Cartesian Dualism
- Review post-Cartesian half-dualisms: idealism, empiricism
- Dualism in India
    - Upanisads
        - Brahman-Atman/maya
    - Jaina metaphysics: dualism and radical asceticism
        - purusha/prakriti
        - jiva/ajiva
        - aloka/loka
        - atomic, material karma
        - meaning of moksha in this system
    - Jaina metaphysics and ahimsa
        - basis of a non-altruistic ethic
    - The case for animals and plants
        - ahimsa is not care but non-involvement
- "Moksha" as the resolution of dualism by half-dualism
    - union of atman with Brahman, escape from maya
    - escape of purusha from prakriti

Resources: Advaita/Yoga/Meditation

Review dualism/half-dualism/non-dualism

- tendency of Hindu systems toward spirit half-dualism
- tendency of Western systems toward matter half-dualism

Gunas as practical resolution of purusha/prakriti toward non-dualism

- theory of the gunas: sattwa, rajas, tamas
- recognizes a "mixing" of spirit and matter
- kind of artificial non-dualism

Advaita as non-dualism

- "not two"
- "post-critical" recovery of the ground of noumenal/phenomenal
    - ~'second naivete'
- transformative, alternative metaphysic: neither dual nor half-dual
- allows for re-sacralization of manifest world [nature]
- allows for re-materialization of the psyche

Yoga

- yoga as the means of half-dual moksha
- yoga as the means of non-dual moksha
- association of non-dual moksha with tantra/vajra
    - sexual imagery: left, right

Mediation as the being-world of non-dual yoga

- serenity of psyche, sense, space
- not a radical asceticism, but enlightened transformation of being-in-the-world
- alternative to non-deliberate living
- alternative to consumerist materialism
- alternative to consumerist escapism [fantasy]

Applications

- spiritual formation, healing
- "arts & crafts"
- living: forms of life
- perspective/point of view

Buddhism: Origins

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Life of the Buddha:  560-480

India around the time of the Buddha
    Upanisadic synthesis in Vedic religion
    Dual &amp;amp; non-dual metaphysics
    Upsurge in popular religion
    Weight of "samsara"
    Wandering teachers, forest ascetics:  peripatetic religion

Gotama's teaching
    Wheel Sermon
        Four Noble Truths
        Eightfold Path
    Fire Sermon
    "Soul-less, Sorrowful, Transient"

Early Buddhist Community
    Sangha
        Theravadin
        Mahayana
    Literature/Canon:  Tripitaka

Mahayana and "Middle Way" [non-dual]

Perfection of Wisdom

Pure Land Schools
    Imagery of idealized landscapes &amp;amp; spiritual fulfillment
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Taoism

I. Chronology

- Shang Dynasty, 1776-1122 b.c.
- Chou Dynasty (Western), 1122-700
- Chou Dynasty (Eastern), 700-221
    - Lao-Tzu, c.604-?
    - Confucius, 551-479
- Ch'in Dynasty, 221-206
- Han Dynasty, 206 b.c.-220 a.d.

II. Early Religion in China

- Royal Religion, Ancestor Cult
- Folk, Popular Religion
- Oracle Bones, Divination, Magical ecology

III. Taoism

- The Tao Te Ching
- The "Tao"
- Images, Motifs, Symbols
    - water, earth, wood
    - woman, child
    - contrast with Confucianism
- Harmony & Duality: Yin, Yang
- "Not Against": wu-wei
- The Sage

In Conjunction with

Buberian Environmentalism

Instructor: Alvin Lim

Martin Buber: An Introduction

Martin Buber was born February 8, 1878 in Vienna as a child of a Jewish family; his grandfather, in whose house in Lvov Buber spent much of his childhood (his parents' marriage had broken apart), was a very renowned scholar on the field of Jewish tradition and literature. Buber studied in Vienna, Leipzig, Berlin, Zurich and soon entered the Zionist Movement, more for religious and cultural than for political reasons. He was the editor of a renowned Jewish magazine and lectured Jewish religion philosophy at the University of Frankfurt from 1924 to 1933. During that time, he worked together with Franz Rosenzweig (1886-1929) at the "Freies Jüdisches Lehrhaus". And it was also Rosenzweig with whom together he translated the Old Testament into German.

In the first years of Hitler's rule, he stayed in Germany until he had to emigrate in 1938, and from then on he lectured, interrupted by numerous journeys, at the Hebrew University in Jerusalem. He made many efforts for improving the understanding between the Israelis and the Arabs, in the postwar period also for reestablishing the dialogue with German thinkers and institutions. He died on June 6, 1965.

CHASSIDISM

This religious movement within Judaism emerged around 1750 in the Ukraine and in Poland; it represents (like the German Pietist movement) the protest against legalist faith, casuistics, intellectuality - a popular movement with deep religious sentiment and longing for God. It emphasizes emotional values, piety, but also joy and active love. This movement has heavily influenced on Buber's thought. For five years, he had dived into the Chassidic texts while ceasing any other activity.

PHILOSOPHY OF DIALOGUE

Buber's philosophy of dialogue views the human existence in relations, and that in two fundamentally different kinds of relations: I-It and I-Thou relations.
An **I-Itrelation** is the normal everyday relation of a human being towards the things surrounding

him. Man can also consider his fellows as an It - and that is what he does most of the time -, he views the other from a distance, like a thing, a part of the environment, forged into chains of causality.
Radically different the **I-Thou relation**. The human being enters into it with his innermost and whole being, in a meeting, in a real dialogue this is what both of the partners do. For Buber, interhuman meetings are only a reflection of the human meeting with God. The essence of the biblical religion consists for Buber of the fact *that - regardless of the infinite abyss between them - a dialogue between man and God is possible.*

RELIGION PHILOSOPHY

The foundations of Buber's religion philsophy lie in his Chassidic work and his philosopy of dialogue. The basis of belief is the relation between man and God, the relation to the eternal Thou. In an unparalleled consistent way he accomplishes the anthropological turn-about in theology towards the human being: following the dialogical existence of man, there is no statement about God which does not at the same time state something about man. For Buber, the biblical history of belief of Israel is a living tradition, a dialogical history between God and man: from calling Abraham out of his environment, the covenant at Mount Sinai up to the prophets, a dialogical history which demands anyone who joins it.

The basis for all statement about faith is the dialogical relation of trust, not the belief in dogmatic contents, as he views in Christian theology: "One can *believe that God is* and live in his back, he who trusts him lives in his face." (Two Types of Faith). "Trust is proving trust in the fullness of life in spite of the experienced course of the world."

Buberian Environmentalism: A Summary

In **Part One** I argue that if Buberian Environmentalism is possible Martin Buber's philosophy of dialogue has to fulfill the following tasks. First, it has to explain how humankind's relationship with Nature has degraded to the level of the environmental crisis we face today. Second, it has to explain how humankind's relationship with Nature can improve to one of respect. I then demonstrate that Buber's philosophy of dialogue meets both requirements, hence showing Buberian Environmentalism to be possible. I conclude this Part by showing that Buberian Environmentalism is at least as good as and has advantages over other environmental philosophies.

In **Part Two** I elaborate on my account of Buberian Environmentalism. I first show Buberian Environmentalism to belong to the tradition of moral universalism. I then distinguish Buberian Environmentalism from the classical ethical triumvirate of virtue ethics, consequentialism, and deontology. While the classical triumvirate is characterised by its reductionism, Buberian Environmentalism is non-reductionist, as its analyses of moral events consider all aspects of these

events, including the rational and non-rational mental states of the moral agent, the act itself, and the consequences following from the act.

Unlike the classical triumvirate, Buberian Environmentalism does not single out any particular aspect as being worthy and the others as being unworthy of consideration. I conclude this Part by showing Buberian Environmentalism to belong to Deep Ecology.

Part One
BUBERIAN ENVIRONMENTALISM: THE POSSIBILITY AND PROMISE

Introduction. Humankind's failure to relate to Nature (which I define as that which is not constructed by humankind) with respect is shown by the environmental crisis. This crisis has been manifested since the industrial revolution by the massive exploitation and the destruction of Nature. The modern environmental movement arose in reaction to the environmental crisis, and the rise of this movement saw the creation of various environmental philosophies. In this dissertation I shall construct such an environmental philosophy based on Martin Buber's philosophy of dialogue, which I shall term *Buberian Environmentalism*. In this Part I shall demonstrate that Buber's philosophy of dialogue is relevant for environmental ethics, hence demonstrating that Buberian Environmentalism is able to offer both an explanation of the environmental crisis as well as a way to resolve it.[1] In Part Two I shall elaborate on my account of Buberian Environmentalism, locating its place in the metaethical world and within the umbrella of Deep Ecology. Finally, in Part Three, Buberian Environmentalism will be applied as a defence of vegetarianism.

A Brief Survey of the Environmental Crisis. It is clear that the environmental crisis has not been resolved.[2] It is estimated that at least fifty thousand species go extinct each year, and three fourths of the world's bird and a quarter of the world's mammalian species face extinction.[3] Worse, it is possible that the rate of extinction is being accelerated by rapid climate change.[4] Such climate change itself is being accelerated by the increase of carbon dioxide levels in the atmosphere, an increase which humankind has significantly contributed to, especially with the industrial scale burning of both fossil fuels and tropical rainforest.[5] With respect to the loss of natural habitat, the expansion of human settlement and agriculture has led to the massive destruction of natural habitats and ecosystems such as tropical and temperate rainforests, freshwater lakes and streams, coral reefs, and coastal mangroves.[6] While it is true that extinctions can arise from natural factors, E. O. Wilson estimates that the rate of human-caused extinctions in the rainforests is between one to ten thousand times the natural rate.[7] His 'maximally optimistic' estimate of the rate of extinction is that of 27,000 species per year (that is, 74 species per day, or 3 species per hour).[8] Looking at Singapore, it is immediately obvious that she has not escaped the environmental crisis, for her rapid economic development has led to the destruction of her rainforests, which in turn has led to a serious loss of biodiversity.[9]

Singapore's biodiversity has also been threatened by land reclamation, for this and the resulting sedimentation have seriously threatened her coral reefs and other coastal ecosystems,[10] such that, for example, only 4% of Singapore's mangroves are left.[11] The threat to biodiversity in Singapore is stark: 39% of native coastal plants, 26% of seed plants, 34% of birds, and 25% of mammals in Singapore have been driven to extinction.[12]

Three Approaches to Environmental Philosophy. The environmental crisis prompted the rise of the environmental movement. The rise of this movement was partly spurred by the popularity of environmentalist literature such as Rachel Carson's *Silent Spring*[13] and Aldo Leopold's *A Sand County Almanac*.[14] The rise of the environmental movement was accompanied by the development of environmental philosophy, as seen in the creation of philosophies such as Peter Singer's bioethics, Paul Taylor's ethics of respect for nature and Arne Naess' deep ecology. These environmental philosophies can be grouped in different ways. The typology I will use is a division between what I call the instrumental approach, the axiological approach and the anthropological approach.

The *instrumental* approach is anthropocentric in the sense that it merely views an improvement in humankind's relationship with Nature as having importance for humankind. Hence this approach views Nature and the protection of Nature as only having instrumental value for humankind. This has the consequence that if humankind has no instrumental use for Nature then Nature has no ground for protection. In contrast, the *axiological* approach argues that Nature has intrinsic value and that we should protect Nature *because* of its intrinsic value. This has the consequence that proponents of this approach have to establish and defend their understanding of what such intrinsic value consists in. Examples of environmental philosophies belonging to this approach are Peter Singer's bioethics and Paul Taylor's ethics of respect for nature.

The *anthropological* approach is primarily concerned with what being human is or what being human ought to be, and ties this understanding of the nature of humanity to what the relationship between humankind and Nature ought to be. This approach argues that humankind will engage in a relationship of respect with Nature *if humankind feels that* Nature has intrinsic value. This approach does not require the self's sense of Nature's intrinsic value to have the epistemic status of knowledge. Environmental philosophies belonging to this approach hence have to show how humankind can gain this sense of the intrinsic value of Nature. Arne Naess' Ecosophy T, an environmental philosophy falling under this approach, seeks to accomplish this through the account of Self-realization.

It should be noted that the anthropological approach is neither anthropocentric the way the instrumental approach is, nor is it merely psychological. While this approach is anthropocentric (in the weak sense) by virtue of being concerned with the nature of being human, it is not anthropocentric (in the stronger sense) the same way the instrumental approach is. This is because it recognizes that Nature's value does not solely derive from its instrumental value for humankind, and hence that the importance of humankind's engaging in a relationship of respect with Nature does not solely derive from its instrumental value for humankind. This approach is also not merely psychological as it goes beyond providing a mere account of the psychological states of the agent by also providing a normative account of how humankind should live and

engage with Nature. Later in Part One, after I have demonstrated the possibility of Buberian Environmentalism, I shall classify Buberian Environmentalism under the Anthropological Approach.

Conditions for the Possibility of Buberian Environmentalism. Buberian Environmentalism is possible if Buber's philosophy of dialogue can fulfill two tasks. First, it has to be able to explain how humankind's relationship with Nature has degenerated to the environmental crisis we face today. Second, it has to explain how humankind's relationship with Nature can be improved to one of respect. I shall demonstrate in the remainder of Part One that Buber's philosophy of dialogue can fulfill both these tasks, and hence Buberian Environmentalism is possible. In the process I shall also show Buberian Environmentalism belongs to the anthropological approach as it argues that the human self is a relational being, and that the self who relates to Nature with respect has realized its relational and hence its human potential.

Martin Buber's Philosophy of Dialogue: A Minimalist Account. I shall now provide an account of Martin Buber's philosophy of dialogue which is free of his theology. This minimalist account is all that is required for my defense of the possibility of Buberian Environmentalism. I shall then examine how the relationship between self and Nature can be accounted for by Buber's philosophy of dialogue.

Buber's philosophy of dialogue is a study of the relationship between the self and the other. By *other* I refer to any being the self identifies as not-self. Buber describes his project as follows:

> I proceed from a simple real situation: two men are engrossed in a genuine dialogue. I want to appraise the facts of this situation. It turns out that the customary categories do not suffice for it. I mark: first the 'physical' phenomena of the two speaking and gesturing men, second the 'psychic' phenomena of it, what goes on 'in them'. But the meaningful dialogue itself that proceeds between the two men and into which the acoustic and optical events fit, the dialogue that arises out of the souls and is reflected in them, this remains unregistered. What is its nature, what is its place?[15]

Buber views the self as a hermeneutic or interpretive agent, for the type of relationship that occurs between the self and the other depends on how the self interprets the other. This hermeneutic act is analyzed as a 'twofold movement' consisting of the 'primal setting at a distance' and 'entering into relation'.[16] The primal setting at a distance involves the self understanding itself as being separate and apart from the being which is not the self: the self identifies the other *as the other*. Identifying the other as the other allows the self to enter into a relationship with it.[17]

Relation and Attitude. The self can relate to the other in either the I-It or I-Thou relationship. If the self interprets the other as an It, the relationship between the self and the other will be an I-It relationship; if the self interprets the other as a Thou, the relationship between the self and the other will be an I-Thou relationship.

With respect to attitude, the self is in the I-It attitude when it interprets the other as an It, and the self is in the I-Thou attitude when it interprets the other as a Thou. The I-It and the I-Thou *relationships* hence correspond to the I-It and the I-Thou *attitudes*: when the self is in the I-It

attitude, it is in the I-It relationship with the other; when the self is in the I-Thou attitude, it is in the I-Thou relationship with the other.[18] What should be noted here is that whether the self and the other are in the I-It or the I-Thou relationship depends on the self and *not* on the other.[19]

This suggests that the self is transformed whenever it alternates between the I-It and the I-Thou attitudes, since both *attitudes* are of the self and are different.[20] Moreover, the I-It and the I-Thou attitudes are different with regard to how the self possesses them: the I-It attitude 'can never be spoken with one's whole being', whereas the I-Thou attitude 'can only be spoken with one's whole being'.[21] That is, while the self in the I-Thou attitude, the self's existential comportment to the other is on a scale greater to that than when the self is in the I-It attitude.

When the self is in the I-Thou attitude, it is wholly in relation with the other. When the self is in the I-It attitude, it is not wholly in relation with the other, for when the I-It relationship holds between the self and the other, the self is relating to its image of the other rather than the other itself. This can be understood in terms of how the self interprets the other. In the I-It attitude, the self does not interpret the other as having any possibilities beyond those which the self has already determined for it. In hermeneutic terms, the self can be understood as having constructed an image of the other in which the self has imposed possibilities on the other and does not recognize it as having any other possibilities of its own. Hence in the I-It attitude, the self relates to its image of the other instead of the other. On the other hand, in the I-Thou attitude the self recognizes that the other has possibilities of its own beyond those which the self expects or imposes, hence respecting the otherness of the other.

The Question of Objectification. Some critics interpret this distinction between the I-It and the I-Thou attitudes in terms of objectification. They interpret the I-It attitude as the objectifying attitude, with the I-It relationship as the relationship in which the self objectifies the other, and the I-Thou attitude as the non-objectifying attitude, with the I-Thou relationship as that which does not involve any objectification of the other by the self. A good example of such a critic is Steven Katz, who claims that Buber's account of the self's being in the I-Thou relationship with the other requires the self to completely avoid objectifying the other:

> The first question must be whether in knowing other persons as *Thou's* we are ever, or could ever be, completely free from objectivity concepts as Buber argues, or whether in contra-distinction to Buber, these delimiting and identifying concepts are necessary and integral to the knowing of others as *Thou* such as the absence of these concepts would preclude *all* knowledge of the other, including knowledge of the other as *Thou*.[22]

Such an interpretation of the I-It and the I-Thou attitudes is erroneous, for Buber clearly allows for the I-Thou attitude to involve an objectification of the other. In Buber's own example of contemplating a tree, he notes that relating to the tree in the I-Thou mode

> ... does not require me to forego any of the modes of contemplation. There is nothing that I must not see in order to see, and there is no knowledge that I must forget ... Whatever belongs to the tree is included: its form and its mechanics, its colours and its chemistry, its conversation with the elements and its conversation with the stars --- all this in its entirety.[23]

In this passage it is clear that relating to the tree in the I-Thou mode can involve the tree's objectification.

For the I-Thou attitude to involve an objectification of the other and still remain the I-Thou attitude, the self simply has to acknowledge that the other has possibilities of its own beyond those imposed by the objectification. Buber argues:

> It is well known that some existentialists assert that the basic factor between men is that one is an object for the other. But so far as this is actually the case, the special reality of the interhuman, the fact of the contact, has been largely eliminated. It cannot indeed be entirely eliminated. As a crude example, take two men who are observing one another. The essential thing is not that the one makes the other his object, but the fact that he is not fully able to do so and the reason for his failure. We have in common with all existing beings that we can be made objects of observation. But it is my privilege as man that by the hidden activity of my being I can establish an impassable barrier to objectification. Only in partnership can my being be perceived as an existing whole.[24]

Here Buber states that the self's objectification of the other cannot wholly capture the other, and hence such objectification fails. Hence, should the self wish to objectify the other while continuing to relate to it in the I-Thou mode, the self has to acknowledge any such objectification's failure.

It should be noted that this passage contains a strong theological element which I wish to exclude from my minimalist account of Buber's philosophy of dialogue. This occurs in Buber's reference to his 'privilege as man'. This 'privilege' is explained as 'the gift of the spirit which belongs to man alone among all things'.[25] Hence in the example of two men observing each other, the failure of objectification arises from the inability of the one to perceive the spirit of the other in anything other than in the I-Thou relationship.[26]

I exclude this theological element from my minimalist account as it is irrelevant to Buber's philosophy of dialogue, since the conditions for the self's relationship with the other can be formulated without any reference to theological assumptions. For even if the human agent's possession of spirit provides an 'impassable barrier to objectification', it does not follow that natural nonhuman entities do not possess their own impassable barriers to objectification which come from some non-spiritual attribute, such as their possession of possibilities beyond those imposed by the self. As Buber himself argues, the self can be in the I-Thou relationship with natural nonhuman entities such as trees[27] and horses,[28] which according to his theological assumption do not possess any spirit.

The interpretation that the self can objectify the other and yet remain in the I-Thou relationship with it appears to contradict passages in Buber's texts which claim that the I-Thou relationship between the self and the other is immediate and not one of experiential, conceptual or means-end mediation.[29] For example, a famous passage in *I and Thou* states:

> --- What, then, does one experience of the You?
>
> --- Nothing at all. For one does not experience it.
>
> --- What, then, does one know of the You?
>
> --- Only everything. For one no longer knows particulars.[30]

Similarly, another passage in *I and Thou* states:

> The human being to whom I say You I do not experience. But I stand in relation to him, in the sacred basic word. Only when I step out of this do I experience him again. Experience is remoteness from you.[31]

These passages do not contradict the interpretation that the self can objectify the other and yet remain in the I-Thou relationship with it, since objectification does not necessarily involve mediation.

Mediation involves the self's image of the other functioning as a *proxy* for the other in the self's relationship with it. Certain forms of objectification, such as perceptual and thematic objectification, do not involve mediation.[32] Perceptual and thematic objectification are closely related but can be differentiated with regard to their function. *Perceptual* objectification involves the self's perception of the entity before it as an object, with the self as subject. This entity is perceived as being distinct from and independent of the self, perceived as being perceived from a particular point-of-view, and perceived as an organized unity. *Thematic* objectification involves the self's focusing on the entity being perceived, with other entities falling into the background of the self's perception.[33] Neither form of objectification involves mediation.

Consider the self's objectification of a cup. The self perceives the cup, and through perceptual objectification the self perceives the cup as an object, with the self as subject. Through thematic objectification the self focuses on the cup, bringing it into the foreground of his attention and allowing other entities to fall into the background. In neither process does the self construct an image of the cup and engage with this image instead of the cup itself. In contrast, consider a form of objectification which involves mediation, such as the self's objectification of the cup as nothing more than an instrument, in which the self's image of the cup-as-instrument functions as a proxy for the cup in the self's relationship with it. Hence my minimalist account is consistent with these seemingly contradictory passages.

The Relationship between the Self and Nature. I shall now focus on the relationship between the self and Nature. This is important since Buberian Environmentalism needs to account for the relationship between the self and Nature. Earlier I defined Nature as that which is not constructed by humankind. Hence Nature consists of both living and nonliving natural entities. In this discussion I shall focus on Buber's concept of *mutuality*. A relationship of mutuality refers to a relationship in which the self and the other can respond to each other. Buber's explanation of how the self can be in relation with Nature is found in his accounts of the *thresholds of mutuality* and the *spheres of relation*. In these accounts, Buber claims that the self can be in relation with any entity that it encounters. These entities can be grouped in different thresholds of mutuality, where each threshold of mutuality is distinguished by the ability of the entities in that threshold to respond to the self when in a relationship with the self.[34] In his account of the spheres of relation, Buber states that the 'spheres' of being the self can be in relation with are Nature, humans, and spiritual beings.[35] (Donald Berry translates 'spiritual beings' as 'aesthetic forms'.[36])

I shall now focus on the sphere of Nature, which includes living and nonliving natural entities. The realm of plants and nonliving natural entities, which Buber describes as the 'huge sphere that reaches from the stones to the stars',[37] is classified as being in the *pre-threshold* of

mutuality, since entities in this realm cannot respond to the self.[38] Animals, on the other hand, are classified as being *on* the threshold of mutuality as they have the ability to respond to the self's presence,[39] but are not classified as being *beyond* the threshold of mutuality. This is because they lack the linguistic capacity necessary for them to respond to the self's address to them as *Thou* by addressing the self as *Thou*. Of living entities in the sphere of Nature, Buber states that:

> Here the relation vibrates in the dark and remains below language. The creatures stir across from us, but they are unable to come to us, and the You we say to them sticks to the threshold of language.[40]

Since animals are below the 'threshold of language', although they can provide 'an often astonishing active response' to the self and 'can both turn toward another being and contemplate objects', they 'are not twofold, like man: the twofoldness of the basic words I-You and I-It is alien to them'.[41] The ability of animals to respond to the self's address as *Thou* and their inability to correspondingly address the self as *Thou* is the reason why Buber classifies animals as being on the threshold of mutuality and not above it. Hence the sphere of Nature extends from the pre-threshold to the threshold of mutuality. Beyond the sphere of Nature, the spheres of humans and spiritual beings or aesthetic forms are classified as the *over-threshold* of mutuality.[42] A discussion of the over-threshold lies beyond the scope of this dissertation.

Despite the inability of entities in the pre-threshold to respond to the self, Buber claims that mutuality between the self and these entities is possible. However, mutuality at this level is different from that which occurs above the pre-threshold. Mutuality above the pre-threshold assumes the form of *reciprocity*, since entities above the pre-threshold are able to respond to and hence reciprocate the self's call to them. Since entities in the pre-threshold cannot respond to the self in this way, reciprocity is not possible in the pre-threshold, and hence the form mutuality assumes in the pre-threshold is different.[43] Mutuality between the self and entities in the pre-threshold is possible because these entities possess their own being:

> It is part of our concept of the plant that it cannot react to our actions upon it, that it cannot 'reply'. Yet this does not mean that we meet with no reciprocity at all in this sphere. We find here not the deed of posture of an individual being but a reciprocity of being itself - a reciprocity that has nothing except being. The living wholeness and unity of a tree that denies itself to the eye, no matter how keen, of anyone who merely investigates, while it is manifest to those who say You, is present when *they* are present: they grant the tree the opportunity to manifest it, and now the tree that has being manifests it. Our habits of thought make it difficult for us to see that in such cases something is awakened by our attitude and flashes towards us from that which has being. What matters in this sphere is that we should do justice with an open mind to the actuality that opens up before us.[44]

Since Nature is not a creation of humankind, much less the self, plants and nonliving natural entities are not dependent on the self for their being. As such they possess possibilities of their own beyond those which can be imposed by the self, for example, the possibility of their continued existence in the future free from interference by the self. Since these entities possess possibilities of their own, the self can be in the I-Thou relationship with them. (For the same reason, the self can be in the I-Thou relationship with animals.) This gives entities in the pre-threshold the ability to prompt the self to relate to them in the I-Thou mode. In this sense there exists mutuality in the pre-threshold.

Buberian Environmentalism and the I-It Relationship. The self can also relate to Nature in the I-It attitude. As shown, when the self relates to Nature in the I-Thou attitude, the self recognizes that natural entities possess possibilities of their own beyond those which can be imposed by the self. In contrast, when the self relates to Nature in the I-It attitude, it fails to recognize that natural entities possess their own possibilities beyond those which can be imposed by the self, and recognizes only those possibilities which are imposed by the self. Martin Heidegger has provided a good example of humankind's I-It relationship with Nature. This example is that of the establishment of a hydroelectric plant on the Rhine. This is an example of an I-It relationship since the human community interprets the Rhine as nothing more than a source of hydroelectric power. The community fails to recognize that the Rhine has possibilities of its own beyond that of being a source of power for humankind.[45] I shall proceed to elaborate on the self's I-It relationship with Nature and provide a genealogical account of how the expansion of the I-It relationship between humankind and Nature has led to the environmental crisis. This is important since it satisfies the first criterion for Buberian Environmentalism to be possible.

Modern Technology and the Rise of the I-It. Martin Buber has argued that the industrial revolution has brought about a dual crisis for humankind in the modern era. First, the expansion of bourgeois society, a result of the industrial revolution, has led to the collapse of traditional communities in which individuals had close relationships with one another. Modern communities can only approximate but not completely replace the sense of security, the sense of 'being at home in the world', which these traditional communities provided. Individuals hence suffer alienation in the modern industrial world.[46] Second, the rise of new machine technology in the industrial revolution has led to what Buber describes as the modern crisis of 'man's lagging behind his works'.[47] While in the past, humankind was fully in control of its artifacts, the era ushered in by the industrial revolution saw a situation in which:

> Man is no longer able to master the world which he himself brought about: it is becoming stronger than he is, it is winning free of him, it confronts him in an almost elemental independence, and he no longer knows the word which could subdue and render harmless the golem he has created ... Man faced the terrible fact that he was the father of demons whose master he could not become.[48]

In this passage humankind's modern artifacts and technologies are described in diabolical terms, as seen in his use of the metaphors of the golem and the demon. The metaphor of the golem is especially apt, since the golem, in Jewish mythology, is a monster which, like modern technology, is created by human hands. Buber's dislike of modern technology arises from his conviction that it has contributed to the expansion of the I-It and the diminution of the I-Thou, in that the modern self is more likely to relate to the other in the I-It than in the I-Thou mode. Buber describes this as humankind's descent into alienation in the modern industrial world, for the increasing rarity of modern individual's being in I-Thou relationships with the other leaves him in a state of alienation from the other.

Since the rise of I-It and the corresponding diminution of the I-Thou in the modern world has been brought about by the rise of modern technology, I shall proceed to investigate the nature of what modern technology is. For this I shall utilize Heidegger's investigation into the nature of technology.[49] I shall then show how the rise of the I-It, brought about by the rise of modern technology, has led to the environmental crisis. At this point I would like to clarify that my

investigation of technology is *not* an investigation of the technological entities themselves, but rather is an investigation of the self *qua* technological. In the following investigation of technology I shall be investigating the different ways the self, as a user and producer of technology, interprets the objects in its world as technological entities. In other words I shall be investigating technology in terms of how it functions as an interpretation of the world.

***Poiesis* as the Essence of Technology.** Heidegger notes that 'all that is merely technological never arrives at the essence of technology'.[50] The essence of technology, or *techne*, has to be determined from what technology itself is.[51] What technology is cannot be determined from its artifacts; it can only be determined by understanding what it is for the self to *be* technological. As Heidegger argues:

> What has the essence of technology to do with revealing? The answer: everything. For every bringing-forth is grounded in revealing. Bringing-forth, indeed, gathers within itself the four modes of occasioning - causality - and rules them throughout. Within its domain belong end and means, belongs instrumentality. Instrumentality is considered to be the fundamental characteristic of technology. If we inquire, step by step, into what technology, represented as means, actually is, then we shall arrive at revealing ... Technology is a mode of revealing. Technology comes to presence in the realm where revealing and unconcealment take place, where *aletheia*, truth, happens.[52]

The self is technological insofar as the self interprets or brings forth an entity (for example, a stone) as a technological artifact (for example, a tool for hammering). Bringing-forth or *poiesis* is revealing, for 'bringing-forth comes to pass only insofar as something concealed comes into unconcealment'.[53] A rock remains a mere entity until the technological self *reveals* it to be a tool. Since revealing is the essence of technology, technology 'belongs to bringing-forth, to *poiesis*; it is something poietic'.[54] Technology's essence as *poiesis* can be seen in that:

> It reveals whatever does not bring itself forth and does not yet lie here before us, whatever can look and turn out now one way and now another. Whoever builds a house or a ship or forges a sacrificial chalice reveals what is to be brought forth ... This revealing gathers together in advance the aspect and the matter of ship or house, with a view to the finished thing envisioned as completed, and from this gathering determines the manner of its construction. Thus what is decisive in *techne* does not lie at all in making and manipulating nor in the using of means, but rather in the aforementioned revealing. It is as revealing, and not as manufacturing, that *techne* is a bringing-forth.[55]

Enframing as the Essence of Modern Technology. The essence of modern technology differs from that of technology, for while 'it too is a revealing',

> ... the revealing that holds sway throughout modern technology does not unfold into a bringing-forth in the sense of *poiesis*. The revealing that rules in modern technology is a challenging, which puts to nature the unreasonable demand that it supply energy that can be extracted and stored as such.[56]

The *standing-reserve* is Heidegger's name for that which is so challenged by modern technology, for it is 'ordered to stand by, to be immediately at hand, indeed to stand there just so that it may be on call for a further ordering'.[57] The modern technological self not only reveals natural entities as tools for technological use, they are also revealed as standing reserves for technological use. *Enframing* is Heidegger's name for the essence of modern technology, the challenging revealing of entities as standing-reserve:

> Enframing means the gathering together of that setting-upon which sets upon man, i.e., challenges him forth, to reveal the real, in the mode of ordering, as standing-reserve.[58]

The metaphor of the frame can illuminate what Enframing is. When the modern technological self interprets an entity (for example, the Rhine) through the hermeneutic mode of Enframing, the self 'frames' or interprets the entity as *nothing more than* a standing-reserve, excluding all other possibilities this entity might have (the Rhine as *nothing more than* a source of hydroelectric power). This is clearly illustrated by Heidegger's account of the Enframing of coal:

> The coal that has been hauled out in some mining district has not been supplied in order that it may simply be present somewhere or other. It is stockpiled; that is, it is on call, ready to deliver the sun's warmth that is stored in it. The sun's warmth is challenged forth for heat, which in turn is ordered to deliver steam whose pressure turns the wheels that keep a factory running.[59]

Andrew Light describes Enframing as the 'process of turning nature into an object of scrutiny through technology', and that this process involves the adoption of 'a one-dimensional view of the world ... which constrains our ability to see nature as anything other than an object that exists for technological processing'.[60] This 'object that exists for technological processing' is the standing-reserve, which he describes as an object whose existence 'becomes totally dependent on the user and use to which it is put', and hence the standing-reserve 'ceases to exist autonomously'.[61] A clarification should be made at this point. While Light does not distinguish between an object and a standing-reserve, Heidegger felt that 'whatever stands by in the sense of standing-reserve no longer stands over against us as object'.[62] Consider his example of the airliner:

> Yet the airliner that stands on the runway is surely an object. Certainly. We can represent the machine so. But then it conceals itself as to what and how it is. Revealed, it stands on the taxi strip only as standing-reserve, inasmuch as it is ordered to ensure the possibility of transportation. For this it must be in its whole structure and in every one of its constituent parts, on call for duty, i.e., ready for takeoff.[63]

Enframing is just one of the modes of interpretation which can be used by the self to interpret the other. Heidegger argues that when Enframing is humankind's dominant mode of interpretation, it becomes the 'supreme danger'.[64] Even though machine technology, such as nuclear weaponry, is the 'most visible outgrowth of the essence of modern technology',[65] 'the threat to man does not come in the first instance from the potentially lethal machines and apparatus of technology'.[66] Enframing poses a dual threat to humankind.[67] First, 'the rule of Enframing threatens man with the possibility that it could be denied to him to enter into a more original revealing and hence to experience the call of a more primal truth'.[68] What this means is that Enframing as the dominant mode of interpretation threatens the ability of the self to engage in other modes of interpretation:

> As a destining, it banishes man into that kind of revealing which is an ordering. Where this ordering holds sway, it drives out every other possibility of revealing. Above all, Enframing conceals that revealing which, in the sense of *poiesis*, lets what presences come forth into appearance.[69]

What is it about Enframing that makes it 'drive out every other possibility of revealing'? When the self interprets (in the mode of Enframing) an entity as a-such-and-such, the entity so

interpreted is not the entity itself. Since what is known to the self is only the entity so interpreted, and since the self (in the mode of Enframing) does not expect the entity to be anything other than a-such-and-such, the self is not compelled to attempt to re-interpret the entity through any other mode of interpretation. This can be seen in the case of modern science, which is a paradigm instance of Enframing:

> Modern science's way of representing pursues and entraps nature as a calculable coherence of forces. Modern physics is not experimental physics because it applies apparatus to the questioning of nature. Rather the reverse is true. Because physics, indeed already as pure theory, sets nature up to exhibit itself as a coherence of forces calculable in advance, it therefore orders its experiments precisely for the purpose of asking whether and how nature reports itself when set up in this way.[70]

> Science sets upon the real. It orders it into place to the end that at any given time the real will exhibit itself as an interacting network, i.e., in surveyable series of related causes. The real thus becomes surveyable and capable of being followed out in its sequences. The real becomes secured in its objectness.[71]

Modern science *qua* Enframing is 'theory that entraps the real and secures it in objectness'.[72] The danger is that the objectified entity fails to capture what the entity itself is:

> Scientific representation is never able to encompass the coming to presence of nature; for the objectness of nature is, antecedently, only *one* way in which nature exhibits itself. Nature thus remains for the science of physics that which cannot be gotten around.[73]

Hence if Enframing is the dominant mode of interpretation, the danger for the self who perceives an entity as an objectified such-and-such is the failure to perceive what the entity itself is.

The second threat Enframing poses to humankind is that if it is the dominant mode of interpretation, then *humankind itself* might be interpreted as a standing-reserve:

> Enframing is the gathering together that belongs to that setting-upon which sets upon man and puts him in position to reveal the real, in the mode of ordering, as standing-reserve. As the one who is challenged forth in this way, man stands within the essential realm of Enframing.[74]

> As soon as what is unconcealed no longer concerns man even as object, but does so, rather, exclusively as standing-reserve, and man in the midst of objectlessness is nothing but the orderer of the standing-reserve, then he comes to the very brink of a precipitous fall; that is, he comes to the point where he himself will have to be taken as standing-reserve.[75]

It is clear that Heidegger's prophetic warning of humankind interpreting itself as a standing-reserve did come to pass. This is most clearly seen in the field of economics, where the human individual is commonly reduced to the rational economic man, characterised by utility maximising behaviour.[76] (Policy decisions built on such a conception of humankind risk misidentifying what will benefit the community, since they misjudge what the community is in the very first place.[77])

Another example can be found in contemporary sexology, as exemplified by the work of Alfred Kinsey and his Kinsey Institute, which reduces the human experience of sexual desire to nothing more than 'the pleasure felt in the sexual parts'.[78] In other words, the contemporary

sexologist reduces the human individual to a standing-reserve for biological pleasure. This reduction is erroneous:

> Sexual desire is a response to the other as perceived, not as anatomically described. It is the response to a *person*, perceived as the bearer of rights, responsibilities and awareness. The other is not a means to my pleasure, still less something against which to scratch the itch of my lust. The point was made by Socrates, as recorded by Xenophon: 'Socrates… said he thought Critias was no better off than a pig if he wanted to scratch himself against Euthydemus as piglets against a stone.' We recognise in that picture of Critias' lust not true desire, but one of its infantile perversions. Yet this is the way in which desire is invariably represented by sexologists – in 'functional' terms which totally misrepresent its intentionality. The goal of sexual desire is not orgasm, nor is it 'sex', however described. It is possession of the other – the very thing that Sartre, in his bleak refusal to relinquish his freedom, deemed to be impossible. (Yet possession is easy, provided you do not recoil from being possessed.)[79]

The Genesis of the Environmental Crisis. With this understanding of the I-It relationship, a genealogical account of the rise of the environmental crisis can now be provided. The industrial revolution saw the rise of modern technology. The essence of modern technology is Enframing. Enframing is a mode of interpretation which fails to fully reveal what the entity being interpreted is, and which also excludes all other modes of interpretation. It is clear that Enframing is one significant manifestation of the I-It attitude, for the self who interprets the other in the mode of Enframing is relating to the other in the I-It attitude. In the I-It attitude, the self does not interpret the other as having any possibilities beyond those which the self has already determined for it, and when this I-It attitude is that of Enframing the self only interprets the other as being nothing more than a standing-reserve.

The rise of modern technology, with the concurrent rise of Enframing, has brought about a change in humankind, a change Buber described as its descent into alienation in the modern industrial world. Not only are individuals alienated from one another by their being in the I-It mode, humankind itself is alienated from Nature.[80] The dominance of Enframing, a result of the rise of modern technology, largely prevents humankind from viewing Nature as anything other than as an 'object of technology' or a standing-reserve.[81] The dominance of this view of Nature as being nothing more than a standing-reserve has led to the environmental crisis. Humankind's inability to see Nature as having its own possibilities apart from those possibilities ascribed to it by humankind, that is, humankind's inability to see Nature as a Thou, has prevented humankind from respecting Nature as being more than a mere standing reserve. This absence of such respect has prevented humankind from refraining from engaging in the over-exploitation and wanton despoliation of Nature. And it is precisely this over-exploitation and wanton despoliation of Nature that has brought about the environmental crisis.

Buberian Environmentalism and the I-Thou Relationship. I shall now proceed to explain how the I-Thou relationship can lead to a relationship of respect between humankind and Nature. This is important since it satisfies the second criterion for Buberian Environmentalism to be possible. I shall then show that an environmental philosophy founded on Buber's philosophy of dialogue is at least as good as and possibly has advantages over other environmental philosophies.

Earlier I argued that since the I-It and I-Thou attitudes both belong to the self and are different, the self undergoes a transformation whenever it shifts between the I-It and I-Thou

attitudes. And since the self possesses the I-It attitude when it is in the I-It relationship with Nature, and the I-Thou attitude when it is in the I-Thou relationship with Nature, the self undergoes this self-transformation when it moves from the I-It relationship with Nature to the I-Thou relationship. I shall now proceed to elaborate on this self-transformation and argue first, that the self has reason to move from the I-It relationship with Nature to the I-Thou relationship, and second, that this I-Thou relationship leads to a relationship of respect for Nature.

The Realization of the Self's Relational Being. The self undergoes a transformation when it shifts from relating to Nature in the I-It to the I-Thou mode. This self-transformation consists in the self's shift from merely relating to its image of Nature to relating to Nature itself. For when the self relates to Nature in the I-It mode, the self interprets Nature in the mode of Enframing, and hence interprets Nature solely as a standing-reserve with no possibilities of its own beyond those imposed by the self. The consequence is that the self is *not* relating to Nature, for the self's limited interpretation of Nature does not reflect what Nature is. In contrast, when the self relates to Nature in the I-Thou mode, the self recognizes Nature as possessing possibilities of its own beyond those imposed by the self. This means that when the self and Nature are in the I-Thou relationship, the self is in a genuine or true relationship with Nature, for the self's interpretation of Nature fully reflects Nature's being and possibilities.

Buber's principal insight is that the life of the human self is only fully realized when the self establishes itself in a genuine relationship with the other. Hence Buber describes the I-Thou relationship as 'the cradle of actual life'.[82] For Buber, the self that only has I-It relationships with others is 'not human',[83] for this self has failed to realize its relational being. It should be noted at this point that the realization of the self's relational being admits of degrees. This is because the realization of the self's relational being depends on the *history* of the self's relationships with others. For example, consider the question of why the self should be in genuine relationships with non-human others, and not just with human others. The answer is simply that the realization of the self's relational being admits of degrees. The world the self is in is composed of vastly more non-human than human others. As such the self who solely relates to human others is vastly less realized as a relational being than the self who relates both to human and non-human others.

The transformation that the self undergoes when it moves from being in the I-It to the I-Thou relationship with Nature is a transformation of the status of the self as a relational being. For when the self is in the I-It relationship with Nature, the self is only in relation to itself, and hence its potential as a relational being is less realized than it would have been had it been in the I-Thou relationship with Nature. This consequence provides a reason for the self to be in the I-Thou rather than the I-It relationship with Nature. As argued earlier, a life that is dominated by I-It relationships and a paucity of I-Thou relationships is a life of alienation, for the self lacks genuine relationships with others. Hence the life dominated by I-It relationships is one which leaves the relational being of the self unrealized. As such the reason for the self to be in the I-Thou relationship with Nature is precisely that the self can in the process realize its nature as a relational being, and hence realize its nature as a human being.

The Relationship of Respect between the Self and Nature. I shall now proceed to show that the I-Thou relationship between the self and Nature can lead to a relationship of respect. When

the self relates to Nature in the I-Thou mode, the self interprets Nature as having possibilities of its own beyond those imposed by the self. Hence when the self relates to Nature in the I-Thou mode it cannot treat Nature solely as a means, since treating Nature *solely* as a means requires an interpretation of Nature as not having any possibilities of its own other than those imposed by the self. In Kantian terms, when the self relates to Nature in the I-Thou mode, the self recognizes Nature as an end-in-itself, for it cannot treat Nature solely as a means. What would the self's recognition of Nature as an end-in-itself involve? Kant states that treating a being as an end-in-itself means that the self has to treat this being 'always at the same time as an end and never simply as a means'.[84] Hence when the self recognizes Nature as an end-in-itself, the self is permitted to treat Nature as a means but it also has to respect Nature as having possibilities of its own. Adapting Kant to Buber, this suggests:

> Our standing in relation to the natural does not preclude our using the natural as a means for the satisfaction of our needs; that using, however, must be consistent with allowing the natural now and again to be what it is apart from our purposes for it. In the grace of this attitude we are thus able to grant the natural appropriate freedom to be and to enter into relation with us, without the confusion of quantitative language.[85]

It is precisely this attitude of respect, described by Berry as the 'attitude of grace and gratitude',[86] which prevents the self from interpreting and hence treating Nature solely as a standing-reserve or a mere means. The *attitude* of respect consequently brings the self to *treat* Nature with respect. (It is true that it is possible for humankind to treat Nature respectfully while in the I-It mode. However, as we have seen, the genesis of the environmental crisis has precisely been due to humankind's I-It relationship with Nature.)

But a difficult problem now arises. An agent's mental states and physical actions arguably do not share any conceptually necessary relationship, so why should the self's *interpretation* of Nature as a Thou, which is a mental state, entail that the self *treat* Nature as a Thou, which is a physical action? I suggest that the connection between the self's interpretation and treatment of Nature as a Thou can be found in the self's nature as a hermeneutic agent, for the self's choice of actions in a situation is limited by its interpretation of this situation. For example, if the self interprets Nature as a Thou then its choice of actions is limited to those that are consistent with this interpretation. Those actions which are consistent with the alternative interpretation of Nature as being nothing more than a standing-reserve will be excluded from the self's choice of actions. But consider the deviant but arguably possible case of the self whose choice of actions in a situation is not limited by its interpretation of it. While I am unable to show that this is an impossible case, my first reply will be that this problem affects most, if not all, environmental philosophies, and hence Buberian Environmentalism, if it is possible, does not face this challenge alone. For example, environmental philosophies in the axiological approach face Hume's is-ought problem: why should Nature's possession of intrinsic value entail humankind's duties towards it?[87] Similarly, Arne Naess' Ecosophy T, a paradigm example of an environmental philosophy in the anthropological approach, faces the deviant case of the Self-hating Self-realized Self who identifies with but hates Nature, and hence actively harms or destroys it.

My second reply is that this deviant self has a *reason* to treat Nature with respect when it interprets Nature as a Thou. Although it has the choice to treat Nature as a mere means or a standing-reserve, it is only when it treats Nature with respect that its physically manifested

relationship with Nature is the genuine or I-Thou relationship. For when this deviant self interprets Nature as a Thou but treats it as an It, the relationship which is physically manifested is the I-It rather than the I-Thou relationship. And it is only when the self engages with Nature in a genuine relationship that its relational being, and hence its nature as a human being, is realized. The realization of this deviant self's nature as a human being provides it with a reason to match its interpretation of Nature as a Thou with its treatment of Nature as a Thou, that is, its treatment of Nature with respect.

The Possibility of Buberian Environmentalism. It has been demonstrated that Buber's philosophy of dialogue can explain how the environmental crisis arose. It has also been demonstrated that Buber's philosophy of dialogue can explain how humankind can be in a relationship of respect with Nature. Hence it has been demonstrated that Buber's philosophy of dialogue satisfies both criteria for Buberian Environmentalism to be possible. In the process the basic I-It / I-Thou structure of Buberian Environmentalism has also been described. I shall now compare Buberian Environmentalism to some important environmental philosophies to show that it is at least as good as and possibly has advantages over these.

Buberian Environmentalism and the Instrumental Approach. As we have seen, the instrumental approach is anthropocentric in the sense that it views Nature as only having instrumental value for humankind. This has the consequence that if humankind has no instrumental use for Nature then Nature has no ground for protection. Hence on the instrumental approach the protection of Nature is contingent on its continued utility for humankind. Since it is highly likely that Nature will always be useful for humankind, such contingency is not necessarily a serious problem. Moreover, in practical terms, it is possible that the instrumental approach can achieve protection for Nature as well as or even better than either the axiological or anthropological approaches.

The main problem with the instrumental approach hence does not seem to lie simply with either its anthropocentricity or the contingency of Nature's continued utility for humankind. Rather, the main problem with the instrumental approach is that the instrumental approach's view of Nature is precisely the interpretation of Nature as an It, albeit an It worth preserving. The self who views Nature under the instrumental approach hence cannot relate to Nature with respect since on the instrumental approach the self does not interpret Nature as having any possibilities of its own beyond those imposed by the self. The self who views Nature under the instrumental approach hence cannot view Nature as an end-in-itself. Since the relationship between self and Nature on the instrumental approach is the I-It relationship, the self on the instrumental approach suffers from the problem of alienation identified by Buber. For since the self on the instrumental approach is relating to its limited interpretation of Nature, the self is not relating to Nature itself.

Hence even if the instrumental approach does achieve protection for Nature, it does not offer any way for humankind to engage with Nature in a relationship of respect. Furthermore, the self of the instrumental approach is impoverished, since its relational being remains unrealized by the absence of a genuine relationship between itself and Nature. Buberian Environmentalism, in contrast, shows how humankind can engage in a relationship of respect with Nature, and the self

of Buberian Environmentalism is not impoverished, precisely since the approach advocates the self to engage with Nature in the I-Thou relationship.

Buberian Environmentalism and the Axiological Approach. As mentioned earlier, the axiological approach (which includes environmental philosophies such as Paul Taylor's ethics of respect for nature and Peter Singer's bioethics) argues that we should protect Nature *because* of its intrinsic value. Hence this approach has to establish what this intrinsic value is, as well as explain how this intrinsic value grounds Nature's moral considerability, or our moral obligation to protect Nature. These requirements present serious problems for this approach. Buberian Environmentalism does not encounter these problems since on this approach the self relates to Nature with respect because of its *sense* of the intrinsic value of Nature, *whether such intrinsic value exists or not*. For even if the self does not *know* whether Nature has possibilities of its own beyond those imposed by the self, it would still interpret Nature as having these possibilities, and hence it would continue to engage with Nature in the I-Thou relationship and treat it with respect.

The axiological approach hence has problems issuing from the concept of intrinsic value. The problem I shall now discuss deals with the issue of where such intrinsic value inheres in. This issue is important as it determines which constituents of Nature are to receive moral considerability from humankind. Holistic environmental philosophies (such as Aldo Leopold's Land Ethic) view intrinsic value as inhering in collectives such as ecosystems, the biosphere, or the entire cosmos. Atomistic environmental philosophies (such as Paul Taylor's ethics of respect for nature) view intrinsic value as inhering in individual entities. It is clear that this divergence between holistic and atomistic environmental philosophies presents a serious problem for the axiological approach. In Buberian Environmentalism, the self can relate to Nature in the I-Thou mode regardless of whether the natural entity being related to is an individual (like a tree) or a collective (like an ecosystem). However, in the axiological approach, in cases of conflict between the good of the collective and the good of the individual, atomistic environmental philosophies cannot grant moral considerability to collectives, while holistic environmental philosophies cannot grant moral considerability to individuals.

The substitution problem shows that holistic environmental philosophies cannot grant moral considerability to individuals in such cases of conflict. While a holistic environmental philosophy might acknowledge individuals as possessing intrinsic value:

> The existence of intrinsic values in individuals can be ignored in the evaluation of the overall good for the natural system. The instrumental functional value of entities contributing to systemic well-being is given ethical priority. What is evil for individuals might be, and often is, a systemic functional good, and thus acceptable.[88]

The substitution problem hence arises for holistic environmental philosophies:

> If an entity in a system is valued for its instrumental function and not its intrinsic value, then it can be substituted for or replaced as long as the function it performs remains undisturbed. In other words, if an entity is considered valuable because of its functional role in the system, then what is really important is the role, and if an adequate substitute can be found, then the entity itself can be destroyed or replaced without loss of value. Nothing is lost for the overall good of the system. As long as the system is maintained, the precise character or intrinsic worth of the particular individual performing its functions is irrelevant.[89]

An instance of the substitution problem is the case of the Yellowstone sheep. Yellowstone ethicists allowed half of the Yellowstone herd of bighorn sheep to die from pinkeye, despite the easy availability of medical treatment, since medical intervention would have contributed to the weakening of the bighorn sheep species.[90] In the conflict between themselves and the good of their species, the individual sheep were considered irrelevant for moral consideration. Another instance of the substitution problem is that of the position of rare or endangered species in holistic environmental philosophies:

> A species becoming extinct was once a functional member of the natural system; it had instrumental value for it occupied an ecological niche in the system. Its present endangered state is a result of some kind of substitution - either it lost an evolutionary-biological battle with a more competitive species that is replacing it, or it has been displaced by artificial human modifications of the environment.[91]
>
> Such individuals are no longer really part of an ecological system. They have no instrumental value, since the ecological system seems to function quite well without them. Thus, if they are to be preserved or protected, as environmental policies universally dictate, it must be because of their intrinsic value.[92]

But even if holistic environmental philosophies recognize individual entities as possessing intrinsic value, in cases of conflict between the good of the collective and the good of the individual they are regarded as irrelevant and unworthy of moral consideration. On the holistic view, the plight of the endangered tiger is unimportant since the ecosystem functions well even with its diminished numbers. But such a view is counter-intuitive and wrong. That it is counter-intuitive is simply seen in that environmentalists regard the impending extinction of the tiger and other endangered species as 'a wrong to be prevented'.[93] That it is wrong is seen in that the holistic view of rare or endangered species as being unimportant because they no longer have any functional systemic role to play is precisely the false view of them as being nothing more than mere means for the good of the ecosystem, without any possibilities of their own.

The substitution problem does not arise for Buberian Environmentalism precisely since both individuals and collectives can be interpreted by the self as possessing possibilities of their own, and hence are open to genuine relation with the self. When the self relates to in the I-Thou mode, it is brought to relate with Nature in a relationship of respect, and relating to Nature in a relationship of respect precisely involves viewing Nature - both as individual entity and as collective - as being morally considerable.

Atomistic environmental philosophies face a problem analogous to the substitution problem. By selecting particular properties of individuals (such as the possession of consciousness or goal-directedness) as properties in which intrinsic value inhere, they exclude natural entities which lack these properties from moral considerability. Consider Paul Taylor's ethics of respect for nature. Taylor's environmental philosophy claims that each living individual in the biosphere community has a good of its own, and this, along with its place in the biosphere community, grants it moral considerability.[94] Taylor's account of moral considerability hence excludes nonliving natural entities such as ecosystems from being morally considerable. This is problematic since entities such as ecosystems[95] are recognized by environmentalists as being precisely the sort of entities which are eligible for moral consideration.

Atomistic environmental philosophies can also run into problems if they possess complex accounts of where intrinsic value inheres. Peter Singer's bioethics is a good example of this problem.[96] The utilitarian principles (the principle of utility and the principle of the equal consideration of interests) ground Singer's bioethics. Built on these is his account of personhood, the intrinsic value of which makes its bearer eligible for moral consideration. Under this account a person is an entity who possesses rationality and self-consciousness.[97] This definition of personhood grounds Singer's defense of animal liberation, abortion, infanticide and euthanasia, for on this definition sufficiently sentient nonhuman animals like dolphins are persons, while non-sentient humans like fetuses and severely mentally damaged newborns and adults are not.[98] One problem with such complex accounts is that they might not lead to the sort of ethical conclusions that are desired. In the case of Singer's bioethics, the sort of conclusions Singer himself seeks might not necessarily follow from his use of the utilitarian principles and his account of personhood. As Peter Berkowitz points out, Singer's criteria for moral considerability have non-egalitarian consequences, rather than the egalitarian ones Singer himself prefers:

> Singer consistently reaches egalitarian and liberationist conclusions, but his basic ideas lay the groundwork for a regime of savage inequality. For Singer himself maintains that equality cannot be grounded in human intelligence, moral personality, or rationality, because such qualities or capacities are unequally distributed among human beings. If rationality and self-consciousness nevertheless define the morally significant person - as Singer insists that they do, in his case for animal rights, euthanasia, infanticide, and abortion - then why shouldn't greater rationality make you more of a person, or a more valuable person, an individual entitled to a greater proportion of society's scarce resources?[99]

Similarly, as Berkowitz again points out, Singer's principle of equal consideration of interests and his principle of utility have non-egalitarian consequences:

> Since it only tells you to treat like interests equally, and it does not tell you which interests are in the relevant respects alike, no violation of the principle of equal consideration of interests would appear to be involved in determining that the interests of the artistically and intellectually gifted differ qualitatively from, and are superior to, the interests of the ordinary and below-ordinary person, and therefore should count for more. And since it only tells you to approve or to disapprove of an act according to its tendency to augment or to diminish the happiness of the party whose interest is in question, but it does not identify the nature of happiness or specify the parties whose interests are appropriately taken into account, the principle of utility would seem to leave the artistically and the intellectually gifted free to give binding reasons for the maximization of their own happiness, and, insofar as they attain positions of power, to govern so as to advance their own superior interests. Singer thinks himself a great egalitarian, and he wishes to lead a philosophically reconstituted left; but his confused thinking leads in the opposite direction. Radically aristocratic arrangements appear to be not only consistent with his principles, they seem to be even encouraged by his principles.[100]

Such problems arising from the identification of where intrinsic value inheres do not affect Buberian Environmentalism since the self can relate to Nature in the I-Thou mode regardless of how Nature manifests itself. In this Buberian Environmentalism has a significant advantage over the axiological approach.

Buberian Environmentalism and the Anthropological Approach. The anthropological approach (which includes environmental philosophies such as deep ecology) is primarily concerned with the identification of what being human is or what being human ought to be. This understanding of the nature of humanity is then linked to what the relationship between the

human self and Nature ought to be. Buberian Environmentalism belongs to this approach as it argues that the human being is a relational being, and that the self who relates to Nature with respect has realized its relational and hence its human potential. Philosophies within the anthropological approach argue that humankind will fall into a relationship of respect with Nature if it perceives Nature as possessing possibilities of its own. Buberian Environmentalism fulfills this task by means of the I-Thou relationship: the self's being in the I-Thou relationship with Nature will bring it into a relationship of respect with Nature. I shall now compare Buberian Environmentalism to the Self-realization approach (of Deep Ecology), which is one of the dominant environmental philosophies belonging to the anthropological approach.

The Self-realization approach understands the environmental crisis as having arisen from the separation of humankind from Nature, and it advocates the self's expansion of its sense of self to include Nature.[101] Fox describes Self-realization as 'a state of being that sustains the widest possible identification'.[102] This identification is a transformation of the sense of self 'such that the self is no longer limited by the ego'.[103] Furthermore, this identification is 'a spontaneous, non-rational, but not irrational, process through which the interest or interests of another being are reacted to as our own interest or interests'.[104] In brief, Self-realization is 'an identification which goes beyond humanity to include the nonhuman world'.[105]

The rationale of the Self-realization approach is clear. If the self expands its sense of self to include Nature, then the self would be disinclined to despoil Nature and would be inclined to protect and respect it, for the self would not want to harm but would rather want to protect or benefit itself. The Self-realization approach hence functions on the basis of *self-interest*, with the sense of self being transformed from that of the 'small' self of our individual physical being to that of the 'big' Self of Nature:[106] 'we ought to care about all entities / beings / "things in the world" because they are part of our Self; their diminishment is Our diminishment'.[107] Fox provides a striking illustration of this self-interest:

> It is quite easy to see how the problem of caring about the mountain or the river would be approached from this perspective: diminishing the relative autonomy of the mountain or the river violates the ultimate norm of Self-realisation / cultivating ecological consciousness / living in a state of being that sustains the widest possible identification. More simply and directly: the diminishment of the mountain or the river is My diminishment. Shall I take a knife and tear My own breast? Shall I still the blood that flows through My own veins?[108]

At this point it should be noted that universal concern or compassion appears to be a shared attribute between the Self-realised Self and the Bodhisattva of Mahayana Buddhism. The Bodhisattva is 'a being of immeasurable compassion who refrains from entering into full Buddhahood so as to be able to help suffering humanity'.[109] This is memorably captured in Bhiksu Sangharaksita's description of the Bodhisattva's compassionate goal:

> Let me endure unending pains,
>
> Drain to the dregs grief's bitterest cup;
>
> While one unhappy life remains
>
> My own I cannot render up.

> Nirvana's joy will only cloy
>
> Should it to me alone befall:
>
> Closed evermore Nirvana's door
>
> Unless I enter last of all.[110]

It can be observed that despite the appearance of shared universal concern on the part of the Self-realized Self and the Bodhisattva, the scope of such concern is actually different. The Bodhisattva is concerned with freeing all *living* things from suffering, while the scope of the Self-realized Self's concern in addition encompasses the non-living world. A second difference is that the Self-realized Self encompasses the living and non-living world within its sense of self, whereas the Bodhisattva – prior to Nirvana – recognizes the other as the other. (The first stage of Nirvana involves the cessation of the sense of self.[111])

The process of Self-realization poses a significant problem for the self who attempts to engage in it:

> As a practical matter, it seems to me that when we try to operationalise Self-realisation we are put in an uncertain position. We are supposed to retain a sense of our individuality as we work to save the big Self from destruction - but at the same time we are supposed to *lose* interest in our individuality as we cultivate our identification with the big Self. True, Self-realisation is not absolute holism, in which the individual is identical with the big Self. Nor is it absolute separatism, in which the individual is completely apart from the Self. However, those practicing Self-realisation seem to want it both ways: we are, somehow, both the big and small self. How do we set to work with this ambiguous notion of self?[112]

Arne Naess' attempted response to this problem only underscores its severity. Naess simply reiterates his definition of identification as 'a process through which the supposed interests of another being are *spontaneously* reacted to as our own interests' and hence argues that identification does not endanger the self's sense of individuality.[113] But this does not solve the problem, for it has already been acknowledged that Self-realization requires the preservation of the self's sense of individuality. What remains unanswered is how this requirement can be fulfilled along with the other requirement of Self-realization that the self *lose* its sense of individuality in the process of identification with the Self as Nature.

It is precisely this latter requirement which Naess ignores, but this requirement is important since 'living in a state of being that sustains the widest possible identification' involves more than an identification of interests. For the Self-realized Self would not be able to feel that 'the diminishment of the mountain or the river is My diminishment' if Self-realization refers to a mere identification of *interests*. What is needed is *ontological* identification,[114] that is, an identification of *being*, for only this will provide the sense of identification that the Self-realized self has with Nature which will guarantee that the self will feel Nature's sufferings and joys as its own. As Fox quotes J. Baird Callicott:

> 'The injury *to me* of environmental destruction transcends the secondary, indirect injury to the conventional, constricted ego encapsulated in this bag of skin and all the functioning organs it contains. Rather, the injury *to me* of environmental destruction is primarily and directly to my extended self, to the

> larger body and soul with which "I" (in the conventional narrow and constricted sense) am continuous. Aldo Leopold captured this ecological idea, as so many others, in his inimitable epigrammatic style: "One of the penalties of an ecological education is that one lives alone in a world of wounds."' (One must not forget, however, that, from the same perspective, one also lives together in a world of joys: the two owls that have spent the daylight hours of the last few days sleeping side by side in the tree not far from my window!)[115]

The self cannot live either 'alone in a world of wounds' or 'together in a world of joys' if it merely identified with the *interests* of Nature instead of *Nature itself*. But if identification is not merely identification of interests but rather the deeper ontological identification of *being*, then Reed's question as to how the self can keep its sense of individuality in such a permanent expanded sense of self remains unanswered.

The self-interested protection of Nature achieved by Self-realization is insecure since such protection is contingent on the self's *continued* identification with Nature. This contingency is more severe if Naess' definition of identification holds, since on Naess' account this identification is spontaneous, which means that there is the strong possibility that the Self-realized self might spontaneously identify with the interests of Nature at one moment but fail to do so the next. Since it is difficult for the self to permanently maintain the I-Thou attitude, as acknowledged by Buber ('Every You in the world is doomed by its nature to become a thing or at least to enter into thinghood again and again.'[116]), this is clearly a problem which it shares with the Self-realization approach. However, Buberian Environmentalism has a significant advantage over the Self-realization approach in that Buberian Environmentalism does not involve a problematic concept of self-transformation such as Self-realization. It is easier for the self to achieve Buberian Environmentalism's self-transformation as this simply involves the self's switching from the I-It to the I-Thou attitude.

Summary of Part One. If Buberian Environmentalism is possible Martin Buber's philosophy of dialogue has to fulfill two tasks. First, it has to explain how humankind's relationship with Nature has degraded to the level of the environmental crisis we face today. Second, it has to explain how humankind's relationship with Nature can improve to one of respect.

I demonstrated that Buber's philosophy of dialogue meets the first requirement by using it to construct a genealogical account of the environmental crisis. With the industrial revolution came the rise of modern technology. The essence of modern technology is Enframing, which is a manifestation of the I-It attitude. The rise of modern technology, with the concurrent rise of Enframing, has brought about a change in humankind. Not only are individuals alienated from one another by their being in the I-It mode, humanity itself is alienated from Nature. The dominance of Enframing largely prevents humanity from viewing Nature as anything other than as a standing-reserve. The dominance of this view of Nature as being nothing more than a standing-reserve has led to the environmental crisis. Humankind's inability to see Nature as being more than a standing reserve has prevented it from respecting Nature, and this absence of respect has allowed humankind to engage in the over-exploitation and wanton despoliation of Nature which has brought about the environmental crisis.

I then demonstrated that Buber's philosophy of dialogue meets the second requirement. First I demonstrated that the self does have a reason to engage with Nature in the I-Thou relationship,

for this brings the self to realize its nature as a relational being, and hence to realize its nature as a human being. Next I demonstrated that the I-Thou relationship between the self and Nature leads to a relationship of respect. I argued that when the self relates to Nature in the I-Thou mode, the self recognizes Nature as an end-in-itself, and this prevents the self from interpreting Nature as a standing-reserve or a mere means. In the standard non-deviant case, the self's interpretation of Nature as a Thou excludes the self from being able to choose to treat Nature as a standing-reserve or a mere means, hence the self is brought to treat Nature with respect.

Since Buber's philosophy of dialogue can explain how the environmental crisis arose, and can also explain how humankind can be in a relationship of respect with Nature, Buberian Environmentalism is possible. I concluded by showing that Buberian Environmentalism is at least as good as and has advantages over other environmental philosophies in the instrumental, axiological and anthropological approaches.

Endnotes

1. Part One is an elaboration of my *Martin Buber's Philosophy of Dialogue as a Foundation for Environmental Ethics*, B. A. (Hons.) Thesis, Department of Philosophy, National University of Singapore, 1998/99, http://web.singnet.com.sg/~chlim/Buber.html (2 December 1999).

2. At this point it should be noted that commonly cited environmental doomsday scenarios may be based on fallacious statistics; see Bjorn Lomborg, *The Skeptical Environmentalist: Measuring the Real State of the World* (Cambridge: Cambridge University Press, 2001). But see Lester R. Brown et al., 'Something Is Rotten in the State of Denmark: A Skeptical Look at The Skeptical Environmentalist', *Grist Magazine*, http://www.gristmagazine.com/grist/books/lomborg121201.asp (12 December 2001). But see also Ronald Bailey, 'Bjorn Again! Fundamentalist Greens Launch Smear Campaign', *Tech Central Station*, http://techcentralstation.com/EnviroScienceTechnology.asp?id=101 (28 November 2001). For recent examples of Lomborg's thesis in action, see Michael Lacey and Jill Stewart, 'Crying Whale', *New Times Los Angeles*, 29 November 2001, Jill Stewart, 'Hold on a Minute!', *New Times Los Angeles*, 13 December 2001, and Audrey Hudson, 'Interior Seeks Lynx Hair Probe', *The Washington Times*, 20 December 2001.

3. Christopher Flavin, 'The Legacy of Rio', in *State of the World 1997: A Worldwatch Institute Report on Progress Toward a Sustainable Society*, edited by Linda Starke (New York: W. W. Norton and Company, 1997), p. 13.

4. ibid..

5. Stuart J. Davies, 'Tropical Ecosystem: Environmental Impacts', in *Biodiversity Conservation in ASEAN: Emerging Issues & Regional Needs*, edited by Ghazally Ismail and Murtedza Mohamed (London: ASEAN Academic Press, 1998), p. 19.

6. Flavin, op cit..

7. Quoted in Michael Allen Fox, *Deep Vegetarianism* (Philadelphia: Temple University Press, 1999), p. 89.

8. ibid..

9. L. M. Chou, B. P. L. Goh, and T. J. Lam, 'Environmental Protection and Biodiversity Conservation in Singapore', in *Biodiversity Conservation in ASEAN: Emerging Issues & Regional Needs*, edited by Ghazally Ismail and Murtedza Mohamed (London: ASEAN Academic Press, 1998), pp. 224-225.

10. ibid., p. 225.

11. Lim Kim Seng, 'Conserving Singapore's Biodiversity', *Nature Watch: Official Magazine of Nature Society (Singapore)*, Vol. 8, No. 2, April-June 2000, p. 5.

12. ibid..

13. Rachel Carson, *Silent Spring* (Boston: Houghton Mifflin, 1962).

14. Aldo Leopold, *A Sand County Almanac: With Other Essays on Conservation from Round River* (New York: Ballantine Books, 1970).

15. Martin Buber, 'Replies to My Critics', in *The Philosophy of Martin Buber*, edited by Paul Arthur Schilpp and Maurice Friedman (La Salle, Illinois: Open Court, 1967), pp. 706-707.

16. Martin Buber, 'Distance and Relation', in *The Knowledge of Man*, translated by Maurice Friedman and Ronald Gregor Smith (London: George Allen & Unwin, 1965), p. 60.

17. ibid..

18. Martin Buber, *I and Thou: A New Translation, with a Prologue and Notes*, translated by Walter Kaufmann (New York: Touchstone, 1996), p. 53.

19. Donald L. Berry, *Mutuality: The Vision of Martin Buber* (Albany: State University of New York Press, 1985), p. 36.

20. Buber, *I and Thou*, op cit..

21. ibid., p. 54.

22. Steven Katz, 'A Critical Review of Martin Buber's Epistemology of I-Thou', in *Martin Buber: A Centenary Volume*, edited by Haim Gordon and Jochanan Bloch (New York: Ktav Publishing House, 1984), p. 102.

23. Buber, *I and Thou*, op cit., p. 58.

24. Martin Buber, ‘Elements of the Interhuman’, in *The Knowledge of Man*, translated by Maurice Friedman and Ronald Gregor Smith (London: George Allen & Unwin, 1965), pp. 74-75.

25. ibid., p. 80.

26. ibid..

27. Buber, *I and Thou*, op cit..

28. Martin Buber, ‘Dialogue’, in *Between Man and Man*, translated by Ronald Gregor Smith (London: Routledge & Kegan Paul, 1947), pp. 22-23.

29. Buber, *I and Thou*, op cit., pp. 61 & 62-63

30. ibid., p. 61.

31. ibid., pp. 59-60.

32. James L. Marsh, ‘Objectivity, Alienation, and Reflection’, *International Philosophical Quarterly*, Vol. XXII, No. 3, September 1982, pp. 132-134.

33. ibid..

34. Berry, op cit., p. 22.

35. Buber, *I and Thou*, op cit., pp. 56-57.

36. Berry, op cit., p. 1 & 104.

37. Buber, *I and Thou*, op cit., p. 173.

38. ibid..

39. ibid., pp. 172-173.

40. ibid., pp. 56-57.

41. ibid., pp. 172-173.

42. ibid., pp. 173-176.

43. Since entities in the pre-threshold cannot constitute the other as a subject, the relationships the human self has with these entities cannot be of the ideal dialogical type in which both parties constitute each other as subject. However Buberian Environmentalism does not require the

dialogical relationship between humanity and Nature to be of this ideal type, since it only requires the self to interpret Nature as a Thou.

44. Buber, *I and Thou*, op cit., p. 173. An important question arises here: does the attempt to relate to non-human entities in this way misrepresent these entities? For the attempt to enter into dialogue with a tree arguably personifies it, and such personification is arguably misrepresentation. See John Kultgen, 'Saying "You" for Real People', *Environmental Ethics*, Vol. 4, Spring 1982. While this is an important criticism of Buber's philosophy, it lies beyond the scope of this dissertation, which focuses instead on the attempt to apply Buber's philosophy - flawed as it might be - to environmentalism.

45. Martin Heidegger, 'The Question Concerning Technology', *The Question Concerning Technology and Other Essays*, translated by William Lovitt (New York: Harper & Row, 1977), pp. 16-17.

46. Martin Buber, 'What is Man?', in *Between Man and Man*, translated by Ronald Gregor Smith (London: Routledge & Kegan Paul, 1947), pp. 157-158.

47. ibid., p. 158.

48. ibid..

49. In the following discussion my focus is on Heidegger's study of technology. A useful general introduction to Heidegger is Richard Polt, *Heidegger: An Introduction* (London: UCL Press, 1999). See also William Barrett, 'Heidegger', *Irrational Man: A Study in Existential Philosophy* (New York: Anchor Books, 1990), and William Barrett, 'The Disappearing Self', *Death of the Soul: From Descartes to the Computer* (New York: Anchor Books, 1986). While my application of Buber's I-It relationship to Man's relationship with Nature utilises Heidegger's investigation of *techne*, this does not imply an endorsement of all of Heidegger's thought. See Simon Blackburn, 'Enquivering', *The New Republic*, 30 October 2000.

50. Martin Heidegger, 'The Turning', *The Question Concerning Technology and Other Essays*, translated by William Lovitt (New York: Harper & Row, 1977), p. 48.

51. Heidegger, 'The Question Concerning Technology', op cit., p. 4.

52. ibid., pp. 12-13.

53. ibid., p. 11.

54. ibid., p. 13.

55. ibid..

56. ibid., p. 14.

57. ibid., p. 17.

58. ibid., p. 20.

59. ibid., p. 15.

60. Andrew R. F. Light, 'The Role of Technology in Environmental Questions: Martin Buber and Deep Ecology as Answers to Technological Consciousness', *Research in Philosophy and Technology*, Vol. 12, 1992, p. 88.

61. ibid..

62. Heidegger, 'The Question Concerning Technology', op cit., p. 17.

63. ibid..

64. ibid., p. 26.

65. Martin Heidegger, 'The Age of the World Picture', *The Question Concerning Technology and Other Essays*, translated by William Lovitt (New York: Harper & Row, 1977), p. 116.

66. Heidegger, 'The Question Concerning Technology', op cit., p. 28.

67. ibid., p. 26.

68. ibid., p. 28.

69. ibid., p. 27.

70. ibid., p. 21.

71. Martin Heidegger, 'Science and Reflection', *The Question Concerning Technology and Other Essays*, translated by William Lovitt (New York: Harper & Row, 1977), pp. 167-168.

72. ibid., p. 168.

73. ibid., p. 174.

74. Heidegger, 'The Question Concerning Technology', op cit., p. 24.

75. ibid., pp. 26-27.

76. Mark A. Lutz,. 'The Relevance of Martin Buber's Philosophical Anthropology for Economic Thought', in *Martin Buber and the Human Sciences*, edited by Maurice Friedman and Pat Boni (Albany: State University of New York Press, 1996), pp. 269-270.

77. Robert C. Hoover, 'Buber's Way Toward Sustainable Communitarian Socialism: Essential Relationship Between the Political and Bio-Economy', in *Martin Buber and the Human Sciences*, edited by Maurice Friedman and Pat Boni (Albany: State University of New York Press, 1996), pp. 261-262.

78. Roger Scruton, *Modern Philosophy: An Introduction and Survey* (London: Mandarin, 1996), p. 28.

79. ibid., p. 470. For a sympathetic account of Kinsey and his research, see Jonathan Gathorne-Hardy, *Sex the Measure of All Things: A Life of Alfred C. Kinsey* (Bloomington: Indiana University Press, 2000).

80. Could Enframing's corruption of interhuman relationships be the root cause of the environmental crisis? I would disagree, and instead argue that Enframing is the root cause of both the corruption of interhuman relationships as well as the environmental crisis.

81. Martin Heidegger, 'The Word of Nietzsche: "God is Dead"', *The Question Concerning Technology and Other Essays*, translated by William Lovitt (New York: Harper & Row, 1977), p. 100.

82. Buber, *I and Thou*, op cit., p. 60.

83. ibid., p. 85.

84. Immanuel Kant, *Grounding for the Metaphysics of Morals*, translated by James W. Ellington (Indianapolis: Hackett Publishing Company, 1993), 429. While Kant himself does not suggest that we treat nonhuman beings as ends-in-themselves, and it is generally acknowledged that Kantian ethics is anthropocentric, reinterpretations of Kantian ethics which allow for Kantian defences of animal rights and even vegetarianism are possible. For example, see Dan Egonsson, 'Kant's Vegetarianism', *The Journal of Value Inquiry*, Vol. 31, 1997.

85. Berry, op cit., p. 37.

86. ibid..

87. John O'Neill, 'The Varieties of Intrinsic Value', *The Monist*, Vol. 75, No. 2, 1992, pp. 131-133.

88. Eric Katz, 'Organism, Community and the "Substitution Problem"', in *Ethics and the Environment*, edited by Richard E. Hart (Lanham, Maryland: University Press of America, 1992), p. 62.

89. ibid., p. 63.

90. Holmes Rolston III, ‘Challenges in Environmental Ethics’, in *Environmental Philosophy: From Animal Rights to Radical Ecology*, edited by Michael E. Zimmerman (Englewood Cliffs, New Jersey: Prentice Hall, 1993), pp. 139-140.

91. Eric Katz, op cit., p. 66.

92. ibid..

93. ibid..

94. Paul W. Taylor, *Respect for Nature: A Theory of Environmental Ethics* (Princeton, New Jersey: Princeton University Press, 1986). pp. 60-71.

95. Some might argue that the stability inherent in an ecosystem shows it to be goal-directed and hence worthy of moral consideration. But such stability is properly understood as being a by-product rather than a goal. See Harley Cahen, ‘Against the Moral Considerability of Ecosystems’, *Environmental Ethics*, Vol. 10, Fall 1988.

96. For a clear introduction to Singer’s ethics, see Ronald Bailey, ‘The Pursuit of Happiness: An Interview With Peter Singer’, *Reason*, December 2000.

97. Peter Berkowitz, ‘Other People’s Mothers: The Utilitarian Horrors of Peter Singer’, *The New Republic*, 10 January 2000, p. 33.

98. ibid..

99. ibid..

100. ibid., pp. 33-34.

101. Peter Reed, ‘Man Apart: An Alternative to the Self-Realisation Approach’, *Environmental Ethics*, Vol. 11, Spring 1989, pp. 54-55.

102. Warwick Fox, *Approaching Deep Ecology: A Response to Richard Sylvan’s Critique of Deep Ecology*, Environmental Studies Occasional Paper No. 20 (Hobart: Board of Environmental Studies, University of Tasmania, 1990), pp. 67-68.

103. Light, op cit., p. 98.

104. Arne Naess, ‘Identification as a Source of Deep Ecological Attitudes’, in *Radical Environmentalism: Philosophy and Tactics*, edited by Peter C. List (Belmont, California: Wadsworth Publishing Company, 1993), p. 29.

105. Bill Devall and George Sessions, ‘Deep Ecology’, in *Radical Environmentalism: Philosophy and Tactics*, edited by Peter C. List (Belmont, California: Wadsworth Publishing Company, 1993), p. 40.

106. Reed, op cit., pp. 55-56.

107. Warwick Fox, op cit., p. 76.

108. ibid., p. 80.

109. Paul Wheatley, *Impressions of the Malay Peninsula in Ancient Times* (Singapore: Donald Moore, 1964), p. 195.

110. ibid., p. 196.

111. Asvaghosa, *The Awakening of Faith (of Mahayana)*, translated by Y. S. Hakeda (New York: Columbia University Press, 1967), pp. 51-52.

112. Reed, op cit., p. 67.

113. Arne Naess, '"Man Apart" and Deep Ecology: A Reply to Reed', *Environmental Ethics*, Vol. 12, Summer 1990, p. 187-188.

114. Light, op cit., pp. 94-96.

115. Warwick Fox, op cit., p. 62.

116. Buber, op cit., p. 69.

Part Two
BUBERIAN ENVIRONMENTALISM: AN ELABORATION

By Alvin Lim

Introduction. In Part One I demonstrated the possibility and provided a brief account of Buberian Environmentalism. In this Part I shall elaborate on my account of Buberian Environmentalism, and situate it in the tradition of moral universalism. I shall then distinguish it from the classical triumvirate of virtue ethics, consequentialism and deontology. I shall conclude by showing Buberian Environmentalism to belong to Deep Ecology, and compare it to Peter Reed's Man-Apart approach to Deep Ecology.

The Landscape of Moral Philosophy. Before elaborating on my account of Buberian Environmentalism, I shall provide a background account of the landscape of contemporary moral philosophy. I shall first provide an account of moral universalism and moral relativism, as well

as the classical triumvirate of virtue ethics, consequentialism and deontology. I shall then situate Buberian Environmentalism within this landscape.

Moral Universalism and Moral Relativism. Moral universalism and moral relativism are different metaethical views of the place morality occupies in the world. Moral relativism can be described as the metaethical claim that moral values are relative to each society. This is not simply the claim that each society has its own moral standards; rather, this is the claim that there is no objective moral standard that is independent of any particular society.[1] Moral universalism, on the other hand, is the metaethical claim that morality is objective and that moral values are not relative to each society. (For purposes of this discussion an objective concept can be understood as a concept that is independent of any point of view, while a subjective concept is a concept that is dependent on a particular point of view.) I shall show that Buberian Environmentalism belongs to the tradition of moral universalism. But prior to doing this, I shall have to explain why I do not situate Buberian Environmentalism within the tradition of moral relativism.

The Fashionableness of Moral Relativism. I shall first have to provide a brief overview of moral relativism and its weaknesses. This is because moral relativism, rather than moral universalism, is the metaethical claim that is in vogue without and within the academy. For example, simply consider what is said *within* and *about* the mass media here in Southeast Asia: the analysis of as well as the discourse propagated through the postcolonial Southeast Asian mass media both assumes and suggests the truth of moral relativism.

(One issue that needs to be clarified at this introductory stage is that moral relativism is not necessarily entailed by any particular theory of subjectivity. Fashionable theories of subjectivity, such as the Sartrean existentialist claim that the subject is constituted by consciousness,[2] the claim of contemporary analytical language philosophy that the subject is a grammatical construct,[3] and the Derridean claim that the subject has been shown to be illusory by the deconstruction of meaning[4], do not *by themselves* entail moral relativism.)

In the following brief survey of the fashionableness of moral relativism in the popular imagination, as reflected in the Southeast Asian mass media, I shall first consider what the academy says about the mass media. I shall then consider what the political and mass media elites say *about* the mass media as well as *through* the mass media.

In general, contemporary studies of the mass media subscribe to moral relativism. For example, Garnham identifies postmodernism as advocating cultural relativism and rejecting the modernist concept of universality.[5] I argue that this postmodernist rejection of universality entails that there can be no universal or nonrelative moral standard, and hence it entails moral relativism. This suggests that moral relativism is a consequence of postmodernist analyses of the mass media. This can be seen in studies of the role the mass media play in 'cultural imperialism'.[6] The supposed threat to non-Western societies from the propagation of alien cultural norms and moral values via the global mass media due to the predominance of Western-controlled media firms in the global mass media market involves the premise that moral values are different in Western and non-Western societies, and hence that moral values are relative to each society.

The supposed truth of moral relativism is also propagated through the mass media. This can be observed in the discourse propagated through the postcolonial Southeast Asian mass media. For example, in the Singaporean daily *The Straits Times*, Singaporean Minister for Information and the Arts George Yeo explained the Singapore government's ban on private non-commercial satellite receivers by appealing to the protection of Singapore's 'cultural values'.[7] A similar rationale was raised to explain the Singapore government's censorship of the Internet.[8] Implicit in this argument for censorship is the assumption that Singapore possesses unique moral values which need to be protected from the incursion of alien moral values through the mass media, in this case satellite television and the Internet. This therefore entails that moral values are relative to each society.

Moral relativism is also clearly seen in the discourse focused on the 'Asian values' debate. The Malaysian Minister of Information, YB Dato Mohamed Rahmat, argues that Asian nations are in the process of constructing political systems that suit their individual cultures and moral values, and that the mass media has a role in this process by helping the population to distinguish between Asian and Western values.[9] Singaporean Senior Minister Lee Kuan Yew argues that the principal distinction between Asian and Western culture is the difference in the way each relates the individual to the society.[10] This normative debate between Asia and the West hence assumes the form of a conflict between what Alasdair MacIntyre has described as their incommensurable moral principles.[11]

It is not only the Southeast Asian political elites that voice this discourse of moral relativism; the Southeast Asian and Asian mass media elites similarly voice this discourse. Their main assumption appears to be that *cultural* diversity entails *moral* relativism. Melinda Quintos de Jesus, editor of the *Philippine Journalism Review* and executive-director of the Centre for Media Freedom and Responsibility, argues that there exist normative distinctions between the cultures of Asia and the West, and that the Asian mass media ought to serve as a voice for Asia.[12] Crispin Maslog of the Institute of Development Communication, University of the Philippines, similarly argues that Asian journalism should meet the particular needs of Asian society and satisfy Asian values rather than Western ones.[13] Asad Latif of the Singaporean daily *The Straits Times* argues that Asian journalists have the duty to interpret Asia through the context of Asian values and culture, and to unveil Western journalists' alien interpretations of Asia.[14] These arguments are premised on the assumption that Asian cultures possess their own values, and hence that values are relative to cultures. Enayetullah Khan, editor of the Bangladeshi newspaper *Holiday*, goes further in his Foucauldian argument that the concept of values as nonrelative is a false construct that arises from domination, and that values exist in relation to particular cultures.[15] However, cultural diversity does not entail moral relativism. Indeed, cultural diversity can coexist with moral universalism.

Some Problems with Moral Relativism. I shall now proceed to demonstrate that cultural diversity does not entail moral relativism. I shall then provide a brief survey of the problems commonly identified with moral relativism.

It appears that the seeming truth of moral relativism arises from the empirical evidence of cultural diversity which includes a diversity of cultural values and moral codes.[16] From the premise that there exist a diversity of societies with their own moral codes, one might conclude

that moral values are therefore relative to each society.[17] This argument from cultural diversity is open to a number of counterarguments. One might counter that the diversity in moral codes is merely shallow, and that these are manifestations of deeper objective moral principles such as utilitarian or universalisation principles.[18] Consider the case of ritual kinship cannibalism. In most cultures cannibalizing one's kin would be considered, at very least, an act of gross disrespect for the deceased. However, until an epidemic of *kuru*, a fatal spongiform encephalopathy, in the middle of the 20th century stopped the practice, the Fore people of New Guinea routinely cannibalized their deceased kin, viewing this as an act of love and respect for the dead.[19] (Spongiform encephalopathy refers to the condition in which the brain tissues are systematically destroyed, leaving the brain with the appearance of a sponge.) In this case we can see that the funerary cannibalism of the Fore and the funerary non-cannibalism of most other cultures both reflect the deeper objective moral principle of love and respect for one's kin, and as such this cultural diversity does not necessarily entail moral relativism. Indeed, this case shows that cultural diversity can entail moral universalism.

One might also point out that the argument from cultural diversity is counterintuitive. If a society possesses the belief that it is wrong to commit murder, one does not believe that a murderer is morally blameworthy solely because of this societal disapproval. However, under moral relativism, since the moral status of an act is determined solely by whether the particular society approves or disapproves of it, the murderer is morally blameworthy *only* because his society has determined it to be wrong.[20] The problem with this is that if moral relativism is correct then most, if not all, moral agents are in error with regard to their beliefs about their moral judgments. The moral relativist hence has to account for this near-universal metaethical error on the part of moral agents.

Worse, moral relativism limits the scope of moral criticism. If a practice of a particular society satisfies its moral codes, then under moral relativism that practice is moral. This would mean that it would have been morally wrong for someone to criticize the practice of slavery in the antebellum American South, since slavery was morally permissible under the moral code of antebellum American South society.[21] This of course means that moral reform is impossible if moral relativism is true. It is impossible for a society's moral code to be morally criticized since it is that very code that is the standard of morality. Moral reformers hence are immoral by their very act of attacking their societies' moral codes.[22] (The sophisticated moral relativist, however, can avoid this problem with an account of immanent critique, that is, an account of how a given society can critique itself from within.[23])

Moral relativism hence is problematic and need not follow from the fact of cultural diversity. In particular, Bernard Williams points out that one influential argument for moral relativism is invalid due to its inconsistency. This argument is premised on the propositions that what is right is what is right for a particular society, and that what is right for a particular society is what is functionally right for it. From these premises it is concluded that it is wrong for one society to criticize or intervene in another. For example, if ritual kinship cannibalism is functionally right for the Fore, then ritual kinship cannibalism for the Fore is right, and hence it is wrong for any society to criticize or interfere with the Fore's ritual kinship cannibalism. The invalidity lies in the inconsistent use of a relative sense of rightness in the premises and a nonrelative sense of rightness in the conclusion. Given the premises, the conclusion is only entitled to claim that it is

not functionally right for one society to criticize or intervene in another. But even this weakened claim is unsupported by the premises, and the argument remains invalid.[24]

Moral Universalism and Buberian Environmentalism. Having seen that moral relativism is problematic, despite its popularity, I shall now focus on moral universalism. Moral universalism is the metaethical claim that morality is objective and that moral values are not relative to societies or cultures. I shall now proceed to show that Buberian Environmentalism belongs to the tradition of moral universalism. To do this I shall utilize John Searle's theory of institutional facts, a theory of moral realism.[25] (Moral realism is a stronger thesis than moral universalism, since, unlike moral universalism, it also includes an ontological theory of morality. While moral realism entails moral universalism, moral universalism does not entail moral realism.)

Moral realism is the theory that moral facts exist in the world, and hence moral judgments refer to these moral facts. A promising account of what such moral facts consist in is John Searle's theory of institutional facts. Institutional facts are facts about institutions that consist of constitutive rules, and constitutive rules are rules that create and define forms of behavior. For example, the institution of promising consists of and is defined by the rules of promising.[26] In Searle's account of moral realism, moral facts supervene on certain institutional facts. These institutional facts are facts about institutions that complement and promote human flourishing. By *human flourishing* I refer to human goods such as welfare and happiness. Arguably institutions such as kinship, society, the law and language are institutions which complement and promote human flourishing. Moral facts hence can be reduced to facts about these institutions.

The term 'institution' arguably connotes the possibility of moral relativism, since one may revoke one's membership in an institution, and hence if the account is correct, morality is relative to one's choice of membership in particular institutions. But this objection is founded on a fallacious identification between those institutions of which membership is contingent and those institutions of which membership is necessary if one is to be part of a flourishing human society. To see this, consider Watson's account of the Yanomamö tribe, which is distinguished by its homicidal institutions, such as institutionalized violence and infanticide. The Yanomamö lack institutions that characteristically complement and promote human flourishing, such as an institutionalized respect for life. The Yanomamö are in decline precisely because of their homicidal institutions.[27] It should be clear that these institutions which either promote or degrade human flourishing span across and hence are *independent* of particular societies or cultures, and as such Searle's account of moral realism is objective and not relativist.[28]

It should now be clear that the institutional fact account of moral realism provides a framework for Buberian Environmentalism. Buberian Environmentalism is rooted in Buber's understanding of the relational nature of the human self. Hence if Searle's institutional fact theory is correct then there exist moral facts, which consist of facts about institutions which complement and promote human flourishing, of which the realization of the self's nature as a relational being is an essential component. Since the institutions which either promote or degrade the realization of the self's nature as a relational being span across and hence are independent of particular societies or cultures, Buberian Environmentalism is morally universalist and not relativist. But is Searle's theory correct? I find it a plausible and clear account of moral realism and moral universalism, and Searle has elaborated this metaethical theory to provide an

ontological account of social reality.[29] (The accuracy of his social philosophy, including his ontological account of morality, lies beyond the scope of this discussion.)

The Classical Triumvirate of Virtue Ethics, Consequentialism and Deontology. Having situated Buberian Environmentalism in the moral universalist tradition, I shall now situate it with respect to the classical triumvirate of virtue ethics, consequentialism and deontology. The classical triumvirate represents the three different ways moral thinkers have generally analyzed moral issues.

Consider the basic moral event. Such an event would consist of a moral agent, his moral act, and the consequences following from this act. (What makes an event a moral event is the presence of the moral agent, and what makes an agent a moral agent is the presence of free will in his committing the act in question. Free will is necessary since if the agent's action was not free, then this action cannot be evaluated as being morally praiseworthy or blameworthy. For example, if Peter killed Tom only because he was under the hypnotic control of John, then Peter's action was not free, and hence he cannot be held morally accountable for it.) Given this basic moral event, the classical triumvirate represents the three different ways moral thinkers in general will analyze it. A brief survey of the triumvirate and its problems follows:

Virtue Ethics. Moral thinkers in the tradition of *virtue ethics* will focus on the character of the moral agent. Virtue ethicists will subordinate the question of whether the moral agent was morally praiseworthy or blameworthy for performing the act to the question of whether the agent was virtuous or vicious. The answer to the question of the moral agent's virtue will answer the subordinate question of the moral value of his act, for the virtuous agent tends to perform correspondingly virtuous acts, while the vicious agent tends to perform correspondingly vicious ones. Such an approach will of course make the moral analysis of any particular moral event extremely problematic. Given the impossibility of knowing another person's mind, it is impossible to know if another person is virtuous or vicious, and the inability to know this would make it impossible to know the moral value of any particular act.[30]

It might be argued, however, that one does not need to know the minds of, say, Mother Teresa and the Dalai Lama in order to know of their virtue. But these counterexamples are plausible under only a particular interpretation of the facts about them. A different consideration of the facts will yield different interpretations of the virtue of Mother Teresa[31] and the Dalai Lama[32]. Virtue is essentially an attribute of the mind, and seemingly virtuous actions can derive from both virtuous and vicious minds. The only way to know if a seemingly virtuous act was virtuous would be to know if the mental state behind the act was virtuous. There is however an interesting asymmetry between the identification of virtue and that of vice. The recognition of a non-virtuous intention (such as greed) behind the performance of a seemingly virtuous action will lead to the withdrawal of the attribution of virtue on the moral agent concerned. However, the recognition of a non-vicious intention behind the performance of a seemingly vicious action need not necessarily lead to the withdrawal of the attribution of vice on the moral agent concerned. For example, if it were the case that Pol Pot, Stalin or Hitler committed their acts of genocide based on non-vicious intentions (e.g. benevolence towards their nations), it would still be the case that they and their acts were irredeemably vicious. This asymmetry seems to be based on a significant difference in the way positive and negative consequences are weighed:

significantly negative consequences (e.g. genocide) generally carry such weight as to trump benevolent intentions, while significantly positive consequences generally do not carry such weight as to trump vicious intentions. A further discussion of this asymmetry lies beyond the scope of this dissertation.

Consequentialism. Moral thinkers in the tradition of *consequentialism* will focus on the consequences following from the moral act. Consequentialists will not consider the issue of the moral agent's character, but instead will focus on the issue of the moral value of the act itself. The moral value of the act depends on the value of the consequences following from it, and the way the consequences are valued varies with each variety of consequentialism. For example, classical utilitarianism, a significant form of consequentialism, evaluates a moral act according to the following formula:

> The creed which accepts as the foundation of morals 'utility' or the 'greatest happiness principle' holds that actions are right in proportion as they tend to promote happiness; wrong as they tend to produce the reverse of happiness. By happiness is intended pleasure and the absence of pain; by unhappiness, pain and the privation of pleasure.[33]

The main problem with consequentialism is the impossibility of having an objective and complete measure of the consequences of any given moral action, for an observer cannot know at any particular moment in time what all the future consequences of a moral action will be.

A related problem is the impossibility of an *objective* measure of *subjective* states such as happiness or pain. Such an objective measure is required for a complete assessment of the consequences of an act. For example, if Paul's action makes Jane happy but Mary unhappy, for a complete assessment of the consequences of Paul's action requires the observer to objectively measure Jane's happiness against Mary's pain. But this requires an objective phenomenology, which as yet appears to be impossible.[34]

The absence of an objective and complete measure of consequences means that consequentialists have to *subjectively* estimate the consequences of a moral action, and as such their evaluations of the moral praiseworthiness or blameworthiness of moral acts *necessarily* are not objective and are subjectively biased. This means that one can arrive at any evaluation of a moral act that one wants to: one just has to be clever enough to identify the appropriate consequences and weigh them accordingly. This can be seen in the debate surrounding the problem of justice: according to consequentialism it will be morally praiseworthy for a court to convict an innocent person if the positive consequences of this unjust act outweigh the suffering of the innocent convict. Critics of consequentialism use this example to attack consequentialism, while those in favor of consequentialism generally argue that the consequences in the example have been calculated wrongly, and that a correct calculation of the consequences will show that the unjust conviction was indeed morally blameworthy. The problem of course is that since there is no objective means of measuring the consequences, there can be no objective means of determining if the unjust conviction was morally praiseworthy or blameworthy. This applies to the evaluation of all other moral events.

Deontology. Moral thinkers in the tradition of *deontology* will focus on the performance of the moral action itself. Kantian ethicists will focus on the correctness of the moral agent's intention

behind the moral act, while rights theorists will focus on identifying the conditions for the permissibility and impermissibility for an act to be performed. For example, if a person has a right to life, it will be impermissible for one to take this person's life. The problem with the deontological approach is its reductionism, and as this is a problem that is shared with the rest of the triumvirate, I shall discuss this further below.

The Problem of Reductionism. As can be seen, the classical triumvirate represents the three different ways moral thinkers have historically attempted to reduce the essence of morality. Simply put, given a moral event consisting of the moral agent, his moral act, and the consequences following this act, virtue ethics reduces *what matters* in this act to the character of the agent, consequentialism the consequences of the act, and deontology the nature of the act itself. And within each approach the reductionism proceeds further, as will be seen in the following discussion. The triumvirate's reductionism is flawed, as a complete understanding and appreciation of any moral event can only be arrived at through a consideration of all its aspects.

As mentioned, the process of reductionism can continue further within each approach. Consider deontology. Its reductionism can be observed to develop further in the various ethics belonging to it. A good example is classical Kantian ethics, one of the dominant moral philosophies in the deontological tradition. Classical Kantian ethics reduces morally relevant judgments to the class of categorical imperatives. (These are imperatives of a categorical nature which derive from the Kantian Categorical Imperative. One of Kant's examples of such a derived categorical imperative is the imperative not to falsely promise to repay a debt to obtain a loan.[35])

Imperatives are prescriptions of particular actions as being worth performing or worth refraining from performing. In a rational agent who possesses a will in which reason can be overridden by irrational impulses, an imperative has the force of a command of reason.[36] Kant classified imperatives as being categorical or hypothetical. Categorical imperatives prescribe or proscribe particular actions, independent of any end, while hypothetical imperatives prescribe or proscribe particular actions with respect to actual or possible ends. Hence while a categorical imperative is necessary, a hypothetical imperative is contingent.[37]

The reductive Kantian claim in question is that moral judgments are categorical and not hypothetical imperatives. This is based on the popular Kantian notion that moral judgments are independent of any interests or inclinations a moral agent might possess.[38] Since hypothetical imperatives are contingent upon the moral agent's ends, this implies that moral judgments are not hypothetical imperatives. In contrast, categorical imperatives are independent of the moral agent's ends, and this implies that moral judgments are categorical imperatives.[39]

Philippa Foot criticizes this reductive claim by arguing that Kant's characterisation of moral judgments as categorical imperatives is imprecise, that moral judgments can be hypothetical imperatives as they can rest upon contingent yet legitimate moral motives, and hence that moral judgments are better understood as being hypothetical imperatives. Foot exposes the imprecision of the reductive Kantian claim by considering and rejecting different interpretations of what the claim actually means. (I do not claim that Foot's criticism is conclusive, however. I include Foot's criticism in this brief survey of the triumvirate as I feel it is representative of the general

criticism of the triumvirate's reductionism. I do not deny that Kantian theorists are able to defend Kantian ethics against Foot's criticism.)

Foot first considers the linguistic interpretation of the claim. On this interpretation, the difference between categorical and hypothetical imperatives is merely linguistic. Imperatives are command-like statements that contain imperative words such as *must, should* and *ought*. Hypothetical imperatives are imperative statements that are retracted by the speaker if the listener does not have the relevant end; categorical imperatives are imperative statements that cannot be retracted by the speaker if the listener does not have the relevant end.[40] The imprecision in this interpretation stems from the consequence that the set of categorical imperatives expands to include several groups of evidently hypothetical imperatives, such as rules of etiquette and institutional rules. These imperatives are evidently hypothetical as they are contingent upon the context the moral agent is located in. For example, institutional rules only apply when the agent is present in the institution. Yet under the linguistic interpretation, such hypothetical imperatives have to be classified as categorical as they cannot be retracted if the agent does not have the relevant end. For example, a rule of etiquette cannot be retracted if the agent does not have the intention to be polite.[41]

The second interpretation of the Kantian claim Foot considers is that categorical imperatives possess an 'automatic reason-giving force'. That is, categorical imperatives automatically provide the moral agent with a reason to act. In contrast, hypothetical imperatives, such as institutional rules, do not automatically provide the moral agent with a reason to act.[42] This claim is imprecise precisely because it is difficult to pinpoint where this 'automatic reason-giving force' is located. Foot suggests that moral agents are socialized by their culture to feel the need to obey moral judgments, whereas there is no such socialization for rules of etiquette and institutional rules. However the consequence of this will be that moral judgments are contingent upon the culturally formed inclinations of the moral agent, and hence are hypothetical imperatives.[43]

A more serious problem with this interpretation is that it fallaciously identifies morality with rationality. Under this interpretation, it is immoral to disobey a categorical imperative precisely because disobeying it involves disregarding the imperative's reason to act. Such an argument commits a category mistake by fallaciously identifying morality with rationality. The mistake can be seen in the counterexample of the rational villain, who is immoral yet rational. Irrationality is a concept independent of the concept of morality: irrationality occurs when the rational agent chooses actions that undermine the achievement of his goals.[44]

The third interpretation of the Kantian claim Foot considers distinguishes moral judgments by the motivational legitimacy of their moral agents. Moral acts are committed for the legitimate motive of duty.[45] Duty is the *only* legitimate motive as it is independent of any contingent end. In contrast, illegitimate motivations such as mediate and immediate inclinations are contingent to particular ends and hence have 'no true moral worth'.[46] Under this theory of moral motivation, if a moral agent is not acting out of duty but out of a 'material maxim', then he is acting out of the 'selfish' motive of promoting his own happiness.[47]

But duty is not the sole legitimate moral motive. There exist other legitimate moral motives that exist as ends-in-themselves, and not as means towards promoting the moral agent's happiness, such as charity, honesty and justice.[48] Such virtues act as legitimate motives for moral action, and the Kantian cannot claim that these are contingent to selfish ends. For example, a charitable person does not help others for selfish gain, but for the good of those he is helping. These legitimate moral motives are contingent on the moral agent's inclinations (e.g. the feeling of pity for the homeless) and hence are not categorical. Since moral judgments are distinguished by the legitimate motive of the moral agent, they need not be categorical imperatives, but can be hypothetical imperatives.[49]

The final interpretation of the Kantian claim Foot considers is that the essential element of any moral end is the *recognition* that the moral agent has a duty to adopt that end. This recognition is sufficient for the moral agent to adopt a moral end.[50] Since this recognition exists as an essential element in the moral end, and since no other condition is required for this end to be adopted, such a moral end is categorical and not hypothetical. But this position is mistaken. While a moral agent may recognize that he has a duty to adopt a particular moral end, this is insufficient reason for him to adopt it. What is also required is that he *care* for the end in question, or that he *want* to adopt the end. This means that moral ends are hypothetical, not categorical, imperatives.[51]

A Further Problem for the Kantian, and a Kantian Response. Classical Kantian ethics faces a further problem because of its reduction of the sole legitimate moral motive to motivation by duty. It has often been claimed that the cultivation of close personal relationships, such as friendships, cannot coexist with motivation by duty. I have just argued that the view of duty as the sole legitimate moral motive is false. But out of fairness, with regard to this further problem the Kantian reductionist is not bereft of a solution. I shall now show that a reinterpretation of the duty motive can allow the duty motive to coexist with the cultivation of close personal relationships.[52] In the process of working out this Kantian response I shall uncover an important insight into the nature of what it is to be a moral agent.

The claim that the cultivation of close personal relationships rules out motivation by duty depends on a particular conception of motivation by duty. The cultivation of a close personal relationship, such as friendship or a family relationship, requires the moral agent's partiality towards the person he is related to. It is then claimed that motivation by duty cannot achieve such partiality. While acting from a partial motive such as care can have this person as its object, acting from the impartial motive of duty can only have that which is morally right as its object. Following from these claims, since the moral agent is incapable of being partial towards this person if he is motivated by duty, if he is only motivated by duty in his relationships with others, he hence will be unable to cultivate close personal relationships. The cultivation of close personal relationships hence rules out motivation by duty.[53]

Consider Stocker's example: Motivated by duty, Smith visits his hospitalized friend. Upon learning this, Smith's friend feels disturbed since Smith is not visiting him as a friend but rather out of a concern for doing the right thing.[54] Stocker's example assumes that if a moral agent is motivated by duty, he cannot act as a friend or in terms of some other personal relationship. The reason for this is that acting as a friend requires partiality, whereas motivation by duty is

impartial and cannot allow for this required partiality. The Kantian can reply that this conception of motivation by duty is erroneous.

Barbara Herman has provided an account of motivation by duty that allows the moral agent the partiality that is required for the cultivation of personal relationships. On this account, motivation by duty can be understood as a limiting condition: if his action is morally permissible, the moral agent can act on a partial motive.[55] Motivation by duty is located within the moral agent's motivational structure as a limiting condition. So long as the moral agent's action is morally permissible, he is allowed to act regardless of whether his motive is partial or impartial. However, if his action is morally impermissible, he has the duty not to perform this action. Returning to Stocker's example, Smith can both be motivated by duty as well as by the partial motive of concern for his friend. This concern will be the motive that directly leads him to act. But this motive will have to pass through the censor of the duty motive as limiting condition. If Smith's concern motivates him to commit a morally impermissible act (for example, robbing someone so that Smith can buy his friend a get-well card), the limiting condition will prevent him from realizing this intended action, and will give rise to the duty to not carry out this action. But if Smith's concern motivates him to perform a morally permissible act (for example, buying his friend a get-well card), then even if this concern is partial towards his friend, Smith's duty motive as a limiting condition will permit this act.[56]

But a response would be that the cultivation of close personal relationships excludes the moral intervention that arises from having the duty motive as a limiting condition within the moral agent's motivational structure. This exclusion is explained by the claim that the issue of the moral permissibility of an action is illegitimate if this action concerns a personal relationship of the moral agent. Consider Bernard Williams' and Susan Wolf's critiques of Charles Fried's example of the moral agent who chooses to rescue his wife rather than a stranger. Both argue that it is irrelevant that this moral agent's choice is morally permissible; both claim that what is necessary and sufficient is the moral agent's concern for his wife.[57]

I shall now consider the claim that the consideration of the moral permissibility of an action can be unnecessary for a moral agent's actions. I shall argue that for the moral agent to remain a moral agent, he has to consider the moral permissibility of his actions, even when these actions concern his personal relationships. If the moral agent chooses to deny his status as a moral agent, he will be alienated from the moral world.

Consider the configuration of the human world: human individuals exist in communities rather than in isolation. What would be the sort of relationships within these communities which would best allow their members to flourish? Each human individual is distinguished from the rest of the world by his subjectivity: the world of things appears as a world of objects for him. Should the self seek to establish a genuine relationship with the other, the other's subjectivity has to be recognized. I argue that such recognition entails that the self recognize that he has to respect the other, and that such respect involves recognizing that the self cannot treat the other in certain ways, and that the other can make certain legitimate demands on the self. This seems to be where the fundamental moral notions of rights and duties originate.[58] Kant's formula of the end-in-itself succinctly expresses how the self is to relate to the other-as-subject: 'Act in such a way that you treat humanity, whether in your own person or in the person of another, always at

the same time as an end and never simply as a means.'[59] In this way the human world becomes the moral world.

In this moral world, what is it for a moral agent to deny that the cultivation of his personal relationships is subject to moral consideration? Illumination can be shed on this question through a consideration of those aspects of the moral agent's personal life which are not subject to moral consideration. Consider Fried's example again. It has been argued that for this moral agent moral consideration is irrelevant to his act of saving his wife since what is necessary and sufficient is his concern for her. But the example seems sound only because the moral agent's choice to rescue his wife is morally justified. If Williams and Wolf are correct, it would be difficult to explain why this moral agent should be morally condemned if he commits a morally wrong act (for example, murdering the stranger) for the sake of his wife. If performing an act for the sake of his wife is sufficient to entail that moral consideration is irrelevant, then it is difficult to explain why his act of murder, done for the sake of his wife, should be subject to moral consideration. It seems that once the moral agent views some aspects of his life as not being subject to moral consideration, not only is he open to the temptation of moral corruption, but he is also alienated from his very status as a moral agent. This is because he positions himself outside of the moral world of rights and duties when he does not recognize the rights of others and his duties towards them, as he has to when he views an act of his as being beyond moral consideration. Since this moral agent fails to recognize the rights of others and his duties toward them, it is difficult to see why the moral community should similarly recognize his rights against them as well as their duties toward him. In positioning himself as outside of moral consideration, the moral agent not only rejects his status as a moral agent; he also alienates himself from the moral world.

Kant's exegesis of the moral law in the *Groundwork* explains why this is so. Humans are distinguished from the rest of the natural world by their possession of the faculty of reason. (This is why we extend protective rights to nonhumans, for example the great apes, which are suspected of possessing the faculty of reason.) In the third section of the *Groundwork*, Kant argues that the rational agent possesses both freedom and autonomy. The possession of reason allows the rational agent to propose reasons for his actions, and this frees him from the causal determinism of the natural world. The rational agent is not determined by external laws, but he is also not a chaotic being, determined by no laws. This means that the rational agent is determined by laws he sets for himself. Kant argues that the law all rational agents would set for themselves would be a law which all would accept, that is, the moral law. In this way the rational agent becomes a moral agent.[60] When the moral agent chooses to place himself beyond moral consideration, he chooses to ignore the moral law and hence chooses to reject his status as not only a moral agent but also a rational agent. And by doing this, the moral agent alienates himself from others and the moral community, since the moral law, as manifest in the formula of the end-in-itself and the formula of the kingdom-of-ends, governs the relationship between the moral agent and the moral community.

Buberian Environmentalism and the Classical Triumvirate. Buberian Environmentalism has been situated in the tradition of moral universalism, and I shall now situate it in a position distinct from the classical triumvirate. As I have argued above, the classical triumvirate is distinguished by its reductionism. Buberian Environmentalism is not reductionist, as its analyses

of moral events consider all aspects, including the rational and non-rational mental states of the moral agent, the act itself, and the consequences following from the act. Buberian Environmentalism, unlike the classical triumvirate, does not single out any particular aspect as being worthy and the others as being unworthy of consideration. This can be seen in Part Three, where Buberian Environmentalism is used as a defense of ethical vegetarianism.

Having situated Buberian Environmentalism within the tradition of moral universalism, and having distinguished Buberian Environmentalism from the classical triumvirate, I shall now situate Buberian Environmentalism within the landscape of environmental philosophy. In Part One I situated Buberian Environmentalism within the anthropological approach. I shall now situate Buberian Environmentalism within Deep Ecology.

Buberian Environmentalism as a Deep Ecology. Deep Ecology refers to the family of environmental philosophies which are characterized by a 'deeper, more spiritual approach to Nature', arising from the 'deep questioning' of 'human life, society, and Nature'.[61] As such Deep Ecology is distinct from the shallow and piecemeal technological approach to resolving environmental issues.[62] (While Naess has developed a comprehensive Deep Ecological philosophy which he terms 'Ecosophy T', he has acknowledged that environmental philosophies which differ from Ecosophy T can still belong to Deep Ecology.[63]) Given its concern with the nature of humanity and its relationship with Nature, Deep Ecology belongs to the Anthropological Approach. And given that Buberian Environmentalism is built on Martin Buber's deep questioning of what is it to be human and how the self is to relate to the other, Buberian Environmentalism can be described as belonging to Deep Ecology.

In Part One I compared Buberian Environmentalism to Naess' Ecosophy T, or the Self-realization approach. I shall now proceed to consider Peter Reed's Man-Apart philosophy, another Deep Ecology distinct from Ecosophy T, and compare it to Buberian Environmentalism.

Reed's environmental philosophy rests on the recognition of the human self as being distinct from the rest of Nature.[64] This recognition gives rise to the sense of awe and fear at the immensity and vastness of Nature:

> If we turn our attention from our petty hubris, insignificance, and appalling ignorance to a universe vast beyond our ability to comprehend, we might treat the Earth a little less arrogantly.[65]

This sense of awe and fear is not misplaced. Camille Paglia points out that society itself was formed to protect its vulnerable members from the ravages of nature:

> Society is an artificial construction, a defence against nature's power. Without society, we would be storm-tossed on the barbarous sea that is nature. Society is a system of inherited forms reducing our humiliating passivity to nature. We may alter these forms, slowly or suddenly, but no change in society will change nature. Human beings are not nature's favorites. We are merely one of a multitude of species upon which nature indiscriminately exerts its force. Nature has a master agenda we can only dimly know.[66]
>
> Human life began in flight and fear. Religion arose from rituals of propitiation, spells to lull the punishing elements. To this day, communities are few in regions scorched by heat or shackled by ice. Civilized man conceals from himself the extent of his subordination to nature. The grandeur of culture, the consolation of religion absorb his attention and win his faith. But let nature shrug, and all is in ruin. Fire, flood, lightning,

> tornado, hurricane, volcano, earthquake – anywhere at any time. Disaster falls upon the good and bad. Civilized life requires a state of illusion. The idea of the ultimate benevolence of nature and God is the most potent of man's survival mechanisms. Without it, culture would revert to fear and despair.[67]

Reed correctly points out that the sense of awe and fear of Nature is an intuition, and that his environmental philosophy is intuitionist.[68] One problem with such an environmental philosophy is that intuitions need not be lasting. An individual might suddenly have the intuition of nature's power, but this intuition might only be fleeting, leaving this individual to pursue his environmentally unfriendly behavior. Paglia notes that while most of the time people live under the illusion of nature's benevolence, they often intuit the truth during times of natural disaster:

> Just as the hatreds of divorce court expose the dark face beneath the mask of love, so is the truth about nature revealed during crisis. Victims of tornado and hurricane instinctively speak of 'the fury of Mother Nature' – how often we hear that phrase as the television camera follows dazed survivors picking through the wreckage of homes and towns.[69]

The main problem with an intuitionist environmental philosophy, however, is that intuitions can lead individuals to attack rather than protect the environment:

> Encountering the Other might be a revelation of terror and alienation for some, which would lead them to attack the Other in fear.[70]

Having said this, while it is clear that human activity can destroy the biosphere – which is of course a subject that we should all be concerned about – Nature would find humanity troublesome, at most:

> Even the bomb merely releases energy that nature has put there. Nuclear war would be just a spark in the grandeur of space. Nor can radiation 'alter' nature: she will absorb it all. After the bomb, nature will pick up the cards we have spilled, shuffle them, and begin her game again. Nature is forever playing solitaire with herself.[71]

While the biosphere of planet Earth has suffered five catastrophic global mass extinctions throughout its history, and is currently undergoing a sixth,[72] Nature as totality has endured throughout. But it is the biosphere, not Nature as totality, which this dissertation is concerned with. The aspect of Nature that inspires awe and fear is that of Nature as totality. However, as we have seen, this inspiration of awe and fear can prompt the individual to strike back at that which makes him fearful. And even though this does not matter to nature as the universe, the biosphere *can* be damaged or destroyed by such a fearful individual, as is easily seen in the environmental crisis.

Unlike Reed's Man-Apart philosophy, Buberian Environmentalism is not designed to depend on any such intuition about nature. While Buberian Environmentalism belongs with Ecosophy T and Reed's Man-Apart environmental philosophy under Deep Ecology, its approach is distinct from these. This is because its root philosophy – Martin Buber's philosophy of dialogue – is distinct from the philosophical roots of either Ecosophy T or Reed's Man-Apart philosophy.

As we have seen in Part One, Buber's philosophy of dialogue allows Buberian Environmentalism to explain the environmental crisis and to suggest a way to deal with it. To

recapitulate: Buber's I-It relation allows Buberian Environmentalism to explain the roots of the environmental crisis. With the industrial revolution came the rise of modern technology. The essence of modern technology is Enframing, which is a manifestation of the I-It attitude. The rise of modern technology, with the concurrent rise of Enframing, has brought about a change in humankind. Not only are individuals alienated from one another by their being in the I-It mode, humanity itself is radically alienated from Nature. The dominance of Enframing largely prevents humanity from viewing Nature as anything other than as a standing-reserve. And it is this dominance of the view of Nature as being nothing more than a standing-reserve that has led to the environmental crisis. Humankind's inability to see Nature as being more than a standing reserve has prevented humankind from respecting Nature, and this absence of respect has allowed humankind to engage in the over-exploitation and wanton despoliation of Nature which has brought about the environmental crisis. Buber's I-Thou relation, on the other hand, allows Buberian Environmentalism to explain how humankind can deal with the environmental crisis. The self has a reason to engage with Nature in the I-Thou relationship as this helps the self to realize its nature as a relational being, and hence to realize its nature as a human being. Furthermore, the I-Thou relationship between the self and Nature leads to a relationship of respect. When the self relates to Nature in the I-Thou mode, the self recognizes Nature as an end-in-itself, and this prevents the self from interpreting Nature as a standing-reserve or a mere means. In the standard non-deviant case, the self's interpretation of Nature as a Thou excludes the self from being able to choose to treat Nature as a standing-reserve or a mere means, hence the self is brought to treat Nature with respect.

Summary of Part Two. In Part Two I elaborated on my account of Buberian Environmentalism. I first showed Buberian Environmentalism to belong to the tradition of moral universalism. I then distinguished Buberian Environmentalism from the classical ethical triumvirate of virtue ethics, consequentialism, and deontology. While the classical triumvirate is characterized by its reductionism, Buberian Environmentalism is non-reductionist, as its analyses of moral events consider all aspects of these events, including the rational and non-rational mental states of the moral agent, the act itself, and the consequences following from the act. Unlike the classical triumvirate, Buberian Environmentalism does not single out any particular aspect as being worthy and the others as being unworthy of consideration. Finally I showed Buberian Environmentalism to belong to Deep Ecology, and compared it to Peter Reed's Man-Apart approach to Deep Ecology.

Endnotes

1. William Shaw, 'Relativism and Objectivity in Ethics', *Morality and Moral Controversies*, John Arthur (ed.) (Englewood Cliffs, N.J.: Prentice-Hall, 1986), p. 16.

2. Jean-Paul Sartre, *The Transcendence of the Ego*, Forrest Williams and Robert Kirkpatrick (trans.) (New York: Farrar, Straus & Giroux, 1957), pp. 32-54.

3. Scruton, op cit., pp. 481-495 and 592-596.

4. ibid., p. 479.

5. Nicholas Garnham, ‘The Mass Media, Cultural Identity, and the Public Sphere in the Modern World’, *Public Culture*, 5, 1993, p. 252.

6. Colleen Roach, ‘Cultural Imperialism and Resistance in Media Theory and Literary Theory’, *Media, Culture and Society*, 19, 1997, pp. 47-60.

7. Garry Rodan, *Electronic Media and Political Control in Singapore*, presented in Asian Studies Association of Australia 20th Anniversary Conference, Melbourne, July 1996, p. 4.

8. ibid., p. 12.

9. Murray Masterton (ed.), *Asian Values in Journalism* (Singapore: Asian Media, Nanyang Technological University, 1996), p. 10.

10. ibid., p. 18.

11. Alasdair MacIntyre, *After Virtue: A Study in Moral Theory* (London: Duckworth, 1981), p. 8.

12. Masterton, op cit., pp 15-24.

13. ibid., pp. 139-147.

14. ibid., pp. 152-157.

15. ibid., pp. 162-166.

16. Shaw, op cit., p. 17.

17. John Mackie, *Ethics: Inventing Right and Wrong* (Harmondsworth, Middlesex: Penguin, 1977), pp. 36-37.

18. ibid., p. 37.

19. Richard Rhodes, *Deadly Feasts* (New York: Simon & Schuster, 1997), pp. 21-26.

20. Shaw, op cit., pp. 17-18.

21. ibid., p. 18.

22. ibid..

23. This maneovre can still leave the moral relativist open to attack from the moral universalist, however. For example, see Thomas Nagel, ‘Why We Can’t Understand Thought from the Outside’ and ‘Ethics’, *The Last Word* (Oxford: Oxford University Press, 1997).

24. Bernard Williams, 'An Inconsistent Form of Relativism', *Relativism: Cognitive and Moral*, Jack W. Meiland and Michael Krausz (ed.) (Notre Dame: University of Notre Dame Press, 1982), pp. 171-172.

25. An earlier version of the following discussion of Searle's institutional fact theory of moral realism can be found in my *Moral Realism and "Crimes and Misdemeanors"*, http://web.singnet.com.sg/~chlim/realism.html (20 August 2000).

26. John Searle, 'How to Derive "Ought" from "Is"', in *Readings in Ethical Theory*, Wilfrid Sellars and John Hospers (eds.) (New York: Appleton-Century-Crofts, 1970), p. 70.

27. Lyall Watson, *Dark Nature: A Natural History of Evil* (New York: HarperCollins, 1995), pp. 149-151 & 157-158.

28. However, if the moral community is seen to include non-human moral agents, Searle's theory is relativist (in the weak sense) as it applies only to human moral agents and is agnostic with respect to non-human moral agents.

29. For example, see his *The Construction of Social Reality* (New York: Free Press, 1995), and *Mind, Language and Society: Doing Philosophy in the Real World* (London: Weidenfeld & Nicolson, 1999).

30. This of course is not the only problem facing the virtue ethicist. For example, see Sarah Conly, 'Flourishing and the Failure of the Ethics of Virtue' in *Midwest Studies in Philosophy*, Vol. 13, 1988.

31. Christopher Hitchens, 'Saint To The Rich', *Salon.com*, http://salon.com/sept97/news/news970905.html (5 September 1997). See also his *The Missionary Position: Mother Teresa in Theory and Practice* (New York: Verso, 1995).

32. Christopher Hitchens, 'His Material Highness', *Salon.com*, http://salon.com/news/1998/07/13news.html (13 July 1998).

33. John Stuart Mill, *Utilitarianism*, edited by George Sher (Indianapolis: Hackett Publishing Company, 1979), p. 7.

34. Thomas Nagel, 'Conceiving the Impossible and the Mind-Body Problem', *Philosophy*, Vol. 73, No. 285, 1998.

35. Kant, op cit., 422.

36. ibid., 413.

37. ibid., 414.

38. Philippa Foot, 'Morality as a System of Hypothetical Imperatives', in *Virtues and Vices and Other Essays in Moral Philosophy* (Oxford: Basil Blackwell, 1978), p. 158.

39. Kant, op cit., 416.

40. Foot, op cit., pp. 159-160.

41. ibid., pp. 160-161.

42. ibid., p. 161.

43. ibid., p. 162.

44. ibid., pp. 161-162.

45. ibid., p. 164.

46. Kant, op cit., 397-399.

47. Foot, op cit., pp. 164-165.

48. But see Anh Tuan Nuyen. 'The Heart of the Kantian Moral Agent', *American Catholic Philosophical Quarterly*, Vol. LXIX, No. 1, 1995.

49. Foot, op cit., pp. 165-166.

50. ibid., p. 166.

51. ibid., pp. 166-167.

52. An earlier version of the following discussion of the coexistence of the Kantian duty motive and the cultivation of close personal relationships can be found in my *Does the Cultivation of Close Personal Relationships Rule Out Motivation by Duty?*, http://web.singnet.com.sg/~chlim/motivation.html (12 July 2000).

53. Barbara Herman, 'Integrity and Impartiality', *The Monist*, Vol. 66, No. 2, 1983, p. 235

54. Marcia Baron, 'The Alleged Moral Repugnance of Acting from the Motive of Duty', *The Journal of Philosophy*, Vol. 81, 1984, pp. 201-202.

55. Herman, op cit., p. 236.

56. Baron, op cit., p. 207.

57. ibid., pp. 211-212

58. Scruton, op cit., pp. 285-286.

59. Kant, op cit., 429.

60. Scruton, op cit., pp. 284-286.

61. Devall and Sessions, op cit., p. 38.

62. ibid.. See also Arne Naess, 'The Shallow and the Deep, Long-Range Ecology Movement: A Summary', in *Radical Environmentalism: Philosophy and Tactics*, edited by Peter C. List (Belmont, California: Wadsworth Publishing Company, 1993).

63. Naess, 'Identification as a Source of Deep Ecological Attitudes', op cit., p. 26.

64. Reed, op cit., p. 56.

65. ibid..

66. Camille Paglia, *Sexual Personae: Art and Decadence from Nefertiti to Emily Dickinson* (New York: Vintage, 1991), p. 1.

67. ibid..

68. Reed, op cit., p. 68.

69. Paglia, op cit., p. 38.

70. Reed, op cit..

71. Paglia, op cit..

72. Richard Leakey and Roger Lewin, *The Sixth Extinction: Biodiversity and Its Survival* (London: Weidenfeld and Nicolson, 1996).

Other Jewish Teachings Related to Ecology/Environment

Parshas Ki Seitzei

By Dr. Meir Tamari

It is commonplace both in practice and in theory to consider ecology or environmental issues primarily in terms of damage and economics, and in response to these issues

there is a vast halakhic literature. However, Judaism also provides an ethical and a spiritual perspective that places the subject in a far wider and more significant context. Furthermore, in accordance with its teachings in all aspects of life, the environment is a matter not only of individual concern but also a communal-national one, that is obligatory not just a matter of mere choice.

This special perspective is clearly shown when we examine the treatment of the subject by Maimonides. Ecological damages, the obligation to make payment for such damage and the imperative to prevent it- both at the individual and communal levels-, are dealt with in that part of the codex that relates to damages caused by one's assets or one's person [Nizkei Mamon], and those sections dealing with the rights and obligations of neighbors and of citizens, [Hilkhot Shecheinim]. Everything that relates to damages to the health or the body of another person, and the necessity to prevent such damage, is presented in the laws of murder [Hilkhot Rotzeach u Shmirat HaNefesh]. Communal and social obligations to prevent damage to the environment and to provide both clean water and air as well as aesthetic pleasure, he codified in the laws of kings [Hilkhot Melachim]. Our parshah provides the main basis for the latter two aspects of ecology and environment.

"When you build a new house you shall make a railing for your roof that you bring not blood-guilt on your house if any falling person falls from it." (Devarim 22: 8). This is codified as a Mitzvat Asei (Hilkhot Rotzeach, Chapter 11, Halakhah1). It must be stressed that this is a purely preventative measure since the owner of the roof is not doing anything to cause the damage. This is an extension of the moral obligation that the Torah places on us with regard to our privately owned property, where we are required to make sure that our assets cannot damage but also with regard to the public domain. "So it is with every obstacle that is liable to cause damage to the human body. It is a positive mitzvah to remove [even seemingly harmless items such as stones or garbage, even from the public domain] and to do so diligently"(Choshen Mishpat, section 427). It is not only a roof [commonly used even today in the Middle East for household chores and daily living] that needs to be protected but also anything else that could cause damage. So one is not allowed to pour water into the public domain, [waste industrial products into rivers], nor to conceal dangerous objects on one's own property [nuclear waste or dangerous chemicals], nor to use public facilities in such a way as to harm to health or safety of other people. A person, man or woman who does not do these things, is transgressing in addition also the negative mitzvah of, "You shall not place blood in your house".

"You shall not place blood on your house" is extended beyond the physical assets that may cause damage. We are obligated to save the property and lives of people in danger and even their property [damim in Hebrew being both blood and money]. This obligation is related to the mitzvah of returning a lost object to its owner that includes preventing the goods being lost in the first place. The fact that in many cases the beneficiary may have to pay the savior, does not detract from the moral obligation, that stands in contrast to our acceptance of a norm that teaches us to mind our own business and not intervene for the benefit of others even for saving their lives. It may be

argued that the prevention of hostile takeovers or of malicious gossip regarding quality of competitors products or their financial situation, as well as providing information to protect the property of another person, would all come under the category of, "you shall not put blood on your house".

There is an aspect of ecology that does flow from the normal behavior of people, where there is neither economic activity nor intention to cause damage to others. This flows from the accumulation of garbage and human waste that society is unable to prevent, yet at the same time must make provision for its disposal. Primitive societies either disappeared because they were unable to do so all or simply moved on to virgin territory. However neither of these is a viable alternative to provision for disposal. Furthermore, this is not a function that can be simply laid on the shoulders of individuals but requires communal and public efforts. So we see that the autonomous Jewish communities made provision for sewage, maintenance of roads and municipal services that were funded out of tax money (for example Pinkas Padua, 16th Century enactment).

Human waste introduces a spiritual element over and above the economic equation. "When you go out of camp against your enemies, guard yourself against anything bad….. and you shall have a place outside the camp where you go out and you shall have an implement with you, …….. you shall dig with it and turn back and cover over again that comes from you. For G-d, your G-d wanders in the midst of your camp, so let your camps be holy". (Devarim, 23: 10-15). Maimonides explains that if in the volatile and unsettled army conditions this is a positive obligation, it is even more so in the orderly conditions of normal living. Parallel to this injunction it is not permissible to pray in a place that is dirty, smells of urine or is close to a toilet or bathroom. It is not permissible to greet people with Shalom under similar conditions since it is the Name of HaShem. From" You shall not make detestable" that follows the laws of non-kosher food (Vayikrah, 11:3-4), the rabbis concluded that anything detestable --eating from unclean plates, taking food with dirty hands, or spitting in front of other people -was not permitted (Talmud, Chagigah 5 a). Surely this need for sanctification would apply to rowdy behavior, excessive noise in public places, rioting at sporting events and to any other manifestations of social pollution.

Throughout the discussion of ecology, we cannot lose sight of the problem of the cost involved and who is to pay for that cost. What price tag do we attach to human life and health? There is a stage at which the cost may be prohibitive and therefore there is an important lesson to be gained from the railing on the roof. "What kind of ma'akeh is required", questioned the sages of the Talmud, "a fence on which a normal person may lean without falling over", came the answer. This applies also to runways at airports or bridges.

Parashat Emor

From Parshat Bamidbar, as seen by Don Yitzchok Abarbanel, Torah scholar, Cabbalist, statesman, financier and communal leader.

"What's Mine is Mine and What's Yours is Yours" (Pirkei Avot, chapter 5, mishnah 13)

One would think that there's nothing morally or unethical in a person who holds this attitude to property and to wealth. All that that person is saying is that the wealth was earned honestly, properly looked after and is not used to harm of the other people's possessions or persons; similarly, other people are expected to earn their wealth honestly and prevent it from harming or encroaching the wealth of their neighbors property. Seen in the light of present-day economic behavior or in the parameters of the free market economy, one would expect the rabbi of the mishnah to say, "that is a good person". Yet too that rabbi can only credit such behavior with the "the mark of an average man"-neither criminal nor immoral but spiritually mediocre.

Judaism recognizes private property and its moral value so that we have many laws protecting that private property from theft and damage. However, there is no place in our value system for the concept of unlimited private property. It is true that a person's property and wealth is their own, meant to provide for their needs and those of their family, yet it is not altogether only theirs. The same is true of the development and use of natural resources. While all natural resources- animal, vegetable and mineral- exist for the benefit of mankind who are the pinnacle of creation, these resources may be used for our benefit; not to be wasted or abused. We may regard our private property as something that we hold only as guardians; "The land shall not be sold in perpetuity, for the land belongs to Me [G-d], for you are only strangers and sojourners with Me" (Lev.25:23).We are permitted to use that property as long as it is also used to benefit others.

This Jewish obligation use our property-wealth to assist others, is not left to the free will of the individual; it is not a question to resolve solely on the basis of compassion, mercy, or personal feelings. These are obligations that go beyond questions of charity or philanthropy so can be enforced by the state or by communal bodies. Just as prayer or sexual morality in Judaism are not left to the judgment of the individual will or the current consensus of society, to be observed whenever or if ever the spirit moves one, but is translated into permitted and forbidden action, so too, are the Jewish obligations that fall on owners of wealth. The assistance to the poor, the weak and the treatment of ecology and the environment, cannot be delegated to the sphere of individual conscience. Therefore the community has the right to tax the individual for these social purposes and to introduce the legislation that forces the individual to part with part of obviously private wealth, to protect the rights of stakeholders, and to preserve the environment for future generations and prevent its abuse.

State or legal action alone, however, cannot create a moral and ethical society. This requires an educational basis and a commonly accepted value structure if it used to be replied liable, effective and permanent. Judaism describes the ethical, spiritual and ideological reasons behind the mitzvah of payout as follows:

"God wanted to us to become used to helping others, to develop a merit of mercy, to become used to giving away something which actually belonged to do us. [This has to

be done by continually teaching the practice of mercy. At the same time the educational process of the own is not to ensure and implementation of these noble ideas. Education of its own may simply create the noble intentions.] So we are obligated to perform actions that will train us until these merits become second nature. A person who actually leaves the corners of his field for the benefit of the poor and the stranger, acquires a generous soul, through this mitzvah he becomes generous to other people" (Sefer Hachinuch, mitzvoth 216, 217).

When a philosophy of “what’s mine is mine and yours is yours” is in existence, the philosophy is in effect one of “I do not care what you do, whether you are sick, old or poor. While I will not steal from you, neither I help you". When everybody says mine is mine and yours is yours, that society has accepted a concept of absolute private property. Then economic evil has gone far from the selfishness or crimes of marginal individuals and the whole society becomes corrupt in its refusal to both utilize wealth to alleviate suffering and to care for and regard our private property as something that we hold only as guardians.

The effect of the concept of mine is mine and yours is yours goes beyond mere selfishness, individual and communal. When a society maintains absolute private property, it does several things:

> It rejects the concern for the unfortunate, the inefficient, the helpless, the sick and the old. In modern parlance the gap between them and the successful sectors, grows and an underclass of people destined to perpetual poverty is developed such as exists today in Israel and the whole Western world.
>
> It rejects the Divine source of its wealth and frees itself for widespread economical immorality since people see themselves as the sole source and owner of wealth until the two become integrated.
>
> The acquisition of wealth by any means, moral or immoral, becomes the main purpose of life, a lust to be satisfied at all costs.
>
> It rejects the concern for the development and use of natural resources and moves away from environmental and ecologically sound principles in order to pursue wealth.

“What’s mine is Mine” is the ideological preparation for a society in which institutionalized theft and legalized inhumanity flourish with a disregard for the environment. In a Jewish view, such a society is doomed to destruction.

On Reductionism

Between the time of Descartes in the 17th Century (c. 1630) and our own time there occurs, as yet another of the facets of the ideological, cultural, and intellectual revolution of modernity, a transformation of the canons and goals of rational inquiry. This transformation occurs in virtually every domain of thought including, theology, philosophy, literature, politics, economics, and art, but its typical seminal form is to be found in the sciences, the natural sciences. Briefly described, the transformation is of 'rational analysis' into 'reductionism'.

Descartes had, in the *Rules for the Direction of the Mind* (1625-28), set out the elements of 'rational analysis' which became the basis - when combined with experiment and observation - of modern scientific method:

Rule V
Method consists entirely in the order and arrangement of those things upon which the power of the mind is to be concentrated in order to discover some truth. And we will follow this method exactly if we reduce complex and obscure propositions step by step to simpler ones and then try to advance by the same gradual process from the intuitive understanding of the very simplest to the knowledge of all the rest.

Rule VII
For the consummation of knowledge it is necessary to examine each and every item which pertains to our design in a continuous and uninterrupted process of thought and to include all of these in an adequate and orderly enumeration.

Rule IX
We should bring the whole force of our minds to bear upon the most minute and simple details and to dwell upon them for a long time so that we become accustomed to perceive the truth clearly and distinctly.
Descartes summarizes the purpose of the Rules in his commentary which accompanies the Rules themselves:

> " ... it is only concerning genuinely simple and absolute matters that we can have certain knowledge" (from the commentary to Rule VIII), and " ... all human knowledge consists of this one thing, that we perceive distinctly how these simple natures combine to produce other things." (commentary to Rule XII)

It would be inaccurate and unjust to saddle Descartes with the responsibility for having originated the reductionism we are concerned with. Descartes' own goal in the *Rules*, the *Discourse on Method*, and in his other writings was modest and laudable. He states his purpose clearly in Rule IV:

> Method is necessary for discovering the *truths of nature*" (emphasis added). That is, Descartes was devising a systematic approach - a method - for use in the natural sciences and mathematics. I do not believe we can discern in his writings nor attribute to him as motive the use of 'rational analysis' to undermine inquiry in theology, philosophy, morals, art, or law. There is not, so, far as I can discern, an ideological component in Descartes' *Rules* or *Method* which would transform 'rational analysis' into reductionism.

We may note, however, in Descartes a certain tendency of thought which, as it becomes associated with the scientific method he is developing, abets the cause of reductionism when it appears later. This tendency is to assimilate knowledge to methodically acquired information, i.e., to identify "knowledge" with the findings of science and mathematics and to identify the quest for knowledge with the methodic procedures of scientific investigation. The unstated implication is that what is outside the domain of science and mathematics lies outside the domain of knowledge - in a peripheral realm of uncertainty, opinion, speculation, belief, feeling, or superstition. What cannot be methodically studied cannot, properly speaking, be known.

This assimilation of knowledge to methodic, scientific knowledge is the import of Rule II:

> We should be concerned only with those objects regarding which our minds seem capable of obtaining certain and indubitable knowledge.

and Rule VIII

If, in a series of things being investigated, we come upon one which our intellect cannot adequately comprehend, we must immediately call a halt. We should not examine what follows, but refrain from a useless task.
The implications of these two Rules are clearly spelled out by Descartes in his commentary to Rule II:

> And so, in accordance with this rule, we reject all knowledge which is merely probable, and judge that only those things should be believed which are perfectly know, and about which we can have no doubts.

and,

Now from all of this it is to be concluded, not that arithmetic and geometry are the only subjects to be studied, but only that in seeking the correct path to truth we should be concerned with nothing about which we cannot have a certainty equal to that of the demonstrations of arithmetic and geometry.

It is to the great credit of Descartes, Galileo, and others in the sixteenth and seventeenth centuries that they laid the foundation of modern scientific method and established modern science on a basis of systematic inquiry and empirical observation.
They freed modern science from the strictures of Medieval Aristotolianism and scholasticism which were a hopelessly inadequate framework for the scientific study of nature.

II

By the Twentieth Century Descartes' 'rational analysis' as the basis of scientific method has become transformed into 'reductionism' -- or, more accurately, has become ensconced within a reductionist perspective that uses 'rational analysis' for metaphysical rather than scientific

purposes and eventually transforms both scientific method and science itself into an ideological arm of the modern mind.

It is more important to recognize *that* such a reductionist perspective develops than to state precisely when the development occurs. From the point of view of the Twentieth Century reductionist attitude, in retrospect, Descartes would already be a reductionist; from the point of view of Seventeenth Century science and metaphysics, reductionism -- in the sense it is used here -- was undreamed of.

Although we may discern analogues of the reductionist mind in the Seventeenth and Eighteenth Centuries, indeed, well before the Seventeenth Century, and although there are anticipatory forms of reductionism (Deism, Laplacean determinism, ideological Darwinism) in the Eighteenth and Nineteenth Centuries, the wide dissemmation of the reductionist attitude as a style of culture, as a vision of reality, and as an existential and philosophical problem occurs in the Twentieth Century.

At this point we need to state precisely what is meant by "reductionism". As already indicated, it is similar to but is not identical with 'rational analysis'. Rational analysis in Descartes thought and empirical specification in scientific method is the attempt to understand an object of inquiry -- usually an aspect or quality of "nature" -- by a precise and exhaustive detailing of the particulars, the constituent elements, which compose the object. This detailing is one of the most marvelous and most important aspects of modern scientific method. Rational analysis -- or empirical specification -- has, in chemistry and physics, taken us from the earth, air, fire and water of the ancients to Dalton's atomic theory to what today is called particle physics which seeks to detail the elusive sub-atomic particle/events. In biology, we have moved in little more than a hundred years from the taxonomy of specially created, eternally static species to the concept of evolution through random variation and natural selection to an increasingly complex detailing of genetic coding in the DNA/RNA molecular structures in the chromosomes of cell nuclei. Astronomy has moved from the elegantly simple but primitive notion of the two-sphere universe to the concept of solar and galactic systems to the idea of a finite-but-unbounded rapidly expanding universe whose contents now include not only the traditional earth, sun, planets and stars but also quasars, pulsars, X-ray "sources", black holes, neutron stars, antimatter, and those great clouds of interstellar dust and gas. Science as we know it would not exist without rational analysis or empirical specification; in many ways the growth of science is measured by the increased differentiation and precise measurement of "constituent elements".

Reductionism is similar to the process of detailing just described in science. But where science *as science* is indifferent (i.e., value neutral) to the common sense or metaphysical status of the object of which the details are a part, reductionism is an attitude of radical skepticism or hostility to the object or entity studied and finds the ultimate meaning of the "object" not in its inherent qualities but in the parts which compose it and in the lateral relation of those parts. We might render the relation of object to constituent elements (or of whole to parts) in scientific method as follows:

A is composed of (has as constituent parts) B & C

or

A (B + C), where A is the whole and B, C are the constituent elements or parts.
In reductionism the relationship may be rendered in this fashion:
A = B + C

What is significant here is that the whole (A) is regarded as the sum total of its parts (B + C), or that the *meaning* of A *is the same thing as* (is identical to) the meaning of the parts B + C.
On the face of it in this schema, reductionism is innocuous and apparently not unlike the detailing we described as an essential feature of scientific method. We have to understand, however, the subtle metaphysical shift that is represented in the schema by the = sign. If the whole is *identical* (=) with the constituent parts, *then there is no whole*; there are only the constituent parts. The study of any phenomenon becomes *and must remain* the study of parts as the meaning of a whole rather than of a whole as the meaning of its parts. When this subtle turn is taken by the modern mind in appropriating science and scientific method for its own anti-metaphysical ends, rational analysis becomes reductionism: the skeptical faith which eliminates from the mind's purview all 'entities' of whatever sort and leaves in their place only myriad particulars having only one level of meaning.

In the next part of this lecture we shall advance a variety of illustrations of reductionism; suffice it to conclude here with the observation that it is precisely in accordance with the skeptical, reductionist attitude of the modern mind that Karen Quinlan, the young New Jersey woman "brain dead" from an overdose of valium and gin consumed at a party, should be detailed into several particular functions each of which becomes ultimate for a discipline of thought, and where there was once a whole person there remained only the carrion for lawyers, parents, physicians, theologians and politicians to fold their wings over.

III

Victor Frankl, in an essay on "Reductionism and Nihilism," wrote:
Reductionism is more than just saying time and again that something is nothing but something else. It is an approach and procedure that deprives the human phenomena of their very humanness by reducing a human phenomenon in dynamic terms to some sub-human phenomenon, or deducing human phenomena, in genetic terms, from sub-human phenomena.

Reductionism deprives human phenomena of their humanness: reductionism collapses the significant "comprehensive entities" in terms of which the human world can appear as a *human* world. What distinguishes reductionism from science is that where science (through empirical specification) takes as its object nature, and where science is directed to nature, reductionism is aimed *against man*. Reductionism is the anthropological equivalent of secularism in theology: secularism presents an alternative to the traditional idea of God (and the associated ideas such as Church, salvation, faith, etc.); reductionism presents -- in an aggressive and hostile form -- an alternative to the traditional image of man and the host of ideas associated with that image.

Reductionism reduces to their particulars -- hence destroys -- the significant wholes (i.e., comprehensive entities) that make man man.

A comprehensive entity, or significant whole, is a concept for describing the relation of a whole to its elemental parts where the whole is of a logically and ontologically different order than the elemental parts and where the meaning of the whole *as a whole* is greater than the individual *or* aggregate (lateral) meaning of its elemental parts or particulars. To use a spatial and hierarchial model for the ontology of wholes, the whole belongs to a "higher" level of *being and meaning* than the "lower" level parts which it includes. Reductionism places the meaning of the whole on the same level as the elemental parts and for an account of the meaning of the whole gives an account of the meaning of the lower level elemental parts; reductionism not only assumes that the meaning of the whole and the meaning of the parts are one and the same, it essentially identifies the whole with the parts. Reductionism collapses (or reduces) the higher level of meaning and being into the lower level of elemental parts; when this collapse occurs what is left is not the whole but its parts. In the reductionist perspective, the whole bears the same relation to the parts as love or passion bear to sexual activity in the Masters and Johnson experiments: viz, no relation -- there no longer is any whole; all discourse -- and all meaning -- is restricted to the discrete (or laterally related) elemental parts.

Reductionism -- the skeptical and hostile attitude of the modern mind to the traditional image of man -- destroys those comprehensive entities (meaningful wholes) necessary to man's humanity: it "reduces" certain key concepts (entities): 'person', 'tradition', 'community', 'speech', 'action', and others to the particulars in which these entities are rooted. Or, put another way, reductionism eliminates symbolism (symbol is a more familiar, though less general, word for comprehensive entity). A symbol, in most accounts (cf. Tillich, *Dynamics of Faith*) has two parts: that which signifies (part, lower level particular) and that which is signified (whole, higher level meaning). In a symbol there is that which points but there is also that which is "participated in" (Tillich). Reductionism reduces all symbols to signs -- to pointers -- but to pointers lacking a terminal, participatory meaning. The symbolic tokens such as 'man', 'person', *etc*., lose their symbolic nature: 'man' becomes a fragmented aggregate of an infinity of particulars grouped and studied by disparate, equally fragmented disciplines, sciences, "-ologies". 'Action' as a symbolic token for the intentional, volitional performance of man in relating himself to the world or to other men becomes, in the reductionist view, the whole set of somatic events -- stimuli, impulses, reflexes -- studied by disciplines such as anatomy, physiology, neurology, *etc*., *or* action becomes the patterns of externalized reflex -- parallel to the somatic events -- which becomes the issue in "behavior" which is studied also by a variety of disciplines such as behavioral psychology, ethology, political science, economics, linguistics, *etc*. Similar observations can be advanced about the fate of other symbolic tokens such as 'community', 'family', 'speech', 'work', 'vocation', 'love', 'emotion', ' morality', *etc*.

When man or person and the associated symbolic tokens or comprehensive entities through which man makes his human appearance in the world disappear, man himself disappears and what is left is the reduced remainder: unrelated, unintegrated, fragmented, disparate parts. "Alienation" becomes almost an euphemism for describing the despair which accompanies the sense of loss generated by the reduction of the human world to its particulars. Reductionism

leaves us at the end of Modernity with the ghost of man brooding over a great abyss wherein swirl in endless trivial concatenation the myriad particulars of his former self.
"Tis all in pieces All coherence gone."

IV

Perhaps surprisingly it has been scientists, more than the members of any other discipline, who have been most vocal in pointing out the scientific and societal threats of reductionism. It is easier, the the first place, for persons trained in scientific method to recognize reductionism because of its great similarity to empirical specification. In the second place, the scientific community since the time of Galileo has been sensitive and quick to respond to any form of religious, political, or ideological suasion that would compromise the essential freedom of science. The attempt to resist such suasion has not always been successful and science has sometimes succumbed to the temptation to vest its pursuits in the matrix of authority of some ideological or philosophical position. A residuum of anti-clerical skepticism tempered the position of many Darwinians in the last century. Even reductionism has had its appeal among scientists, but in the main it is scientists who have been in the vanguard of opposition to the reductionist threat not just to science, but to humane values. The late Michael Polanyi, perhaps the severest and most comprehensive critic of reductionism, was a major scientist of this century and was drawn into philosophical debate primarily because of the threat to scientific freedom, political democracy, and to humane values that he saw in reductionism. His works *The Contempt of Freedom, The Logic of Liberty, Science Faith and Society, Personal Knowledge*, and *The Tacit Dimension* have as a common theme the criticism of reductionism in all its scientific, cultural and moral forms.

The one book I know of which attempts to deal with reductionism as its single theme *Beyond Reductionism*, edited by Arthur Koestler, is the product exclusively of a group of scientists. Yet, it must be recognized that reductionism , while it has spread far beyond the bounds of science was mostly nurtured on the soil of science. Science, in particular the life sciences, has had an almost fatal fascination with reductionism. The growth of "reductionism" in science and philosophy on the face of it reflects the attempt to formulate an adequate, empirical (i.e. non-metaphysical) scientific method and epistemology. In this sense scientific reductionism may be viewed as an effort to disengage scientific method from political ideology on one side and metaphysical suasion on the other. The problem with scientific reductionism arises from the fact that the history of science in the modern period is not of a "pure" discipline -- the cause of science has been one not only of method but vision. That is, science, either by design, convenient allegiance, or through default becomes ensconced in ideological or metaphysical issues which set it against the traditional world view of the West or which attempt to make it into the positive ally of an alternative ideological or metaphysical vision that masks its own presence by pretending to appear as "scientific". Reductionism then becomes a crypto-religion -- an implicit metaphysics -- grafted onto or parasitically feeding upon the growth and prestige of science while the true goal of the reductionism (the latent metaphysics) lies beyond science. The issue is confused from two sides: First by naive traditionalists, who, while recognizing the threat of the implicit metaphysics, attack the scientific enterprise as such, and second, by scientists themselves who have subscribed to the implicit metaphysics of reductionism and who defend it, in the name of science, as

science. I am inclined to regard the first as mere fools, the second as dupes. Both fail to perceive the significance of the issue of reductionist metaphysics. And ultimately both work to the detriment of science. The traditionalists attack science openly and may compromise its legitimate place and contribution in society. The duped scientists erode it from within by transforming science into ideology and metaphysics which will ultimately make science subservient to an extra-scientific cause.

The issue is further confused by those who argue that scientific reductionism is a concern that now belongs to the history of science: that the classical form of scientific reductionism is Newtonian mechanics or the appropriation of now outdated mechanical models in the life sciences. I think the effort to import mechanical models into the life sciences -- an effort which is not yet spent -- is reductionist, but modern science continues to be reductionist even after the physicists have abandoned Newtonian mechanism and Laplacean determinism.
We must recognize, however, that reductionism does not occur only in science. (In fact, according to Polanyi, science has often found a reductionist approach in a particular branch of science to be especially fruitful in guiding research and discovery, e.g. in neurology.) The significant forms of reductionism at the end of modernity are extrascientific. In *religion*, there has occurred since the middle of the nineteenth century, repeated attempts by theologians, sociologists, anthropologists, political philosophers, economists, and others to deny or undermine the significant cultural role of religion by reducing religion to an "origin" in some non-religious quality of man's psyche or social needs. The import of these efforts is that religion is not a substantive aspect of human life or culture and need not be taken seriously because it derives from non-religious factors which can be explained in other terms. The most notorious of these reductionist critiques of religion is that of Freud in *The Future of an Illusion*, but Freud was preceded by Feuerbach, Marx, Huxley, Durkheim, and Russell who developed reductionist views of religion.

In *psychology*, both "action" and "personality" have been reduced to "behavior". In *literature* and *art* the products of creative genius have dissolved into the fragmentary documentation and enumeration of countless particulars counted none-the-less by impotent critics and graduate students. In Polanyi's account the most serious consequence of reductionism is in the related areas of *politics* and *morality* where a reductionist critique of human values has reduces the ideals -- which traditionally governed individual and group action and which constituted the norms whereby political and ethical responsibility were assessed -- to an imperious "necessity" which is indifferent to our professed ideals and values. These values, after reductionism has severed the dynamics of society from them become (in Polanyi's view) "homeless": there is no longer a supportive matrix for the guiding values that once formed our communal ethics. Such values are potent intellectual and psychic forces, says Polanyi, which will not be denied; but lacking context, they appear as the driving force of political "necessity" --moral fury masked as revolutionary progress. Reductionism destroys the context of our moral passions (values) and these reappear as the impetus of overtly "a-moral" political processes that have devastated the western nations in the twentieth century. The reduction and subsequent "a-moral" reappearance of traditional political and moral values Polanyi calls "moral innversion". It is "a-moral" moral fury which drives us to embrace the various forms of collective society and consciousness as veritable realizations of the Kingdom of God on earth. The collective, to the morally inverted mind, will always appear as the consummation of our best and yet most secret hopes.

God and the Land:

Natural Theology and Natural History in America

Summary:
The religious background of the settlement of America and the ways we have used and abused the land provide a context for exploring the relation between natural theology and natural history. Religious beliefs have shaped the way we see the natural world; [static creation, fixity of species] the natural world has shaped religious belief [bounty as sign of providence]. We will explore these relations using selected illustrations from American religion and nature writing over the last four centuries using as our guide four categories: land, trees, animals, rivers.

Introduction

Natural history is, like angling literature and the great literatures of African hunting and exploration, a delightful genre represented perhaps best in Gilbert White's, *The Natural History and Antiquities of Selborne*. Other classics have included, besides those we discuss here, volumes such as Rutherford Platt's writings on the American forest, Henry Beston's *Outermost House*, Aldo Leopold's *A Sand County Almanac*, Roderick Haig-Brown's *Measure of the Year* or *A River Never Sleeps* , the many works of Loren Eiseley, and contemporary works such as Annie Dillard's *Pilgrim at Tinker Creek* and Barry Lopez's *Arctic Dreams*. I know of no other category of general reading in which I have for so long a time in my life read so many volumes; they have never ceased to delight and instruct me. These volumes turn our minds not only to the land and animals and seasons but query always a meaning within and beyond the particulars of natural order and processs: for they all seek not to describe only but to know, to understand, and such understanding bears upon a meaning not exhausted in the animals and trees, rivers and hills, themselves. Sometimes the natural historian--or more recently, naturalist--will exclaim a testimony of faith as fervent as that of any evangelical. Bartram was given to near rhapsodic outbursts as he walked and camped the Southern woods; Muir could hardly resist turning his natural observations into patently didactic moral or theological discourses. Thoreau will yet eclipse Jonathan Edwards among New England divines and will at last be recognized as America's native theologian; *Walden* may be the only volume of natural theology written in America. For the recent writers, their mood is less exuberant, chastened, but the sense of wonder, awe, remains.

The great era of natural history is from about 1650 to about 1800. Natural history is what Descartes might have called a 'complex' science--that is, an insufficiently rationalized collection requiring a method of clarification and enumeration to elucidate. This complex science contained within it the seeds of botany, zoology, dendrology, geology along with anticipations of meterology, taxonomy, geography, ecology, ethology, and even anthropology and sociology. However, its closest association was with none of these sciences--for it would require most of the 19th century to bring these sciences into rational order. In its own time, natural history was most closely associated with theology, particularly that branch of theology called natural theology. We notice this for instance in the term the natural historians use to refer to the natural world: not

nature but creation. [By the time 'nature' makes its appearance as a scientific and cultural construct, both natural history and natural theology are largely curiosities.[1]] The parameters within which the natural historians worked were the parameters of theology [more specifically, biblical theology], and often the point of their work was burdened with proving the propositions of theology--or at least of showing that their descriptions and ennumerations of the natural order did not conflict with scripture. For its part, the rational orderings of theology were believed not only to be warranted by scripture and revelation but confirmed by experience and the findings of descriptive science. The watchword of the age was accommodation and a nervous truce between science and theology developed--especially in Protestant areas of Europe. According to the terms of this truce, each field would go its own way, but each would seek to confirm the essential teachings of the other: theology would declaim the order of nature and restrict miracles to the earthly work of Christ or to the inner workings of faith; science would exhibit the clock-like order of nature and support the theistic assumption by pointing out the evidences--the design features--of God in the creation. God had made a world scientists could understand; science described a world made by God. There are dozens of thinkers in the late seventeenth through the mid-nineteenth centuries who reflect this view. John Ray, Robert Boyle, and William Paley stand out:

Writing about 1666, Ray believed in the accommodation of science and theology and reflected that belief in the title of his major work, "The Wisdom of God Manifested in the Works of the Creation" in which he wrote, "I am full of gratitude to God that it was His will for me to be born in this last age when the empty sophistry that ursurped the title of philosophy [i.e., science] and within my memory dominated the schools has fallen into contempt, and in its place has arisen a philosophy solidly built upon a foundation of experiment: against it elderly professors protest and struggle in vain....It is a noble age of discovery..." In explaining the title of his book, Ray writes, "...by the Works of Creation...I mean the Works created by God at first, and by Him conserved to this Day in the same State and Condition in which they were first made..."[2]

Robert Boyle, a contemporary of Ray's, argued for a minute purposiveness of God in the works of creation: "The philosophy I plead for, reaches but to things purely corporeal; and...teaches, that God, indeed, gave motion to matter; but that in the beginning, he so guided the various motions of the parts of it, as to contrive them into the world he design'd they should compose; and established those rules of motion, and that order amongst things corporeal, which we call the laws of nature. Thus, the universe being once form'd by God, and the laws of motion settled, and all upheld by his perpetual concourse, the general providence..."[3] For such thinkers, there was nothing in the natural world that could not be viewed as part of the plan and purpose of God however mechanical the effect described by science.

It was Archdeacon William Paley, however, who is perhaps the most representative and widely known of the the natural theologians. Taking his cues from both Ray and Boyle--and borrowing the well-known clock-maker image from Boyle--Paley wrote: "Throughout that order then of nature, of which God is the author, what we find is a system of beneficence..."[4] In his [1802] *Natural Theology,* Paley begins with Boyle's example of some one finding a watch who would reasonably conclude that the existence and design of the watch would necessarily imply that the watch had a designer. Paley then develops, in detail agonizing to any modern reader, the analogy between the parts of a watch implying detailed, intelligent, design and the works of nature--

including the eye, ear, muscles, joints, bones, nerves, blood, right and left handedness, the structure of plants, the orders and anatomies of animals, their fins, wings, fangs, protective coloration--as implying an intelligent designer/Creator: "We have all these properties in the subject before us: and they are all indications of design. The least circumstance is the strongest of any....The most simple account of this is to refer it to a designing Creator."[5]

Paley continues, "Every organized natural body, in the provisions which it contains for its sustentation and propagation, testifies a care, on the part of the Creator, expressly directed to these purposes....The works of nature want only to be contemplated. When contemplated, they have every thing in them which can astonish by their greatness...Therefore one mind hath planned, or at least prescribed, a general plan for all these productions. One Being hath been concerned in all. /Under this stupendous Being we live. Our happiness, our existence, is in his hands. All we expect must come from him. Nor ought we to feel our situation insecure. In every nature, and in every portion of nature which we can descry, we find attention bestowed upon even the minutest parts..as if the Creator had nothing else to finish."[6]

It was this kind of thinking, argued out in detail with increasing numbers of new illustrations [and not without a growing community of scientific and philosophical opposition] that informed the context of work and often the thought of the European and American natural historians who untertook the great work of exploring, identifying, cataloging, analyzing the myriad forms of animals, trees, plants, birds, fishes, and habitats newly found in North America. Some natural historians and later naturalists were self-conscious theists who understood their work to stand directly in the lineage of Ray, Boyle, Paley. William Bartram, the great natural historian of the southeast, was an ecstatic theist who saw at every turn evidence of the wisdom of God in creation: "This world, as a glorious apartment of the boundless palace of the sovereign Creator, is furnished with an infinite variety of animated scenes, inexpressibly beautiful and pleasing, equally free to the inspection and enjoyment of all his creatures. / Perhaps there is not any part of creation, within the reach of our observations, which exhibits a more glorious display of the Almighty hand, than the vegetable world: such a variety of pleasing scenes, ever changing throughout the seasons, arising from various causes, and assigned each to the purpose and use determined....these most useful tribes [of lower plants]...excite love, gratitude, and adoration to the great Creator, who was pleased to endow them with such eminent qualities, and reveal them to us for our sustenance, amusement, and delight."[7] Bartram, however, did not leave animals out of his concern: "The animal creation also excites our admiration, and equally manifests the almighty power, wisdom, and beneficence of the Supreme Creator and Sovereign Lord of the universe; some in their vast size and strength...others in agility; others in their beauty...others for their immediate and indispensable use and convenience to man, in furnishing means for our clothing and sustenance....We admire the mechanism of a watch, and the fabric of a piece of brocade, as being the production of art; these merit our admiration, and must excite our esteem for the ingenious artist or modifier; but nature is the work of God omnipotent; and an elephant, nay even this world, is comparatively but a very minute part of his works."[8]

Others were amateur scientists or careful observers who did not transform their observations into arguments for the existence of God, but who were nonetheless constrained to make their observations within limits set by the climate of influence of natural theology. Thomas Jefferson, certainly not a pious or conventional theist, was committed, like John Ray, to the belief that the

works of creation--particular created species--were sustained and could not be lost. In *Notes on the State of Virginia* he writes, in justifying his reference to the mammoth, "It may be asked, why I insert the mammoth as if it still existed? I ask in return, why I should omit it, as if it did not exist? Such is the economy of nature that no instance can be produced, of her having permitted any one race of her animals to become extinct; of her having formed any link in her great work so weak as to be broken."[9]

Although many natural historians and most natural theologians saw a specific signs of God in nature, few of them, however, would interpret the evidences of divine design as specifically as did John Archdale in his 1707 "Description of Carolina" in which he wrote, "And courteous Readers, I shall give you some farther Eminent Remark hereupon, and especially in the first Settlement of Carolina, where the Hand of God was eminently seen in thinning the Indians, to make room for the English....it at other times pleased Almighty God to send unusual Sicknesses amongst them, as the Smallpox, etc., to lessen their Numbers..."[10] Here, surely, nature is being asked to account for too much theology.

Although it would rapidly differentiate itself into the several life and earth sciences as we approach the 19th century, natural history was just coming into its own as North America began to be explored and settled. In some ways it appears that natural history was evoked by this discovery and exploration; at the least the variety of species of flora and fauna, the land and its patterns of rivers and mountains, and the variations of climate and weather infused the old theory of providential design with many new illustrations. At the same time the discovery of the fossils of many extinct quadrupeds and marine fossils high in the Appalachian mountains taxed the theoretical and explanatory skills of theologians and scientists alike. America appeared at once to offer the best confirmation of the assumptions of natural theology and yet its natural history seemed to challenge as much as it confirmed. Unfortunately, the challenge was answered more by moral theology than by natural theology. In the practical experience of the settlers notions of Creation, Paradise, and Edenic gardens quickly gave way to deserts, wilderness, thickets, swamps, and bogs. One English traveller, journeying from Pennsylvania to Kentucky and continually disappointed in the provisions and accommodations along the way, commented upon entering Kentucky, "Instead of a garden, I found a wilderness..."[11] Much of the subsequent transformation of the land and its resources would be driven by a righteous fury against wilderness and by religious zeal to transform the chaos of rough places into order.[12]

The Seventeenth Century: The Land

The first full explorations began in the 16th century, followed by many transient and then a few permanent settlements. Through the 17th century explorations moved inland toward the fall line with a few hardy adventurers crossing the Blue Ridge to the drainages of the Ohio valley. By the 18th century when the upland south began to be settled, the European intellectual model was that of rational design in nature, according to which the natural world is the mechanical emblem--the design--of an orderly, if now remote, God. Traces of God, however, could still be found in the creation: in the order of the seasons, the increasing predictability of planetary motions, in the specializations of animals; the faithful mind could see God's design if not hand in the migration of birds, in the gestation of rabbits, in the work of the bees. To the European mind in 1600 or 1700, the great garden of God, the great glyph of design, was North America. It was a world

made for man and man for it. Africa was unexplored. Asia all but unknown. The South received special interest because of its climate, flora, and fauna: and especially original Virginia lying as it did about N Latitude 35deg.--the latitude of Eden, of Paradise. The controlling myth, the modeling image, was the biblical Eden: a paradise of plenty to satisfy every human want almost without labor. In the early narratives we find--even when we make allowance for the commercial interests of promoters--an almost awe-like sense of fullness of the land that taxes the catalog and descriptive powers of the writers: the land is overwhelming in size, in game, in fish, in trees, in fruits.[13] America, but especially the South, was apprehended as remedying the curse placed upon Adam that he should labor for his food.[14]

In 1634, the Jesuit, Fr. Andrew White, celebrated the soil of the new land in his "Briefe Relation": "I will end therefore with the soyle, which is excellent so that we cannot sett downe a foot, but tread on Strawberries, raspires, fallen mublerrie vines, acchorns, walnutts, saxafras etc: and those in the wildest woods. The ground is commonly a blacke mould above, and a foot within ground of a readish colour. All is high woods except where the Indians have cleared for corne. It abounds with delicate springs which are our best drinke. Birds diversely feathered there are infinite, as eagles, swans, hernes, geese, bitters, duckes, partridge read, blew, partie coloured, and the like, by which will appeare, the place abounds not alone with profit, but also with pleasure+ Laus Deo"[15]

We must note, however, that in addition to the sense of the land as the bounty of God, there is also the idea among these early writers, that this bounty is ripe for commercial exploitation: the Arcadian ideal of a beauty to be enjoyed and mededtated upon seldom seems to have touched them. "The mildnesse of the aire, the fertilitie of the soile, and the situation of the rivers are so propitious to the nature and use of man as no place is more convenient for pleasure, profit, and mans sustenance....So then here is a place a nurse for souldiers, a practise for marriners, a trade for merchants, a reward for the good, and that which is most of all, a businesse (most acceptable to God) to bring such poore infidels to the true knowledge of God and his holy Gospell."[16] John William de Brahm, an engineer and surveyor from South Carolina, was sent in 1756 to build a fort at Loudon in the Cherokee country on the Little Tennessee River. He wrote, "Their (Cherokees) vallies are of the richest soil, equal to manure itself, impossible in appearance ever to wear out...Should this country once come into the hands of the Europeans, they may with propriety call it the American Canaan, for it will fully answer their industry, and all methods of European culture and do as well for European produce... for provisions of all kinds...be it for metals, minerals, fossils and stones, or be it for manufacturys of all kinds. This country seems longing for the hands of industry to receive its hidden treasures, which nature has been collecting and toiling since the beginning ready to deliver them up..."[17] John Smith by 1616 already had a more somber view; he referred to Virginia as, "This deare bought Land with so much bloud and cost, hath onely made some few rich, and the rest losers."[18]

Although he writes later than the first discoverers and explorers, Bartram conveys the sense of sacred wonder experienced at the sight of the new found land blocking the horizon of both sail and thought of the first Europeans: "There are few objects out at sea to attract the notice of the traveller...[but] the sudden appearance of land from the sea, the strand stretching each way, beyond the utmost reach of sight; the alternate appearance and recess of the coast, whilst the far distant blue hills slowly retreat and disappear; or, as we approach the coast, the capes and

promontories first strike our sight, emerging from the watery expanse, and, like mighty giants, elevating their crests towards the skies; the water suddenly alive with its scaly inhabitants; squadrons of sea-fowl sweeping through the air, impregnated with the breath of fragrant aromatic trees and flowers; the amplitude and magnificicence of these scenes are great indeed, and may present to the imagination, an idea of the first appearance of the earth to man at the creation."[19]

It was this vision of Creation, of Eden, that supplied metaphor for the first voyagers two hundred years before Bartram: Raleigh, Bland, Smith, and others.[20] Although the matter of the similarity of latitude between Eden and the southern portion [now North Carolina] of Virginia was considered by Raleigh in his *History of the World*, it was taken up more directly by Edward Bland in his advertisement to entice settlers; he quotes Raleigh as the motto of his account of the exploration and description of Carolina: "Paradise was created a part of this Earth, and seated in the lower part of Eden or Mesopotamia...it stands thirty-five degrees from the Equinoctiall, and fifty-five degrees from the North-pole, in a temperate Climate, full of excellent fruits, chiefely of Palme-trees without labor...This tree alone giveth unto man whatsoever his life beggeth at Nature's hand. The like are also found in the East and West Indies as well as in Paradise, which countries are also blessed with a perpetuall Spring and Summer, etc."[21] John Archdale notes that the province of Carolina lies "parallel with the Land of Canaan."[22] In his account of Maryland, George Alsop wrote, "The Trees, Plants, Fruits, Flowers, and Roots that grow here in Mary-land, are the only Emblems or Hieroglyphicks of our Adamitical or Primitive situation...which still bear the Effigies of Innocency..."[23] Yet, if not quite the Biblical Eden, it was nonetheless a land where, as Gilbert Imlay writes of Kentucky, "where nature makes reparation for having created man."[24]

Eighteenth Century: Slaying the Beasts

It was difficult for the European mind to comprehend the bounty of North America in 1500. So full, so overwhelming were the herds and flocks that they could not be measured in the hundreds of descriptions made and sent back to kings and councils of Europe. It was a North American Serengeti, a land filled with wildlife--game--in variety, size, and number such as Europeans had never dreamed of. By all accounts, even when allowance is made for imprecise observation, hearsay, exaggeration, and downright fabrication, the numbers were prodigious, primal, apparently limitless. On an exploratory voyage in 1583, Sir Humphrey Gilbert, having listed many kinds of birds and mammals encountered around Newfoundland, reported, "We could not observe the hundreth part of creatures in those unhabited lands: but these mentioned may induce us to glorifie the magnificent God, who hath superabundantly replenished the earth with creatures serving for the use of man..."[25]

Once permanent settlements were established, more detailed accounts appeared, but there was still the sense that the species and numbers were immeasurable. Alsop: "As for the wilde Animals of this Country, which loosely inhabits the Woods in multitudes, it is impossible to give you an exact description of them all, considering the multiplicity as well as the diversity of so

numerous an extent of Creatures."[26] Deer he observes are the common provision of the Province and so plentiful that venison is avoided rather than desired as a food. At one point Alsop had eaten so much venison that "it so nauseated our appetites and stomachs that plain bread was rather courted and desired than it." Besides deer there were wolves, bears, panthers, elk, "cat of the mountain," rackoon, fox, beaver, otter, possum, hares, squirrils, woodchuck, and muskrats, but notes, "The meat of most of these Creatures is good for eating, yet of no value nor esteem here, by reason of the great plenty of other provisions, and are only kill'd by the Indians of the country for their Hydes and Furrs, which become very profitable to those that have the right way of traffiquing for them..." He continues: "Fowls of all sorts and varieties dwell at their several times and seasons here...the Turkey, the Woodcock, the Pheasant, the Partrich, the Pigeon, and others, especially the Turkey, whom I have seen in whole hundreds in flights in the Woods of Mary-land..." He describes waterfowl as arriving in "millionous multitudes."[27] John Hammond writing about the same time echoes Alsop's observations: "Waterfowl of all sortes are...plentifull and easie to be killed....Deare all over the Country, and in many places so many that venison is accounted a tiresome meat; wilde Turkeys are frequent, and so large that I have seen some weigh neer threescore pounds..."[28] Thosmas Ashe (perhaps repeating an earlier account) observed of Carolina, "Deer, of which there is such infinite Herds, that the whole Country seems but one continued Park, insomuch, that...one hunting Indian has yearly kill'd and brought to his Plantation more than 100, sometimes 200 head of Deer."[29] The turkeys of the Carolinas were apparently as large as those of Maryland: in 1666 Robert Horne wrote that, "The Woods [around Cape Fear] are stored with Deer and Wild Turkeys, of a great magnitude, weighing many times above 50# a piece..."[30] , although Thomas Ashe's estimates are lower: "In Winter [there are] huge Flights of wild Turkies, oftentimes weighing from twenty, thirty, to forty pound."[31]

There were herds of elk and buffalo as well. In 1669-70, John Lederer was one of the first Englishmen to explore the country above the fall-line in Virginia. In the valley of the Rapidan tributary of the Rappahannock River near present day Culpepper, Virginia, he describes travel through the 'savanae' "amongst vast herds of red [elk] and fallow [whitetail] deer which stood gazing at us...These Savanae are low grounds at the foot of the Apalateans...their verdure is wonderful pleasant to the eye, especially of such as having travelled throught the shade of the vast forest, come out of a melacholy darkness of a sudden, into a clear and open skie."[32] Along the springs of the rivers are "flowry meads, whose luxurious herbage invites numerous herds of red deer (for their unusual largeness improperly termed elks by ignorant people) to feed."[33]

The eastern buffalo were numerous as well, although it is hard now for us, lacking an understanding of the ecology of these forests and prairies of the east, to imagine the buffalo as an eastern animal. In his *History of the American Indian*, Adair notes, "In early times the American bison ranged in great herds through the Southeast and Old Southwest [i.e., Mississippi and Alabama]." He reports accounts of large herds as far eastward as Georgia, one herd containing ten thousand animals.[34] Bartram reports mounds of buffalo bones in Georgia, while the site of Nashville may have been chosen as much for its proximity to the "French Lick" as for its river location.[35]

Albert Ganier notes that French Lick was, "a great gathering place for herds of Buffalo, Elk, Deer and assorted animals. Nashville was the northern terminus of a great Buffalo trail that led

southwestward and which...later became known as the Natchez Trace." Ganier also reports the account of another lick where "one could walk for several hundred yards at an in the Lick, on Buffalo skulls and bones, and the whole flat around the Lick was covered with their bleached bones."[36] The buffalo and elk were used as food by both Indians and white settlers, but most were killed out by 1790. Ganier notes that the buffalo were rare by 1800.[37]

In 1797, a young Englishman, Francis Baily, travelled with several companions from Memphis across lower middle Tennessee to Nashville, and Baily later travelled on to Knoxville. Although Baily and his companions were indifferent, if not incompetent hunters [they had burned their only rifle in the campfire one night], they experienced many days of hunger and ate only ground corn and water because they could find no game. At one point they met a group of Cherokee deer hunters who shared their honey and venison with them, but already the game was scarce.[38] Gilbert Imlay had already noted the trend as early as 1791: "The buffalo are mostly driven out of Kentucky. Some are still to be found upon the head waters of Licking Creek, Great Sandy, and the head waters of Green river. Deer abound in the extensive forests; but the elk confines itself mostly to the hilly and uninhabited places. / The rapidity of the settlement has driven the wild turkey quite out of the middle countries; but they are found in large flocks in all our extensive woods."[39]

Although current anti-hunting sentiments would argue differently, subsistence hunting was not, until the last decade of the eighteenth century, a material factor in the disappearance of the game. The impact of the fur-trade was far greater. In the developed system, New Orleans and particularly Charleston were the hubs of fur-trading systems that reach more than a thousand miles inland. Indians did the hunting and trapping, trading with factors or traders in the mountains, and the hides were shipped to the seaports for eventual transport to Europe. Bartram had noticed what its impact must inevitably be: "The hides of deer, bears, tigers and wolves, together with honey, wax and other productions of the country, purchase their cloathing, equipage, and domestic utensils from the whites....They wage eternal war against deer and bear, to procure food and cloathing, and other necessaries and convenciences; which is indeed carried to an unreasonable and perhaps criminal excess since the white people have dazzled their senses with foreign superfluities."[40] Many of the hides from Tennessee and Kentucky were shipped up the Tennessee River to the French Broad [if bound for Charleston] or up the Holston into Virginia [if bound for Philadelphia]. The Moravians at Salem were both hunters and traders in this system for the hides that went to Charleston: "Deer skins were the big item. On March 15, 1775, the Moravians sent five wagons loaded with 9,400 pounds of deer skins from Bethabara to Charlestown. That same year two hunters, who came to Bethabara from across the mountains, left 1,600 pounds of deer skins at the store."[41]

After the revolutionary War, as the land beyond the mountains began to be opened and settled, the vision of plenty renewed. George Washington had reported (from the account of his partner and land speculator Dr. John Connolly) of the area along the Cumberland River, "The climate is fine; the soil remarkably good; the lands well watered with good streams and level enough for any kind of cultivation. Besides these advantages from nature, it has many others not less important to a new settlement, particularly game, which is so plentiful as to render the transportation of provisions thither, bread only excepted, altogether unnecessary."[42] How quickly the limits were discovered then exceeded and the game disappeared is perhaps more

frightening than the extinction of species themselves. The elk were gone by 1750; most of the buffalo by 1790; by 1800 deer and turkeys had become scarce over much of the south. The Carolina parakeet was extinct in most areas by 1890; passenger pigeons held on until the last quarter of the 19th cent., but by 1900 they had disappeared as both a commercial and subsistence item, killed out as much by the clearing of the forests as by the direct slaughter of the birds themselves. Recall that for the first half of the 19th century, the population of each of the southern states was approximately doubling each decade. The pressure of this human population upon land, forest, and water finished what had begun with the fur trade two centuries earlier. To support new hundreds upon hundreds of thousands of people, the land had to be converted to farmland quickly. This meant clearing the forest. Let us turn next to the story of the trees.

Nineteenth Century: Felling the Giants of the Forest

Nearly every early traveler was awed by the trees, the immense scope of the forests and the stature of individual trees: Capt. John Smith wrote in his "Description of Virginia" [1612], The wood that is most common is Oke and Walnut: many of their Okes are so tall and straight, that they will beare two foote and a halfe square of good timber for 20 yards long [i.e., a tree 42" in diameter x 60' to the first branches]"[43] In the "Discovery of New Brittaine" [1650] Edward Bland observes the area around the Chowan River on the North Carolina border with Virginia, "On both sides...is very much exceeding rich land, [there] are old Indian fields that beare two Crops of Indian Corne a yeare and hath timber trees above five foot over, whose trunks are a hundred foot in cleare timber, which will make twenty Cuts of Board timber a piece, and of those there is abundance."[44] In 1664 William Hilton exploring in the lower Cape Fear River basin made this observation, "We measured many of the Oaks in several places, which we found to be in bignesse some two, some three, and others almost four fathoms." We may assume that Hilton's men were measuring with a sounding line which they stretched around these trees; a tree four fathoms--24 feet in circumference--would be 7-1/2 feet in diameter. Hilton continues, "In height, before you come to boughs or limbs, forty, fifty, sixty foot, and some more, and those Oaks very common in the upper parts of [the river]. Likewise Walnut, Birch, Beech, Maple, Ash, Bay, Willough, Alder and Holly; and in the lowermost parts [of the river] innumerable of Pines, tall and good for boards or masts..."[45] In 1666 Robert Horne observed of the country around Charleston, "The whole Country consists of stately Woods, Groves, Marshes, and Meadows; it abounds with variety of as brave Okes as Eye can behold, great Bodies tall and streight from 60 to 80 foot, before there be any Boughs, which with the little under-wood makes the Woods very commodious to travel in, either on Horseback or a foot."[46] Horne's observation is paralleled by that of Andrew White: [1634] "The Woods for the most part are free from underwood, so that a man may travel on horsebacke, almost anywhere, or hunt for his recreation."[47] Such open woods suggest a forest ecology radically different from what we know today.[48]

It is these forests, these trees, I try to get my students to imagine who have never seen more than the remaining trash woods we now call forest in the South or on the Domain. Would that their rainforest passion could be turned backward and made historical just for a moment. Perhaps if they could look back and see what we have lost they might understand Philip Fithian's comment about the sorrow of the Indians who saw these trees, forests, lands, rivers, brought to ruin;

Fithian wrote, "It is no small thing, I suppose, that would make an Indian weep--but, ah, these were pleasant places." So incapacitated are we of understanding that, knowing only the diminuitive saplings of butchered forests, we declaim against the early writers saying that they exaggerated or that they had imprecise measurments. Hear then Bartram: [The scene in southeastern Georgia] "continuing some time through these shady groves, the scene opens, and discloses to view the most magnificent forest I had ever seen....The ground is perfectly a level green plain, thinly planted by nature with the most stately forest trees, such as the gigantic black oak (q. tinctoria) liriodendron, [etc.] whose mighty trunks, seemingly of an equal height, appeared like superb columns. To keep with the bounds of truth and reality, in describing the magnitude and grandeur of these trees, would, I fear, fail of credibility; yet, I think I can assert, that many of the black oaks measured eight, nine, ten and eleven feet diameter five feet above the ground, as we measured several that were above thirty feet girt, and from hence they ascend perfectly straight, with a gradual taper, forty or fifty feet to the limbs."[49] It is no wonder I believe that Bartram saw in these natural scenes confirmation of his belief in God: "Having in this journey, met with extraordinary success...in making a very extensive collection of new discoveries of natural productions; on the recollection of so many and great favors and blessings, I now, with a high sense of gratitude, presume to offer up my sincere thanks to the Almighty, the Creator and Preserver."[50]

By the end of the Eighteenth century most of these great eastern groves were cut, but some great tracts remained in the mountains. In 1867 John Muir echoes the same awe and wonder as he crosses Kentucky, Tennessee, North Carolina, and Georgia on his walk to Florida: [September 2, 1867] "Folding my map, I shouldered my little bag and plant press and strode away among the old Kentucky oaks...not, however, without a few cold shadows of loneliness, although the great oaks seemed to spread their arms in welcome....I have seen oaks of many species in many kinds of exposure and soil, but those of Kentucky excel in grandeur all I had ever before beheld. They are broad and dense and bright green. In the leafy bowers and caves of their long branches dwell magnificent avenues of shade, and every tree seems to be blessed with a double portion of strong exulting life."[51] [September 9] "The soft light of morning falls upon ripening forests of oak and elm, walnut and hickory, and all Nature is thoughtful and calm. Kentucky is the greenest, leafiest State I have yet seen....Far the grandest of all Kentucky plants are her noble oaks. They are the master existences of her exuberant forests. Here is the Eden, the paradise of oaks."[52]

[September 18] "Up the mountain on the state line [east of Madisonville in the Unaka mountains]. The scenery is far grander than any I ever before beheld. The view extends from the Cumberland Mountains on the north far into Georgia and North Carolina to the south, an area of about five thousand square miles. Such an ocean of wooded, waving, swelling mountains beauty and grandeur is not to be described. Countless forest-clad hills, side by side in rows and groups, seemed to be enjoying the rich sunshine and remaining motionless only because they were so eagerly absorbing it. All were united by curves and slopes of inimitable softness and beauty. Oh, these forest gardens of our Father! What perfection, what divinity, in their architecture! What simplicity and mysterious complexity of detail! Who shall read the teaching of these sylvan pages, the glad brotherhood of rills that sing in the valleys, and all the happy creatures that dwell in them under the tender keeping of a Father's care?"[53]

It was not a quiet garden, however. Muir was fortunate to have seen it before the ruin of timbering and mining swept across the land; I wonder what categories of description he would now invoke to describe the strip-mined hills of Kentucky and Tennessee, the Copper Basin on the North Carolina border where he crossed over from Tennessee. Already there had been presage: as he passed Elizabethton, Ky, he noted in his journal for September 3, 1867, "Passed gangs of woodmen engaged in felling and hewing the grand oaks for market." [54] The attack upon the Kentucky forests followed almost upon Muir's heels. In "Night Comes to the Cumberlands," Harry Caudill writes, "A sustained logging boom accompanied the drive of the timber companies to buy up the best of the trees. For some forty years after 1870 thousands of mountaineers toiled a large part of each year to produce logs for the downriver markets."[55] Caudill's description of this forest matches Muir's and other early travellers: "...generally the timber began at the 'foot' of the hills and extended upward over the 'spurs' and 'points' and through the rich coves to the tops of the ridges. The great poplars and whiteoaks grew, for the most part, near the base of the hills and in the coves, while the lesser oaks and chestnuts predominated on the sharper points an near the hilltops. Countless walnuts dotted the forest, thousands of them without blemish and a yard or more in diameter. The Goliaths were the superb, pencil-straight poplars, some of them towering one hundred and seventy-five feet and achieving a diameter of seven or eight feet. Next to these in value, if not in size, were the whiteoaks, which sometimes reached a thickness in excess of five feet....No region in earth's temperate zone boasts a larger variety of forest trees than the Cumberland Plateau, and in these years they abounded in natural profusion, little damaged by the avarice or caprice of men." Avarice and caprice would rule the day: the impoverished mountaineers sold the trees for a pittance to buyers who knew their real worth. "Thousands of trees were sold for a little as forty to seventy-five cents each. Few of them brought more than a dollar. One deed, executed in 1889...recites, 'that for...the sum of $20,000, the grantor hereby...sells...unto the grantee 40,000 poplar and whiteoak trees, each of said trees to measure not less than 30 inches in diameter under the bark, stump high, measuring three feet above the ground, without fire damage or blemish...'"[56] Using the destructive "splash dam" method of getting the logs out of the forest--where log ponds are created by daming the mountain streams and then blasting the dams to create a cascade to carry the logs downstream--the Kentucky forests were cut: "The runs made deep inroads into the vast forest, and commenced its reduction to the pitiful remnant of cull and second-growth which cloaks the plateau today."[57]

This is the same land surveyed by Gilbert Imlay in 1791 when he addressed the inhabitants of Kentucky, "In your country, like the land of promise, flowing with milk and honey, a land of brooks of water, of fountains and depths, that spring out of vallies and hills, a land of wheat and barley, and all kinds of fruits, you shall eat bread without scarceness, and not lack anything in it...Thus, your country, favored with the smiles of heaven, will probably be inhabited by the first people the world ever knew."[58] If you read this passage today in Pineville or Hazard Kentucky, few would think Imlay was describing the land where they live. So complete the ruin, the loss, the alteration and dimunition from original condition that no one of us could say, "This is Kentucky [or Tennessee]."

Now the myth of paradise is turned on its head, inverted, and we have the lost garden world of *Night Comes to the Cumberlands*. [The same ruin of the world is described in Georgia in *Tobacco Road*.] The South of Edenic plenty had experienced the distributed consequences of the

Fall. The benign imagery had shifted; now it seemed almost as if such a torpid, torrid, profligate world had to be punished, ravished, for its sinfulness. And ravished it was. The deforestation of planters in the first half of the 19th Cent. was continued by loggers in the last half abetted by increasing use of steam power and the pull of larger markets. By 1900 most of the best was gone; by 1930 what was left interested only marginal loggers who could not afford to move west. Another half century of high-grading stripped the remaining isolated good trees as quickly as they matured leaving finally a waste wood economically and aesthetically suitable only for stripping and chipping. Garden had become barren; blessing had become curse, no less for the whites who cast their forests down the hillsides than for the Indians who killed game far beyond their needs for food and clothing.

Faulkner's stories, "The Old People" and "The Bear" in *Go Down Moses* chronicle the loss of the forest: each year as the company of hunters makes the trip to the great woods, it takes longer. Logging and settlements had come to the forest and its edge steadily receded before the hunters. From the hunting camp they could hear the locomotive hauling out the logs. In the old forest, the men's memories had threaded and twisted through the trees and over the hills like the game trails themselves in one dark, matted recollection of place owned by no one. It is the complex relation to the land of Indians, slaves, whites--as confused as the blood in Sam Fathers veins--that Ike McCaslin decries, "Dont you see?" he cried. "Dont you see? This whole land, the whole South, is cursed, and all of us who derive from it, whom it ever suckled, white and black both, lie under the curse?"[59] In the end Major de Spain sold most of the timber to a lumber company from Memphis and the old hunt was gone forever. In the final scene, Boon Hogginbeck goes mad beneath the Gum Tree and smashes his gun, impotent against the squirrels.

Twentieth Century: Gathering at the Rivers

There was hardly an early naturalist or traveler who did not comment upon the rivers and waters of the new land. In exploring the Virginia Tidewater, John Smith wrote in 1612, "The country is not mountanous nor yet low but such pleasant plaine hils and fertle valleyes, one prettily crossing an other, and watered so conveniently with their sweete brookes and christall springs, as if art it selfe had devised them."[60] Father Andrew White had a similar view of Maryland, "It abounds with delicate springs which are our best drinke."[61] Samuel Wilson wrote [1682], "Carolina doth so abound in Rivers, that within fifty miles of the Sea you can hardly place your self seven miles from a Navigable River, and divers are navigable for good big Vessels above three hundred miles."[62]

Besides providing means of navigation and the springs waters to drink, the rivers provided food: the innumerable waterfowl that flew above them, the fish that swam in them, and the shellfish on their bottoms: Among the first observers was Alexander Whitaker: [1613] "In winter our fields be full of Cranes, Herons, Pigeons, Partridges, and Blackbirds: the rivers and creeks bee ouer spread euery where with water foule of the greatest and least sort,as Swans, flocks of Geese and Brants, Duck and Mallards, Sheldrakes, Dyuers, etc., besides many other kinds of rare and delectable birds..."[63] Alsop, "Here in Mary-land is a large sufficiency, and plenty of almost all sorts of Fishes, which live and inhabit within her several Rivers and Creeks, far beyond the apprehending or crediting of those that never saw the same, which with very much ease is catched, to the great refreshment of the Inhabitants of the Province."[64] "The Rivers abound

with variety of excellent Fish, and near the Sea with very good Oysters, in many of which are Pearl..."[65] Whitaker [1613] stated, "I cannot reckon nor guie proper names to the diuers kinds of fresh fish in our rivers."[66] Exploring around Hilton Head in 1666, Robert Sandford wrote, "It abounds besides with Oyster bankes and such heapes of shells as which noe time can consume, but this benefitt it hath but in common with all the rivers." Sandford noted that these shell heaps would provide the necessary material for lime to make mortar to use with the convenient local clay for making bricks.[67] "Eels, Crabs, Prawns twice as large as ours in England: Oysters of an Oblong or Oval Form; their number is inexhaustible; a man may easily gather more in a day than he can well eat in a year; some of which...[yield] bright round Oriental Pearl."[68] Mark Catesby, premier bird naturalist of the colonial period, wrote, [1731] "The coasts of Florida, including Carolina and Virginia...have a muddy and soft bottom./At low water there appears in the rivers and creeks immense beds of oysters, covering the muddy banks many miles together; in some great rivers extending thirty or forty miles from the sea, they do not lie separate, but are closely joined to one another, and appear as a solid rock a foot and a half or two feet in depth, with their edges upwards."[69]

We simply no longer have the imagination to conceive of the waterfowl: today, I still try to imagine what it was like in 1946 when my father, a duck hunter in the Back Bay below Norfolk, told me that sometimes at their offshore blind, in the early morning of a bright day, that you could feel the chill when the great flights of ducks passed between the blind and the sun. In 1600, the sight and noise of a December morning in the southern marshes must have been stupendous.[70] Wilson: "On the Rivers and brooks are all the winter moneths vast quantitys of Swan, wild Geese, Duck, Widgeon, Teale, Curlew, Snipe, Shell Drake, and a certain sort of black Duck that is excellent meat, and stayes there all the year."[71] In 1759, Andrew Burnaby observed numbers of waterfowl in the Virginia marshes and noted, "The American shell-drake and blue-wing [teale] exceed all of the duck kind whatsoever; and these are in prodigious numbers."[72]

Across the mountains, the rivers were no less important, although initially and perhaps fatefully, the rivers were seen as great highways leading to the heartland of Kentucky and Tennessee and on to the Mississippi valley. These were the corridors of the French Broad, Holston, Nolichucky, Cumberland--the rivers of delight which threaded the southern Appalachians.[73] In 1791 Gilbert Imlay noted, " You will observe, that, as far as this immense continent is known, the courses and extent of its rivers are extremely favourable to communication by water; a circumstance which is highly important, whether we regard it in a social or commercial point of view."[74] Here in middle Tennessee he noted, "In a word, no spot can be marked in that country, that is more than 20 miles from a boatable stream, so great are its advantages of water conveyance."[75] The bottoms along the rivers were cleared for wagon roads for settlers moving west, and the same roads eastward carried the droves of hogs, sheep, mules, cattle, and turkeys driven from middle Tennessee to eastern markets from Philadelphia to Charleston.

As the population grew, as industry expanded, and as the nation migrated through and beyond the mountains, few recognized or even deplored the alterations that were taking place in the waters of the land. A rare observer was that mad southern patriot, Edmund Ruffin: "When our ancestors first reached this shore, nearly the whole country was in a state of nature. The savages had cleared for cultivation but a few fertile spots on the banks of the rivers; all the remainder of

the land was under one great forest. The streams had not been obstructed by the cutting down of trees across their beds...No dams had obstructed the free and regular course of the streams, and therefore no artificial floods were formed. The soil not having been cultivated, was not exposed to be washed away by the rains into the rivers. The waters were generally clear, instead of being generally muddy, as since all these circumstances have been changed."[76] Ruffin continues, "Bottom lands in their natural state, must have presented scenes of remarkable beauty. The clear stream, not as yet choked by the earth washed from cultivated land, and rarely obstructed, flowed in deep and meandering channel....When the neighboring higher lands, and especially the bordering hill-sides, were cleared and cultivated and their soil and even the sub-soil in many cases were washing down with every heavy rain, then commenced the ruin of both the natural beauty of the bottoms and much of their available value for cultivation."[77]

John Muir had been fortunate to see a few of these hill-sides before the destruction occurred: [Muir September 12--near Montgomery, TN] "Crossed a wide cool stream [Emory River], a branch of the Clinch River. There is nothing more eloquent in Nature than a mountain stream, and this is the first I ever saw. Its banks are luxuriantly peopled with rare and lovely flowers and overarching trees, making one of Nature's coolest and most hospitable places. Every tree, every flower, every ripple and eddy of this lovely stream seemed solemnly to feel the presence of the great Creator. Lingered in this sanctuary a long time thanking the Lord with all my heart for his goodness in allowing me to enter and enjoy it....Near this stream I spent some joyous time in a grand rock-dwelling full of mosses, birds, and flowers. Most heavenly place I ever entered....Forded the Clinch, a beautiful clear stream, that knows many of the dearest mountain retreats that ever heard the music of running water."[78]

Conclusion

From 1500 to 2000, over this half millennium, the natural history of North America has undergone the recapitulation of the biblical fall: a pristine condition irretrievably lost by waste and greed--by sin. In *Loving Nature*, James Nash writes, "In our time, particularly, the meaning of sin must be properly extended to cover ecological misdeeds, and the human condition underlying them. The ecological crisis and the host of actions contributing to that crisis are best understood in the context of sin....Sin literally defiles the land."[79] To continue the biblical analogy, we are now living in exile from paradise; our ecological garden has been destroyed, not by some fierce invader, not by an alien serpent, but by ourselves. And by the muddied, polluted waters of this Babylon wasteland we hang up our harps in stunted trees and weep. It is right that we should feel guilt, grief, and shame for what we have done to this land.

We must recall, however, that the biblical story looks ahead as well as behind: the complete story is Creation, Fall, Redemption. It is first and foremost the story of personal salvation, but Scripture suggests that the Redemption will also be an event of cosmic renewal: not just a new Adam, but a new Creation, a transformed physical order. Some, with very good reasons and arguments, would protest however, that the prelude to the New Creation is apocalypse--an apocalypse that is increasingly seen by some as environmental as much as social or political in nature. Some radical environmentalists envision an apocalyptic annihilation of the human race in a holocaustal atonement for man's disruptive presence: the "New Creation" will be a centuries distant restoration of a natural order without human beings in the landscape. For these radicals,

the Beast that rules the world and will destroy man in divine retribution is technology--the knowledge and skills, the techniques and applications, the devices and machines that we have used to alter, modify, use, abuse, transform, and finally destroy the naturalness of the natural world.

As much as I believe we have with our own hands destroyed not a mythic but a real paradise, as much as I believe that the sin of our lost and fallen condition is mirrored everywhere in the way we treat the land, yet I do not believe in a technologically caused ecological apocalypse--no more than I believe that what is wrong with this planet is the presence of human beings. I do not believe these things. We, no less than the stars and the birds, are part of the divine plan, a plan not yet completed. As human beings we face two challenges: to find some way of living together and to find some way of living with and upon the earth. Do I believe we can re-grow the paradisal environment of North America in 1400? No. We will never see those trees, those herds, those birds, those clear rivers again. We must recall that the biblical imagery, the story of Creation, Fall, Redemption, New Creation, moves in its imagery from garden to city: we do not return to some lost but recoverable natural paradise, but we journey forward, to a city: a city that includes but exceeds nature. I think the eco-restorationists are wrong not least for using romance and sentiment as a means of turning us from the tasks before us. The nostalgia for paradise manipulated by these restorationists whether in the form of "conserving" threatened species, protecting old growth forests, or in picking up litter on the roadside--this nostalgia, these causes, are finally obstacles to the solution of the double task before us: peace and justice as the remedy to greed and need.

A lot of things will have to change--our commitment to cars, our commitment to neat-and-clean [especially with our lawns and roadside right-of-ways], our passion for new objects [our Wal-Mart syndrome], our belief in our inalienable right to newspapers and soda cans. Do not think for a moment that I believe that if we all do our little part we can make this happen. There are no fifty little things you can do to save the environment or the planet. Boy Scout morality, the morality of aggregated self reliance, of collectivized individual efforts, are not the solution but the cause of our condition. Recycling is not the solution; our belief in it is the typical cause of our problem. The solutions I envision here are high technology, human ecology, systems solutions. The task is not to recycle junk mail; the task is to create a marketing system where people can buy what they need and where merchandisers are not allowed to boost profits by also passing on to the generic people the cost of mass advertizing: all mail should be one rate first class. The task is not to recycle newspapers but to make newspapers as obsolete as candles and oil lamps--technologically, they belong to the same world--information access should be much easier than using a newspaper. The need for recycling will disappear when every object produced includes in its sale price the actual cost of its eventual disposal: not a bottle bill, but a universal object deposit bill. What we need is not more individual effort and local initiative but more technology, more general systems solutions to fundamental problems.

The final hope for the land probably will not lie in specific acts of preservation, nor in wilderness itself, nor even finally in nature or naturalness; growing population will transform utterly our inherited imagery of all such tokens and render them romantic and historical at once. Ultimately such hope as there may be will be found not in what we do about the land, air, trees, and waters but in what we do about cities. I have meditated often about a Tarahumara Indian saying that I

read years ago: The Tarahumara were primitive Indians of northern Mexico who lived almost without trace high in the mountains. After the Spanish settlement and the development of the land with many towns and villages, the Tarahumara--who for years refused to wear clothes--would occasionally come down from the mountains and enter the villages and towns of the low country. They would enter the town, not speaking to anyone and would walk the streets, looking into houses. They neither purchased nor traded and after a while they would leave and go back to the mountains. They did this each year, and as they got ready for their trip to town, they had a saying, a kind of explanation of what they were doing: "We are going to see how it is with those who are mistaken," they would say.

I have written more than once in my ecological journal that cities are a mistake, and the emotions that rise up in me when I look at Chicago, LA, New York--or Tokyo, and especially Mexico City--are the closest feelings I have to sickening terror. For all my native optimism, I do not know if we as a species are up to the task of dealing with these cities and the human need they represent and the environmental impact and degradation they cause. Yet, I know this: in the Biblical tradition, the imagery of garden and desert was replaced by that of the city, the celestial city, the city of God. In Bunyan's Progress, Pilgrim did not seek a garden, but a city. Our destiny is not in the garden or the wilderness or the desert: it lies in our capacity--not to live upon the land--but to live together. Perhaps the failure of natural theology to sustain an argument for God in the design of the world was no more than what we should have expected: it is a fallen world. Our task is not to write a new natural theology nor even to save the rainforest or the taiga of Siberia; it is rather to write a new moral theology suitable for a city for God built upon this earth.

The City of God awaits us: not in some temporally distant, psychically transformed, out-of-body twilight zone, but here--in Sewanee, in Tennessee, in Dixie, in America, in Mexico, in Somalia, in Siberia, in Antarctica. [As a believing Christian,] I believe this: we can--by the grace of God filling all our efforts--make a better world: we can cure ignorance, we can heal wounds, we can cure disease, we can end war, we can end hunger, AND we can do it without destroying the land or the water or the air. I believe we can develop non-polluting technologies--that we will be able to manufacture entirely without waste--that we can farm to feed a planet with three times the current population, and do it on less land we than we now use and without ruining the soil, the rivers, or the air.

I will leave you with these words I give to my students each time they struggle to find sense and coherence in my condemnations of recycling: recycling is not the answer. Forget recycling. Work for peace and justice.

Bibliography of Works Consulted

Adair, James. *History of the American Indians* [1775], edited with an introduction by Samuel C. Williams. Johnson City, TN: Watauga Press, 1930.

Allen, Michael. *Western Rivermen, 1763-1861: Ohio and Mississippi Boatmen and the Myth of the Alligator Horse*. Baton Rouge and London: Louisiana State University Press, 1990.

Alvord, Clarence W. and Lee Bidgood. *The First Explorations of the Trans-allegheny Region by the Virginians: 1650-1674.* Cleveland, OH: Arthur H. Clark Co., 1912.

Bartram, William. *The Travels of William Bartram*, edited by Mark Van Doren. New York: Dover Publications. Reprint of the 1928 edition, 1955.

Bartram, William. *The Travels of William Bartram*, naturalist's edition, edited by Francis Harper. New Haven: Yale Univ. Press, 1958.

Bedford, John R. "A Tour in 1807 Down the Cumberland, Ohio and Mississippi Rivers from Nashville to New Orleans." *Tennessee Historical Magazine*, V, No. 1 (April, 1919), 40-68.

Beebe, William, ed. *The Book of Naturalists: An Anthology of the Best Natural History*. New York: Alfred A. Knopf, 1944.

Bossu, Jean-Bernard. *Travels in the Interior of North America: 1751-1762*, edited by Seymour Feiler. Norman, OK: Univ. of Oklahoma Press, 1962.

Braund, Kathryn E. Holland. *Deerskins and Duffels: Creek Indian Trade with Anglo-America, 1685-1815*. Lincoln, NE and London: University of Nebraska Press, 1993.

Burnaby, The Rev. Andrew. *Travels Through the Middle Settlements in North America in the years 1759 and 1760*. Ithaca, NY: Great Seal Books, Cornell Univ. Press, paperback, 1960.

Burnett, Edmund Cody. "Hog raising and Hog Driving in the Region of the French Broad River." *Agricultural History*, XX (April, 1946), 86-103.

Burrage, Henry S., ed. *Early English and French Voyages, Chiefly From Hakluyt: 1534-1608*. [Original Narratives of Early American History, J. Franklin Jameson, general editor.] New York: Charles Scribner's Sons, 1932.

Byrd, William. *A Journey to the Land of Eden* [1733]. n.p.: Macy-Masius, Vanguard Press, 1928.

Byrd, William. *Natural History of Virginia* [first published in German in 1737], translated and edited by Richmond C. Beatty and William J. Mulloy. Richmond, VA: Dietz Press, 1940.

Byrd, William. *William Byrd's Histories of the Dividing Line Betwixt Virginia and North Carolina* [1728], edited by William K. Boyd. Raleigh, NC: North Carolina Historical Commission, 1929.

Candler, Allen D. *The Colonial Records of the State of Georgia*. Atlanta, GA: Franklin Printing and Publishing Co., 1904.

Catesby, Mark. *The Natural History of Carolina, Florida, and the Bahama Islands* [1731-43] in *Catesby's Birds of Colonial America*, edited by Alan Feduccia. Chapel Hill, NC and London: Univ. of North Carolina Press, 1985.

Caudill, Harry M. *Night Comes to the Cumberlands: A Biography of a Depressed Area*. Boston/Toronto/London: Little Brown & Co., 1963.

Cotterill, Robert Spencer. *The southern Indians; the story of the civilized tribes before removal.* Norman, OK: University of Oklahoma Press, 1954.

Crane, Verner W. *The Southern Frontier: 1670-1732*. Ann Arbor: University of Michigan Press, Ann Arbor Paperbacks, 1956.

Cumming, W. P., et al. *The Exploration of North America 1630-1776*. New York: G. P. Putnam's Sons, 1974.

Davis, Chester. *Hidden Seed and Harvest: A History of the Moravians*. Winston-Salem, NC: Wachovia Historical Society, 1959.

Dykeman, Wilma. *The French Broad.* [1955] Newport, TN: Wakestone Books, 1992.

Faulkner, William. *Go Down, Moses*. New York: Random House, Vintage Books edition, 1973.

Forman, Samuel S. *Narrative of a Journey Down the Ohio and Mississippi in 1789-90*, with a Memoir by Lyman C. Draper. Cincinnati, OH: Robert Clark & Co., 1888.

Fries, Adelaide L., editor. *Records of the Moravians in North Carolina: Volume I 1752-1771; Volume II 1752-1775*. Raleigh, NC: North Carolina Historical Commission, Vol. I, 1922; Vol. II, 1925.

Ganier, Albert F. "The Wild Life Met By Tennessee's First Settlers." *The Migrant* [Bulletin of the Tennessee Ornithological Society], Vol. 44, No. 1 (September, 1973), 58-74.

Gillispie, Charles C. *The Edge of Objectivity: An Essay in the History of Scientific Ideas.* Princeton, NJ: Princeton University Press, Fourth Paperback Printing, 1973.

Gore, Al. *Earth in the Balance: Ecology and the Human Spirit.* Boston, New York, London: Houghton Mifflin Company, 1992.

Greene, John C. *The Death of Adam: Evolution and Its Impact on Western Thought*. Ames, Iowa: Iowa State Univ. Press, 1959. Paperpack edition, 1973.

Hanley, Wayne. *Natural History in America: From Mark Catesby to Rachel Carson*. New York: Quadrangle/New York Times Book Co., Inc., 1977.

Haywood, John. *The Natural and Aboriginal History of Tennessee* [1823]. Jackson, TN: McCowat-Mercer Press, Inc., 1959.

Hodge, Frederick W., ed. *Spanish Explorers in the Southern United States: 1528-1543*. [Original Narratives of Early American History, J. Franklin Jameson, general editor.] New York: Charles Scribner's Sons, 1907.

Hogan, Roseann R. "Buffaloes in the Corn: James Wade's Account of Pioneer Kentucky." *Register of the Kentucky Historical Society*, Vol. 89, No. 1 (Winter, 1991), 1-31.

Imlay, Gilbert. *A Topographical Description of the Western Territory of North America*, third edition. London: J. Debrett, 1797. Reprint, New York: Augustus M. Kelley, Publishers, 1969.

Jefferson, Thomas. *Notes on the State of Virginia* [1785]. New York, Evanston, London: Harper & Row, Publishers. Harper Torchbook Edition, 1964.

Krech, Shepard. *Indians, Animals and the Fur Trade: A Critique of Keepers of the Game*. Athens, GA: Univ. of Georgia Press, 1981.

Lewis, Martin W. *Green Delusions: An Environmentalist Critique of Radical Environmentalism*. Durham, NC and London: Duke University Press, 1992.

Matschat, Cecile H. *Suwannee River: Strange Green Land.* New York & Toronto: Farrar & Rinehart, Inc., 1938.

McDonald, Forrest and Grady McWhiney. "The Antebellum Southern Herdsman: A Reinterpretation." *Journal of Southern History*, XLI, No. 2 (May, 1975), 147-166.

Merchant, Carolyn. *The Death of Nature: Women, Ecology, and the Scientific Revolution* [1980]. San Francisco: Harper & Row Publishers, paperback, 1983.

Mereness, Newton D., ed. *Travels in the American Colonies*. New York: Macmillan Co., 1916.

Moore, Arthur K. *The Frontier Mind*. New York, Toronto, London: McGraw-Hill Book Co., Inc., McGraw-Hill paperback edition, 1963.

Muir, John. *A Thousand-Mile Walk to the Gulf* [1867]. Boston and New York: Houghton Mifflin Company, 1916.

Nash, James A. *Loving Nature: Ecological Integrity and Christian Responsibility*. Nashville: Abingdon Press, 1991.

Nash, Roderick. *Wilderness and the American Mind*, third edition. New Haven and London: Yale University Press, [1967] 1982.

Olmsted, Frederick Law. *A Journey in the Back Country* [1860]. New York: Schocken Books, Inc., 1970.

Paley, William. *The Works of William Paley, D.D.* Philadelphia: Crissy & Markley, 1850.

Pittman, Philip. *The Present State of the European Settlements on the Missisippi*. [A Facsimile Reproduction of the 1770 edition; Bicentennial Floridiana Facsimile Series.] Gainesville, FL: University of Florida Press, 1973.

Platt, Rutherford. *The Great American Forest*. Englewood Cliffs, NJ: Prentice-Hall, Inc., First Prism Paperback edition, 1971.

Platt, Rutherford. *This Green World*. New York: Dodd, Mead & Co., 1946.

Raleigh, Walter. *The History of the World*, edited by C. A. Patrides. Philadelphia: Temple Univ. Press, 1971.

Raper, Arthur F. *Tenants of the Almighty*. New York: The Macmillan Co., 1943.

Rogers, George A. and R. Frank Saunders, Jr. *Swamp Water and Wiregrass: Historical Sketches of Coastal Georgia*. Macon, GA: Mercer Univerisity Press, 1984.

Salley, Alexander S., Jr. *Narratives of Early Carolina: 1650-1708*. [Original Narratives of Early American History, J. Franklin Jameson, general editor.] New York: Charles Scribner's Sons, 1911.

Seton, Ernest Thompson. *Wild Animals I Have Known*. New York: Grosset & Dunlap, 1926.

Thwaites, Reuben G. *Early Western Travels*. Cleveland, OH: Arthur H. Clark, Co., 1905.

Tyler, Lyon G., ed. *Narratives of Early Virginia: 1606-1625*. [Original Narratives of Early American History, J. Franklin Jameson, general editor.] New York: Charles Scribner's Sons, 1907.

United States Department of Agriculture. *American Soil Conservationists*. Soil Conservation Service. Miscellaneous Publication No. 449, 1941, re-issued 1990.

Waddell, Gene. *Indians of the South Carolina Lowcountry, 1562-1751*. Columbia, S.C.: Southern Studies Program, Univ. of South Carolina, 1980.

Whitaker, Alexander. *Good Newes from Virginia*. London: William Welby, 1613.

White, Gilbert. *The Natural History and Antiquities of Selborne*, sixth edition. London: Swan Sonneschein & Co., 1888.

Williams, Samuel Cole, ed. *Early Travels in the Tennessee Country: 1540-1800*. Johnson City, TN: The Watauga Press, 1928.

[1]The literature on the transformation of 'nature' is extensive and rapidly growing; a convenient survey is found in Carolyn Merchant, *The Death of Nature: Women, Ecology, and the Scientific Revolution* (New York, etc., 1980; reprinted with a new Preface, 1990).

[2]Quoted in John C. Greene, *The Death of Adam* (Ames, Iowa, 1959), pp. 1, 4.

[3]*Ibid*., p. 12.

[4]William Paley, "A View of the Evidences of Christianity,"*Works* (Philadelphia, 1850), p. 378.

[5]Paley, "Natural Theology, "*Works,* p. 434.

[6]*Ibid*.,p. 486. Also: "The universe itself is a system; each part either depending upon other parts or being connected with other parts by some common law of motion... In our own globe, the case is clearer [than with the planets]. New countries are continually discovered, but the old laws of nature are always found in them; new plants perhaps, or animals, but always in company with plants and animals which we already know, and always possessing many of the same general properties....the same order of things attends us, wherever we go." *Ibid*, p. 469.

[7]William Bartram, *The Travels of William Bartram,* ed. Mark Van Doren (New York, 1955), pp. 15, 17.

[8]*Ibid.*, pp. 20-21.

[9]Thomas Jefferson, *Notes on the State of Virginia* [1785] (New York, 1964), p. 48. Gilbert Imlay took a somewhat different view; in considering the quadruped remains found along the Ohio River in the 1770's, Imlay notes a report that the extinct animal might have been carnivorous: "Can then so great a link have perished from the chain of nature? Happy we that it has. How formidable an enemy to the human species, an animal as large as an elephant, the tyrant of the forests, perhaps the devourer of man! Nations, such as the Indians, must have been in perpetual alarm. The animosities among the various tribes must have been suspended till the common enemy, who threatened the very existence of all, should be extirpated. To this circumstance we are probably indebted for a fact, which is perhaps singular in its kind, the extinction of a whole race of animals from the system of nature." Gilbert Imlay, *A Topographical Description of the Western Territory of North America* (London, 1797, New York, 1969), pp. 325-326.

[10]John Archdale, "Description of Carolina," in *Narratives of Early Carolina,* ed. William S. Salley, Jr. (New York, 1911), p. 285.

[11]Adlard Welby, "A Visit to North America, 1821" in *Early Western Travels*, ed. Reuben G. Thwaites (Cleveland, OH, 1905), p. 212.

[12]See Roderick Nash, *Wilderness and the American Mind* (New Haven and London, 1982).

[13]This theme is present in the accounts of the earliest voyages although the Edenic imagery is not common until the Seventeenth Century: "But the Territorie and soyle of the Chesepians [the inhabitants around the Chesapeake Bay]...was for pleasantness of seate, for temperature of Climate, for fertilitie of soyle and for the commoditie of the Sea, besides multitude of Beares (being an excellent good victuall) with great woods of Sassafras, and Wallnut trees, is not to be

excelled by any other whatsoever." Richard Lane, "Account of the Particularities of the Imployments of the Englishmen Left in Virginia, 1585-1586," in *Early English and French Voyages,* ed. Henry S. Burrage (New York, 1932), p. 247. The Rev. Alexander Whitaker wrote, after describing the game and fish of Virginia, "Wherfore, since God hath filled the elements of earth, aire, and waters with his creatures, good for our food and nourishment, let not the feare of starving hereafter, or of any great want, dishearten your valiant minds from comming to a place of so great plentie...God may deferre his temporall reward for a season, but be assured that in the end you shall find riches and honour in this world, and blessed immortality in the world to come." *Good Newes From Virginia* (London, 1613), pp. 42,44; he also observed, "The whole Continent of Virginia situate within the degrees of 34 and 47 is a place beautified by god, and with all the onrnaments of nature, and enriched awith his earthly treasures...," p. 37.

[14]The descriptions of the bounty of the land contrast sharply with the experience of the first settlers at Jamestown, particularly during the "starving time" of 1609-10; many who died simply refused to work enough to gather the available food around them: "Wee had more Sturgeon then could be devoured by dogge and man; of which, the industrious by drying and pownding, mingled with caviare, sorrel and other wholesome hearbs, would make bread and good meate...So that of those wilde fruites, fish, and berries these lived very well, in regard of such a diet. But such was the most strange condition of some 150, that had they not beene forced nolens volens perforce to gather and prepare their victuall, they would all have starved, and have eaten one another, " William Simmonds, "The Proceedings of the English Colonies in Virginia [1612]"in *Narratives of Early Virginia,* Lyon G. Tyler. ed. (New York, 1907), pp. 185-188, and "...of five hundred within six moneths after Captaine Smiths departure, there remained not past sixtie men, women, and children, most miserable and poore creatures; and those were preserved for the most part, by roots, herbes, acornes, walnuts, berries, now and then a little fish...it were too vile to say, and scarce to be beleeved, what we endured: but the occasion was our owne, for want of providence industrie and government, and not the barrennesse and defect of the Countrie, as is generally supposed...," John Smith, "The Generall Historie of Virginia by Captain John Smith, 1624; The Fourth Booke,"*Narratives of Early Virginia*, pp. 294-301.`

[15]Andrew White, "Father White's Briefe Relation," in *Narratives of Early Maryland* , ed. Clayton C. Hall (New York, 1910), p. 45. Smith also noted the quality of the soil: "The best ground is knowne by the vesture it beareth, as by the greatnesse of trees or by abundance of weedes, &." Smith, pp. 82-83. In 1602 John Bereton explored the "north part of Virginia", the area around Massachusetts, and wrote, "...coming ashore, we stood a while like men ravished at the beautie and delicacie of this sweet soile..." and in comparison with the endowments of this land, "...the most fertile part of al England is (of it selfe) but barren..." John Bereton, "Briefe and True Relation of the Discovery of the North Part of Virginia, 1602" in Burrage, *Early English and French Voyages,* p. 335. The original richness of the original soil is suggested in James Rosier's account of the Weymouth expedition along the Maine coast in 1605: "Wednesday, the 22 of May, we felled and cut wood for our ships use...and digged a plot of ground, wherein, amongst some garden seeds, we sowed peaze and barley, which in sixteen days grew eight inches above ground; and so continued growing every day halfe and inch, although this was but the crust of the ground, and much inferior to the mould we after found..." James Rosier, "A True Relation of the Voyage of Captaine George Waymouth, 1605" in Burrage, ed. *Early English and French Voyages,* p. 365.

[16]John Smith, "Description of Virginia and Proceedings of the Colonie By Captain John Smith, 1612" in Tyler, *Narratives of Early Virginia*, pp. 97-98.

[17]John William de Braham, "De Braham's Account," in *Early Travels in the Tennessee Country: 1540-1800* , ed. Samuel Cole Williams (Johnson City, TN, 1928), p. 193. Robert G. Healy provides an account of the eventual impact of this vison of the land in *Competition for Land in the American South: Agriculture, Human Settlement, and the Environment* (Washington, DC, 1985).

[18]John Smith, "Generall Historie, Book IV," in Tyler, *Narratives of Early Virginia*, p. 322.

[19]Bartram, *Travels*, pp. 29-30.

[20]See George H. Williams, *Wilderness and Paradise in Christian Thought* (New York, 1962) and Charles L. Sanford, *The Quest for Paradise: Europe and the American Moral Imagination* (Urbana, IL, 1961). Annette Kolodny provides a feminist critique of the psycho-sexual metaphors implicit in many colonial accounts of wilderness and paradise in *The Land Before Her: Fantasy and Experience of the American Frontiers 1630-1860* (Chapel Hill, NC and London, 1984).

[21]Edward Bland, "The Discovery of New Brittaine," in *The First Exploration of the Trans-Allegheny Region by the Virginians 1650-1674*. Clarence W. Alvord and Lee Bidgood, eds. (Cleveland, OH, 1912), pp. 112-113.

[22]John Archdale, "A New Description of that Fertile and Pleasant Province of Carolina," in Salley, *Narratives of Early Carolina*, p. 288.

[23]George Alsop, "A Character of the Province of Maryland, 1666," in Hall, *Narratives of Early Maryland*, p. 344

[24]Gilbert Imlay, *Topographical Description* , p. 375.

[25]Edward Haies, "A Report of the Voyage of Sir Humfrey Gilbert, Knight, 1583," in Burrage,*Early English and French Voyages*, p. 205.

[26]Alsop, *op. cit*., in Hall, *Narratives of Early Maryland*, p. 345.

[27]*Ibid.*, pp. 345-347.

[28]John Hammond, "Leah and Rachel, or, The Two Fruitfull Sisters Virginia and Mary-Land, 1656" in Hall, *Narratives of Early Maryland*, p. 291. Hammond, also, "Fowle and Venison, certainly cannot but be sufficient for a good diet and wholsom accommodation, considering how plentifully they are, and how easie with industry to be had," *ibid*., p. 292. Some have suggested that the large size of the American turkey derived from cross breeding with domestic turkeys but consider the observation in the Andrew White's "An Account of the Colony of Lord Baron of

Baltimore, 1633": "There are [in Maryland] also great quantities of wild turkeys, which are twice as large as our tame and domestic ones," Hall, *Narratives of Early Marlyland*, p. 10.

[29]Thomas Ashe, "Carolina, Or a Description of the Present State of that Country, 1682" in Salley, *Narratives of Early Carolina*, p. 150.

[30]Robert Horne, "A Brief Description of the Province of Carolina, 1666" in Salley, *Narratives of Early Carolina*, p. 68

[31]Thomas Ashe, "Carolina...," in Salley, *Narratives of Early Carolina*, p. 151. Mark Catesby's account seems most realistic: "It is commonly reported that these turkeys weigh sixty pounds apiece, but of many hundreds that I handled, I observed very few to exceed the weight of thirty pounds." Mark Catesby, *The Natural History of Carolina, Florida, and the Bahama Islands* [1731-1743] in alan Feduccia, ed. *Catesby's Birds of Colonial America* (Chapel Hill, NC and London, 1985), p. 169.

[32]It is not true as was thought for a long time that there was a continuous forest from the coast to the Mississippi river; in addition to the "Indian fields" there were these "savanae" or Eastern prairies, the origins of which are not clear, but which contained grass ecosystems similar to those found west of the Mississippi. The earlier view is expressed, for instance, by Edmund Ruffin, "The savages had cleared for cultivation but a few fertile spots on the banks of the rivers; all the remainder of the land was under one great forest," quoted in *American Soil Conservationists*, USDA Soil Conservation Service, Miscellaneous Publication No. 449, p.43. See also the reference to the "Big Prairie" in northern Alabama in John R. Bedford, "A Tour in 1807 Down the Cumberland, Ohio, and Mississippi Rivers from Nashville to New Orleans," *Tennessee Historical Magazine*, Vol. V, No. 1 (April, 1919), 40-68. Prairies and glades are documented at several other sites in Tennessee. Adair notes extensive grasses in the woodlands as well as in open grasslands: "There is a number of extensive and fertile Savannas, or naturally clear land, between the Missisippi and the western branches of Mobille river. They begin about two hundred and fifty miles above the low lands of the coast, and are interspersed with the woods to a great distance, probably three hundred miles....The soil of the clear land, generally consists of loose rich mould to a considerable depth, and either a kind of chalk, or marl, underneath. We frequently find the grass with its seeded tops as high as our heads, when on horse-back, and very likely it would bear mowing, three or four times in one season. As the Indians gather their wild hemp, in some of these open fertile lands, both it and our hemp would grow to admiration, with moderate tillage; and so would tobacco, indigo, cotton, and flax, in perfection." James Adair, *History of the American Indians* [1775], ed. Samuel C. Williams (Johnson City, TN, 1930), p. 494. See also p. 304.

[33]William Talbot, "The Discoveries of John Lederer," in Alvord and Bidgood, pp. 163-164.

[34]Adair, *History*, p. 445, n. 256. On July 28th, 1739, a ranger traveling with General Oglethorpe wrote, "The Things being all got over the River [Ogeechee] we set forward, The Indians killing plenty of Deer and Turkeys for our Refreshment, also several Buffaloes, of which there is great Plenty and they are very good Eating. Though they are a very heavy Beast they will out Run a Horse and Quite Tire him." in "A Ranger's Report of Travels with General Oglethorpe,

1739-1742," *Travels in the American Colonies*, ed. Newton D. Mereness (New York, 1916), p. 219. Along the Ohio river at the confluence of the Wabash Captain Harry Gordon observed "great herds of Buffaloe" in 1766, noting that "The herds of Buffaloe are hereabouts Extraordinary large and frequent to be seen." in "Journal of Captain Harry Gordon' Journey from Pittsburg Down the Ohio and the Mississippi to New Orleans, Mobile, and Pensacola, 1766," *Ibid*., pp. 468-69. Gilbert Imlay repeats an account of buffalo around the Blue Lick in Kentucky: "I have heard a hunter assert, he saw above 1000 buffaloes at the Blue licks at once; so numerous were they before the first settlers had wantonly sported away their lives," and describing other licks in eastern Kentucky, he observes,"The amazing herds of buffalo which resort thither, by their size and number, fill the traveller with amazement and terror, especially when he beholds the prodigious roads they have made from all quarters, as if leading to some populous city; the vast space of land around these springs desolated as if by a ravaging enemy, and hills reduced to plains..." *Topographical Description*, pp. 320, 323-324; the habits of the buffalo in Kentucky are described by Daniel Boon, "The buffalo were more frequent than I have seen cattle in the settlements, browzing on the leaves of the cane, or cropping the herbage on those extensive plains...," quoted in Imlay, *op. cit*., p. 339.

[35]Bartram, *Travels*, pp. 263-264. Bartram noted, however, "As for the animal productions, they are the same which originally inhabited this part of North America, except such as have been affrighted away since the invasion of the Europeans. The buffalo (urus) once so very numerous, is not at this day [1773] to be seen inthis part of the country; there are but few elks, and those only in the Apalachian mountains." *Ibid*., p. 62.

[36]Ganier, pp. 70-71.

[37]Ganier also notes, however, that David Crockett reported elk in the river bottoms of Obion and Dyer counties between 1820 and 1830. Ganier, p. 71. Adair suggests that Indian waste also contributed to their disappearance: "The buffalos are now become scarce, as the thoughtless and wasteful Indians used to kill great numbers of them, only for the tongues and marrow-bones, leaving the rest of the carcases to the wild beasts." *History of the American Indians*, p. 445-446. Some Indians had apparently developed highly specialized tastes; on the 1527 Panphilo de Narvaez expedition Cabeza de Vaca reported, "In the town where the emeralds were presented to us [probably near Ures on the Rio Sonora] the people gave Dorantes over six hundred open hearts of deer. They ever keep a good supply of them for food, and we called the place Pueblo de los Corazones." In "The Narrative of Cabeza de Vaca," *Spanish Explorers in the Southern United States, 1528-1543*, ed. Frederick W. Hodge (New York, 1907), p. 109. See also Catesby: "A fawn cut out of the deer's belly and boiled in its natural bag, is a dish in great esteem with them." *The Natural History of Carolina, Florida, and the Bahama Islands* , p. 146. Roseann R. Hogan, "Buffaloes in the Corn: James Wade's Account of Pioneer Kentucky," *Register of the Kentucky Historical Society*, Vol. 89, No. 1 (Winter, 1991), 1-31, provides an account of the complex and violent relations between settlers and Indians over control of land and hunting rights.

[38]In 1725, Capt. Tobias Fitch, on a mission to negotiate with the Upper "Creek " Indians in Alabama, was told by the head man, Hopeahachey, "We are very glad to see you here and tho we have not Such Intertainment To give you as you give us when we Come to you, yet such as we have we give you Freely; and we are very glad to see that you Can eat such as we Live on. When

you are at home your Dyet is kept more under command. Your Chatle are kept in large pens and Likewise your Sheep; your Turkeys and Ducks are at your Doores. Now with us it is not so. We are forced to hunt and Take a Great deale of pains To get our provisiones befor we eat it..." Mereness, *Travels in the American Colonies,* p. 190.

[39]Imlay, *Topographical Description*, p. 65.

[40]Bartram, *Travels*, pp. 183-184. See also Charles M. Hudson, "Why the Southeastern Indians Slaughtered Deer," in *Indians, Animals, and the Fur Trade: A Critique of Keepers of the Game*. ShepherdKrech III (Athens, GA, 1981), pp. 155-176. See also Catesby: "Before the introduction of firearms...they made no other use of the skins of deer..than to clothe themselves...but as they now barter the skins to the Europeans for other clothing and utensils they were before unqcquainted with, so the use of guns has enabled them to slaughter far greater number of deer and other animals than they did with their primitive bows and arrows. This destruction of deer and other animals being chiefly for the sake of their skins, a small part of the venison they kill suffices for them; the remainder is left to rot, or becomes a prey to the wolves, panthers, and other voracious beasts. With these skins they purchase of the English, guns, powder and shot, woolen cloth, hatchets, kettles, porridge pots, knives, vermilion, beads, rum, etc." *The Natural History of Carolina, Florida, and the Bahama Islands* , p. 147. On the reference to "tigers": "This creature is called, in Pennsylvania and the northern States, panther; but in Carolina and the southern States,is called tyger; it is very strong, much larger than any dog, of a yellowish brown, or clay colour, having a very long tail; it is a mischievous animal, and preys on calves, young colts, etc." Bartram, *Travels*, p. 63.

[41]Chester Davis, *Hidden Seed and Harvest: A History of the Moravians*, (Winston-Salem, NC, 1959), p. 49. The Moravians were meticulous record keepers, recording the numbers of people bitten by snakes, the snakes killed, the hides transported, along with the numbers and types of trees felled. See *Records of the Moravians in North Carolina: Volume I 1752-1771*, Adelaide L. Fries, ed. (Raleigh, NC, 1922), p. 373, which notes an April 1768 trip to Charleston from Wachovia. 3000 pounds of dressed deer skins were transported in April, another 4400 pounds the following November. Several trips were made each year from the Moravian settlements in North Carolina to trading posts in Pine Tree (Camden) and Charleston, SC. Wagon trains usually followed the drainages of the Catawba and Yadkin Rivers. Another indication of the trade is found in the many colonial records of business transactions: "Palace Court, Wednesday June 15th 1737: The Accountant acquainted the Trustees that the following Bank Receipts came to his hands since the last Meeting...One for two Pounds fifteen Shillings and ten Pence paid in by the Accountant Which with four hundred and twelve Pounds thirteen Shillings and four Pence accounted for by him in the Payment Book makes together the Sum of four hundred and fifteen Pounds Nine Shillings and two Pence receiv'd of Messrs Peter Simond and Co for seven Cases of Deer Skins imported from the Ship two Brothers weighing three thousand and sixty Eight Pounds Weight sold to them at two Shillings and Eight Pence half Penny a Pound." Allen D. Candler, *The Colonial Records of the State of Georgia* (Atlanta, GA, 1904), p. 289. At one and a half pounds per skin [see entry for January 12th 1740 at p. 377] this shipment represents about 2045 skins. For additional information on the records of game harvested and shipped see Gene Waddell, *Indians of the South Carolina Low Country 1562-1751* (Columbia, SC, 1980), p. 41.

[42]Connolly was in the Cumberland area some time between 1763 and 1770. Samuel C. Williams, *Early Travels in the Tennessee Country 1540-1800* (Johnson City, TN, 1928), pp. 213, 227.

[43]John Smith, "Description of Virginia," in Tyler, *Narratives of Early Virginia*, p. 90.

[44]Edward Bland, "The Discovery of New Brittaine," in Alvord and Bidgood, p. 120.

[45]William Hilton, "A Relation of a Discovery, 1664" in Salley, *Narratives of Early Carolina*, p. 47.

[46]Robert Horne, "A Brief Description," in Salley, *Narratives of Early Carolina*, p. 68.

[47]Anonymous, "A Relation of Maryland, 1635" in Hall, *Narratives of Early Maryland*,p. 79.

[48]A good short account of the ecological diversity of these coastal forest is given by Samuel Wilson: "Near the Sea the Trees are not very large, they grow pritty neare together; farther up they are larger, and grow farther asunder, and are in most parts free from Underwood, so that you may see near half a mile amongst the bodyes of the large tall timber trees, whose tops meeting make a very pleasing shate, yet hinders not grass, myrtle, and other sweet scenting shrubs here and there from growing under them: Amongst these Groves of Timber Trees are here and there Savana's, (or grassy plains) of several magnitudes clear of Trees, which have occasion'd some that have seene them to compare Carolina to those pleasant Parks in England, that have abundance of tall Timber Trees unlop'd, here you may hunt the Hare, Fox, and Deere all day long in the shade, and freely, spur your horse through the Woods to follow the chase." "An Account of the Province of Carolina, By Samuel Wilson, 1682" in Salley, *Narratives of Early Carolina*, p. 170.

[49]Bartram, *Travels*, p. 56.

[50]Bartram, *Travels*, p. 63

[51]John Muir, *A Thousand-Mile Walk to the Gulf*, William F. Bade, ed., Houghton Mifflin Co., (Boston and New York: 1916), p. 2.

[52]Muir, *A Thousand-Mile Walk*, pp. 14-15.

[53]Muir, *A Thousand-Mile Walk*, 38-39.

[54]Muir, *A Thousand-Mile Walk*, p. 5.

[55]Harry Caudill, *Night Comes to the Cumberlands: A Biography of a Depressed Area* (Boston/Toronto/London, 1963), pp. 66-67.

[56]Caudill, *Night Comes to the Cumberlands*, p. 64. The greed and avarice had a social history ultimately rooted in the land ownership patterns of England: in a society where the poor "rioted"

to obtain the "lop and top" of felled trees in a local forest and where nighttime poaching of deer was endemic, social constraints in favor of conservation were ineffective; it was these poor of England, Scotland, and Ireland who settled the American forests and whose descendants cut these forests of the upland South. See Gilbert White, *The Natural History of Selborne*, ed. James E. Harting (London, 1888), pp. 31-32.

[57]Caudill, *Night Comes to the Cumberlands*, p. 69.

[58]Imlay, *Topographical Description*, p. 376.

[59]William Faulkner, *Go Down Moses* (New York, 1973), p. 278.

[60]John Smith, "Description of Virginia," in Tyler, *Narratives of Early Virginia*, p. 82.

[61]Andrew White, "A Briefe Relation of the Voyage Unto Maryland, 1634" in Hall, *Narratives of Early Maryland*, p. 45.

[62]Samuel Wilson, "An Account of the Province of Carolina, 1682" in Salley, *Narratives of Early Carolina*, p.171.

[63]Whitaker, *Good Newes from Virginia*, p. 42.

[64]George Alsop, "A Character of the Province of Maryland, 1666" in Hall, *Narratives of Early Maryland*, p. 348.

[65]Samuel Wilson, "An Account...of Carolina," in Salley, *Narratives of Early Carolina*, p.171

[66]Whitaker, *Good Newes from Virginia*, p. 42. In 1759 Andrew Burnaby reported, "These waters [the rivers of the Chesapeake Bay] are stored with incredible quantities of fish such as sheeps-heads, rock-fish, drums, white pearch, herrings, oysters, crabs, and several other sorts. Sturgeon and shad are in such prodigious numbers, that one day, within the space of two miles only, some gentlemen in canoes caught above 600 of the former with hooks, which they let down to the bottom, and drew up at a venture when they perceived them to rub against a fish; and of the latter above 5000 have been caught at one single haul of the seine." *Travels through the Middle Settlements in North America* (Ithaca, NY, 1960), p. 11.

[67]Robert Sandford, "A Relation of a Voyage on the Coast of the Province of Carolina,1666" in Salley, *Narratives of Early Carolina*, pp. 103-104. Edmund Ruffin noted the many Indian shell heaps on the South Carolina sea islands and urged the use of shells in preparing "calcareous manure" to improve the soil; he also observed that little use was made of the shells and that they were seen as an encumbrance and were removed sometimes by dumping them into nearby creeks and rivers. See Edmund Ruffin, *Agriculture, Geology, and Society in Antebellum South Carolina*, ed. William M. Mathew (Athens, GA and London: 1992), p. 126.

[68]Thomas Ashe, "Carolina, or a Description of the Present State of that Country, 1682" in Salley, `Narratives of Early Carolina, p. 152.

[69]Mark Catesby, *The Natural History of Carolina, Florida, and the Bahama Islands* , p. 143.

[70]Arthur Barlowe's "Narrative of the First Voyage to the Coasts of America [1584] in *Early English and French Voyages*, ed., Henry S. Burrage (New York, 1932): "This Island [the Outer Banks along Pamlico Sound] had many goodly woodes full of Deere, Conies, Hares, and Fowle, even in the middest of Summer [July 2] in incredible abundance." p. 229. Also, "Under the banke or hill whereon we stoode, we behelde the vallyes replenished with goodly Cedar trees, and having discharged our harquebuz-shot, such a flocke of Cranes (the most part white) arose under us, with such a cry redoubled by many echoes, as if an armie of men showted all together." *Ibid*.

[71]Samuel Wilson, "An Account...of Carolina," in Salley, Narratives of Early Carolina, p. 171.

[72]Burnaby, *Travels*, pp. 11-12.

[73]A good summary of both the lore and the literature is found in Michael Allen, *Western Rivermen, 1763-1861* (Baton Rouge and London, 1990). See also the account of John Bedford's journey down the Cumberland. An account of the long boat journey from Pittsburg to New Orleans is found in "Journal of Captain Harry Gordon's Journey [1766]," in Mereness, *Travels in the American Colonies*, pp. 457-489. The use of the river bottoms as primary wilderness roadways is described in Sam B. Hilliard, *Hogmeat and Hoecake: Food Supply in the Old South 1840-1860* (Carbondale/Edwardsville/London/Amsterdam, 1972), and in Forest McDonald and Grady McWhiney, "The Antebellum Southern Herdsman: A Reinterpretation," *Journal of Southern History*, XLI, No. 2, (May, 1975), 147-166; see also Edmund Cody Burnett, "Hog Raising and Hog Driving in the Region of the French Broad River," *Agricultural History*, XX, (April, 1946), 86-103. A typical account of river bottom travel is found in Williams, "Dr. Thomas Walker's Journal [1750]," in *Early Travels in the Tennessee Country*, pp. 169-174; the close association of roads and rivers is found in the table, "Road from Philadelphia to the falls of the Ohio by land," in Imlay, *Topographical Description*, pp. 376-378.

[74]Imlay, *Topographical Description*, p. 75.

[75]Imlay, *Topographical Description*, p. 73.

[76]Edmund Ruffin, 1855, *American Soil Conservationists*, p. 43.

[77]Ruffin, 1855, *American Soil Conservationists*, p. 45.

[78]Muir, *A Thousand-Mile Walk*, pp. 30-32.

[79] James A. Nash, *Loving Nature: Ecological Integrity and Christian Responsibility* (Nashville, 1991), pp. 117-118.

Beyond Environmentalism: quasi-Leopoldian notes

There are many things to lament, few to change.
--William Preston

Beyond lament. Beyond nostalgia. Beyond good turns. What made a good turn good? Isn't the concern for environmental quality at root an expression of nostalgia: a naive wish for the way things were when the world's population was half or a quarter what it is now? Isn't environmentalism middle class elitism intended to protect its lifestyle against inconvenience? The environment is only a problem for people who have an artificial sense of nice or pretty, or who have a sense of past or future. It concerns some others if it costs them money or makes them sick. If none of these, there is no problem.

Environmental action as such is a waste of time. Pollution control, waste management, recycling no matter how successful always fall short and do nothing to dampen the systems problems--hunger, sickness and disease, war, educational need, population growth, religious strife, and economic injustice--that drive pollution and will lead us to global social and political crisis. Nothing on the environmentalists' agenda will forestall the crisis curves; in fact, source reduction (which is ultimately equivalent to lowered production and consumption: that is, market reversals) is likely to accelerate the pace to crisis. The very best that can be hoped for from the environmental movement is that some interest group coalitions will make particular inevitable bad things happen more slowly. The clock of development and consumption may be made to run slow but it will not be set back. The task will be to manage against revolution the entropy of the social systems of the world: to try, as much as is possible in a bad and worsening world, to do the right (=practical) thing.

Memory--of which nostalgia is a low expression--preserves identity by recollecting the values of the past. Without memory there cannot be either selfhood or community. With the erosion of memory community is lost; with the fragmentation of community, memory is lost. What is the point of remembering? We remember in order to *be*.[1]

An ethic is always an expression of social value. Social values arise from the forms of life that prevail among people. Community is the name of a form of life (it is not the only form of life). We no longer live in this form of life. Action must be guided by an ethic as an expression of a value. Every action therefore implies and may be said to derive from a form of life. Much of the incoherence of environmental action is that it invokes an ethic from one form of life--community--for a problem in another form of life: the poly-centric collective.

An ethic is always an expression of a community; a land ethic is an expression of a rural community: of forms of life in which people make their living from or recognize their dependence upon their relationship to the land and the soil. We do not any longer live in a community, much less a rural community. (To the great majority of people, it would make no difference to them whether their food were grown hydroponically or on the moon: they value the food, not its origin, not the way of life that *once* produced food.) We now live in a collective (which is an altogether different form of life). Collectives express their values in *policies*, not ethics: every ethic requires an element of consent and volition within the expectations of the forms of life of the community. A policy does not require consent or volition but conformity; consent and volition are irrelevant to policy. An ethic measures and shapes intent. A policy

shapes behavior. Consent and volition do not have to be addressed to alter behavior; in fact, if the goal is to alter behavior, addressing consent and volition are inefficient ways to alter behavior. Behavior is altered most efficiently by changing the environment of behavior; policies--expressed in regulations and laws--are means of altering environments of behavior. In a collective--where there are large numbers of people of different attitudinal persuasions--effective change in the character of the natural environment is best made by policies that alter the context and outcomes of social behaviors; in a collective it is extremely difficult to attain consensus about consensual/volitional matters. The pursuit of consensual/volitional consensus is in fact productive of its opposite. In a polycentric society, pursuit of consensual/volitional consensus is already impossible and this impossibility is given in the structure of the collectivized society; the pursuit of this consensus is therefore a means of precluding change rather than effecting it. In altering the behavioral environment of the collective, ethics are irrelevant. Policies are all important. It is not a question of motivation to pursue the good, but to shape behavior through policies that will effect sustainable outcomes and slow the approach to disaster.

In a consumer society--a society which measures values by money--it is most effective to alter social behaviors by manipulating costs; protecting the natural environment--if that is a policy goal of the collective--can best be effected by cost manipulation: by policies that attach increasing premiums of cost to behaviors. High landfill costs--distributed in monthly garbage fees and penalties--are more effective means of reducing waste or forcing recycling than appealing to consent and volition to "protect" the environment. People in the collective don't protect the environment because that is a good that they choose; they avoid trashing because it costs them money. If it doesn't cost them or doesn't cost them enough, they have no social-environmental stimulus to alter their behavior. Make it cost them and they will change their ways. When the value of a beverage container was 40% of the cost of the beverage, containers were too costly to support the behavior of throwing them away; the intrinsic worth of a container today relative to the cost of the product is far too low to elicit non-trashing behavior. We have a built-in [literally] connection in our automobiles between the automobile industry and the tobacco industry: because the associations of generations of marketing images promotes the sale of both automobiles and cigarettes, the auto industry makes it more convenient to dispose of cigarettes than of trash. Why? Why do not cars come equipped by design to enable passengers to package and dispose of trash? The low value of the generated trash--fast food packages and beverage containers--provides no built-in incentive to save such items and certainly no incentive to design auto interior space to accommodate proper disposal.

The task before us is not to protect the natural environment; it is instead to use policies to alter the social environment and thereby alter the behaviors that threaten or undesirably affect the natural environment. The most appropriate, because potentially most effective, arenas of environmental action are the policy generative agencies of governments: accessed through the courts, regulatory, and appeals process. Groups like Ralph Nader's and the Environmental Defense Fund and Natural Resources Defense Council are together more effective in interdicting and changing environmental problems than most other action groups. They are effective because they attack problems at the critical bureaucratic point of implementation: the regulatory process and the enabling legislation. Such groups are "popular" only in the sense that they are not entirely self-funding and must appeal for donations. Seldom do they act to solve specific problems. Approaches to environmental problems through specific solutions are inefficient but

may be an occasional means whereby general--or systems--effects may be caused through policy and regulation.

Regulation which leads to increased cost is a better means of behavioral modification than classic education: education in method and goal is archaic. Schooling revolves around irrelevant skills and values that reflect the past but do not prepare children or adults for the future. Most conventional strategies of protecting the natural environment require an educated support group that has the literate, general science, and conceptual skills to understand the problems and to use that understanding in the form of shaped information to take effective action. While a very small, self-interested group of Americans has these skills, the overwhelming majority of Americans and other world citizens does not. In America itself, education, for all the money that has been devoted to it, cannot be said to have produced a general literacy much less an environmentally informed populace. The majority of Americans possess reading skills little above the eighth grade level and conceptual skills no higher than reading skills. It is no coincidence that fast food restaurants use cash registers with pictures rather than words and prices for totaling orders. Education has not had effect in proportion to its cost on the spread of aids, the wearing of seat belts, or the suppression of drunk driving. Over the last half century, the cost in lives and the derivative economic costs of drunk driving have exceeded the costs of our wars, yet neither secondary education, mandatory driver training, state licensing education, nor penalties has had much annual effect upon the carnage and waste. Is it reasonable to assume that environmental education can hope for a better record?

What environmentally concerned citizens, including hunters, fishermen, and other sportsmen, must realize is this: apart from all forms of waste and pollution and their probable effect on the land--even including a 100% rate of recycling for all household waste--the quality of land for the support of traditional outdoor activities is going to steadily decline. The one factor that cannot be touched by all environmental activism is population, its growth and the associated growth factors that go with population such as housing and the need for support structures in conjunction with housing. These support structures include roads, shopping centers, municipal and recreational services, health care, and educational facilities. Also included are the facilities of production which accompany all growth, the abandoned and unrecoverable lands which have preceded current growth, and the institutions such as penal facilities which will also accompany future growth. Population and all of its baggage is spreading over the land around the world. While the rate of growth in the United States is low in comparison with countries like Libya and Uganda, the large numbers involved mean that even small percentage growth add many people to the land and cities. When America's growth is combined with its historical tendency to consumption and an impactive life style (for instance, in surrounding bungalow housing with acre lots cut out of prime farmland), the encumbrance of the land is extensive. This population drives the sub-division and use of more and more land. In America, hundreds of thousands of acres of farmland are "divided" and converted to roadways, lots, and malls each month. The insinuation of development into rural zones is now blanketing the landscape.

There are fewer and fewer places where a rifle can be safely fired or where the report will not cause aggravation or concern. Although a form of socially and economically restrictive hunting will survive on plantations and leased lands, hunting will disappear as a general American tradition or be steadily transformed into symbolic forms under controlled circumstances such as

skeet ranges, "sporting clay" shoots, and silhouette shoots. This process of transformation is now already so far advanced that most of the ammunition consumed by American sportsmen is used on ranges, and most of their time with firearms is spent in artificial, commercially structured environments. Despite NRA claims, fewer and fewer Americans are hunters, have any knowledge of firearms, or associate firearms with any activity except crime. Such game as is taken by American hunters is taken by fewer and fewer hunters, and the distance between the point of kill and nearest residential or developed land use grows shorter each year. The days of pot hunting for a rabbit, squirrel, and a couple of quail out the back door are gone in rural America; today the woods out the back door have been developed and a gunshot is more likely to produce a call to the sheriff's office than a neighborly inquiry about how the hunting is. Continuing development is going to reduce further with each decade the scope of such hunting.

Sport fishing has a better chance of surviving than does hunting, but the most adaptable fishing will be warm-water fishing in lakes and large river impoundments. Cold-water fishing is temporarily rising in popularity but this popularity along with pressures on cold-water environments--hydro-electric impact, acid rain, watershed development, recreational impact, and agricultural pollution--limit the future of cold-water fishing. The quality of cold-water fishing resources will steadily decline, and traditional fly angling will go the way of traditional hunting: the transformation of its environment will eventually no longer support it. The pathetic attempts at brook trout preservation and restoration should tell us what the future is. Despite heroic efforts, the brook trout has been exterminated from most of its southern range. It is being preserved where it still exists only by artificially high infusions of economic and technological protectionism. Rainbows and brown trout, of course, can survive a wider range of conditions than the brook trout, but environmental transformation threatens the presence of even these species. Every trout stream large enough to support a decent reproducing stock or to be worth artificially stocking is also a prime resource for degradation through boating: this is already the history of the peripheral streams of the Smokies and is beginning to be the fate of the Elk and similar rivers. Recreational kayaking-canoeing will always have the economic and political potential to place its demands ahead of the interests of cold-water anglers: consider the Hiwassee, Ocoee, and now the Elk. Policy follows population; there are more canoeists than anglers. The overall social benefit is greater for supporting canoeists than anglers. The future does not belong to trout. It probably belongs to fish like bluegill and crappie.

Most matters of consequence may be worth lying, fighting, stealing, dying, arguing, or loving for, but few things are worth voting for. Most of the things that are important to us, that we treasure, that we would bequeath to our children are not subject to a vote. It should be recalled that our "freedoms" themselves in the form of the Constitution were not acquired as the result of ballots but the result of bullets. At this point in our history as a people, the greatest determinants of the quality of our lives are economic and technological and none of the elements of these technological and economic matters is accessible to us by ballot. Democracy is an illusive ideal necessary to sustain certain social arrangements; it is not in fact how our society works. We cannot decide and bring to pass a different order of things in our neighborhoods, states, nation, and certainly not in the world, by deciding the desirability of a given thing and then proceeding to vote for it. The greenicks of California learned this lesson yet again in the Fall of 1990 with the defeat of "Big Green"--most of what California's referendum on a wide range of environmental concerns included were things dear to the hearts of all environmentalists and

possessed a overt rationality that should have persuaded reasonable people. It did not. However desirable such measures were, the problems Big Green were meant to address had roots much closer to where people live than to where they vote. Reformers should remember that people are always best motivated by self-interest; they are seldom motivated to act in conflict with self-interest.

Environmentalists: democracy is not the solution; it is the problem. The environmental movement from Leopold to Big Green is flawed by its commitment to forms of analysis and solutions of the *reductio ad populem* sort: the people caused this problem, the people can remove this problem. Thus: "And an environment of the people and by the people and for the people shall not perish from the earth." Slogans excite mobs; neither slogans nor mobs change things for the better. Such a slogan has a defective social theory at its root. A people is not an aggregation of the adult male citizens of a small New England town meeting in assembly to decide local ordinances; it certainly is not a general electoral meeting of the American population. This theory of people is elitist. Such elitism is as much rubbish today as it was in the Eighteenth Century. Such elitism then denied the full polity of "a people" by excluding Indians, women, slaves, and dissenters from orthodox Congregationalism and was not a representative democracy; and such elitism today overlooks the disenfranchisement of the underclass's of this society who may have the right to vote but who have nothing to vote for because the fundamental conditions of their lives are not electoral in nature. No vote removes poverty, ignorance, disease, or crime. Only liberals still believe that. And only liberals still believe that we can change our ways in millions of "environmental electoral" acts and make things better. We cannot.

Our peopleness already is beyond town meeting democracy. Our peopleness is of a complexity that mirrors our technological complexity and our economic and environmental problems. Our peopleness does not consist in government of and by and for the people but in a complex network of overlapping and interconnecting interests and concerns that span not only neighborhoods and regions but continents. It is the nature of the society that we have developed that it is held together not by elected officials but by managers and bureaucrats, that it functions--and dysfunctions--independently of all single individuals and of specific interest groups, that our allegiance to it is determined by its capacity to satisfy our need for food, convenience, and distraction, and that our capacity to change it is of the same order of magnitude as our ability to understand or uncover its interconnectedness. The polity of modern technological societies is so complex and so distal from the direct access of those included within it as to make the concept 'people' an almost wholly irrelevant device for understanding or changing such societies.

"Why didn't you go to the farmer and tell him how he was making his land erode and pollute the river?" the outraged student asks, "Why didn't you make him stop it?" One-on-one environmental democratic reform. The farmer knows his land is eroding; he makes more money either leaving it alone and banking it or by producing a price-supported crop than he ever will by listening to me. In fact, he has no incentive whatsoever to listen to me and every incentive not to. Can we pass a law to make him fence his ditches? Can we pass enough laws to fence all ditches? Can we enforce such laws without waivers? Does anyone left today in America really believe such drivel? Our school system in its pathetic romantic interpretation of the American revolution and of American history has perpetuated such a distorted understanding of peopleness and of

democratic action as to have entirely voided successive generations' capacity for understanding the social-systems complexity of our national polity or of the problems confronting us.

"But what about individual responsibility?" Two things occur to me: first, the task of the individual as a responsible agent is not to "do" but to understand. Before all else, we must understand: we must understand the history, form, and future of the problem that faces us today. Unfortunately, that problem is not adequately or accurately rendered to us by our educational system or by the contemporary environmental movement. The movement is part of the problem, not part of the solution. The presupposition of 'action,' 'concern,' 'involvement, and 'volition' is an archaic and dangerous view of the self-as-agent typical of the thought systems of modernity. Insofar as the solutions and remedies touted by the various causes and groups assume the modern view of the self-as-agent, these groups become manifestations of the same problem they purport to be a solution to. The vision of reality that is correlate with this view of the self is a defective view of life and community, but it is this defective view that is inherent in the ethical action theory of contemporary environmentalism.

Second, this occurs to me: responsibility is not a quality inherent in the self, it is a quality of the selves that are responsibly related to each other. The name of that relation is community, and the locus of responsibility is community. The "task of individual responsibility" (this way of putting it is itself part of the defective world view) is to build--by incarnate labor and speaking--community. "What can we do?" We can begin, once again to try to be a community--a people defined by their responsibility for each other. [Such responsibility can be modeled on Leopold's concept of the land as community, but community does not require metaphors of land.] Community in all its forms is manifest in the taking up of mutual responsibility however that must be measured in a people's destiny of circumstances. But community cannot be invented, or designed, or joined. It can be, as it ever was, lived. That is the only way communities have ever been manifest: in the project of living out the relatedness of responsibility. Communities need for their living few things: conversation, cooperative work, and recollection. The people of a community become a community and live as a people when they talk and sing (and debate and argue) with each other, when they work at some common task--a parade, mending fences, cleaning up after storms and floods, raising barns, or playing softball--and when, as a living people, they hold the history and memory of their living in the story that enables them to pass on their meaning to those who are joining the conversation and the cooperative work.

All environmental problems--all--are the result of greed and need. All environmental problems are, therefore, manifestations of the failure of community. Such environmental problems are never "solved" until there has been a healing and restoration of community. It is for these reasons that there will be no end but a worsening of environmental problems until there is social and economic justice: food, shelter, medicine, freedom for all people. All environmental thinking must deal with the effects of greed and need and culminate in liberation theology or it defaults on the reconstruction of community. But until there is social and economic justice--until the forms of life that promote lived community--begin to be lived, there will be no end to the ruin.

Footnotes:

1 "Memory too may idealize the past, but not in order to condemn the present. It draws hope and comfort from the past in order to enrich the present and to face what comes with good cheer. It sees past, present and future as continuous. It is less concerned with loss than with our continuing indebtedness to a past the formative influence of which lives on in our patterns of speech, our gestures, our standards of honor, our expectations, our basic disposition toward the world around us." Christopher Lasch, *True and Only Heaven*, p. 83.

Natural Literacy

She was tanned, slender, pretty. She was driving a navy blue Cherokee when she flagged me down in the field below Normandy Dam. I had been fishing in the shade under the bridge, but even there the 95 degree afternoon was distracting. I had just packed in my rod and started the Ram up the rut that leads from the hardtop to the shaded corner by the bridge. I could see her waving her hand just as she started in from the road. I stopped and she pulled up beside me.

"Is this Dematt Bridge?" she asked.

"No, I don't think so. What are you looking for," I asked.

"Dematt Bridge."

I stated as evenly as I could, "This is Normandy." As I began to sort out the possibilities I asked, "Are you looking for canoeists?"

"Yes."

"Where did you put in?"

"We put in at Cortner's Mill. I am supposed to meet them at Dematt Bridge."

"Cortner's Mill is downstream from here," I said. "Were they paddling upstream?" I still had not sorted it out and was trying to accredit any possibility. I have paddled upstream a few times myself. Growing up on the Rappahannock River in Virginia, we lived just above Fredericksburg where that river is continuously broken by falls and rapids all the way from the Blue Ridge. Our house was on the bluff, set back from the river about a half mile. I had a slender twelve-foot jonboat that my dad had had built for me at the local lumber yard. It had good bow and stern tapers and a cypress bottom. Even in 1958 I thought the $10 he paid the man at the lumberyard when we picked it up on Saturday morning was not much money for such a nice boat. I brought it home, painted it dark green, and filled it with water to let the seams swell. I did not exactly live in that boat the next three years, but it gave me a freedom of the river that I think kids today must feel with their four wheelers.

Next door to us lived Johnny Richards who had a Jeep pickup truck. He was one of those adults in my childhood who had a natural trust of young people, and he told me I could use the Jeep anytime I wanted to get my boat to and from the river. I could have left the boat on the river, but

good boats had a way of disappearing even when chained to trees, so I carried the boat to and from the river each time I used it. Johnny made good his offer of the Jeep by placing the key under the front floor mat. Since he went to work in his car, the Jeep was at my disposal most days through the summer. I had a few friends in town who liked to mess about the river with me, but none of them had a car. That meant that it was hard to work out a shuttle for a long float trip down the river. The best day trip was the twelve or so miles from Eley's Ford on the Rapidan River just above its confluence with the Rappahannock down to Prettyman's Camp below our house on the Rappahannock. That trip took two cars. Most days we put in at Prettyman's Camp or at Mott's Run and poled and paddled upstream.

A jonboat, even if it is slender and tapered, is not easy to pole upstream on a fresh river. We managed it, though, and when we had gotten far enough upstream to enjoy the slow drift down, we put up the pole and got out the spinning rods. I knew this river was a premier smallmouth stream before I ever read that in a magazine. Back then, we just said that the fishing was good. I didn't really think of rivers and woods and fields and fence rows and lanes as "premier." The late fifties in that part of Virginia was still a time when we did not need special adjectives to identify the quality of the places we hunted and fished. We could still hunt most places just by asking, and the river belonged to the fishermen. The few canoeists we saw were usually boy scouts. Fishermen preferred the stability of boats and mine was as stable as they came. I could stand on the corner of the bow or stern and cast or pole and never worry about tipping it over or cutting the gunnel under the edge of the water. The current moved us along and we steered with a single paddle, fishing the edge of the grasses between the rocks in the fast water. The fishing was good.

She was still leaning out the window of her Cherokee. I suppose the image of paddling upstream and the instant flashback to days on the Rappahannock had made too long a pause. She spoke again, "I think I'm lost."

I stepped out of the Ram and walked toward her. I took down my maps from over the visor as I got out. She got out. Before I opened a map, I pointed to the dam and said, "The river starts right over there. It flows from there, around that ridge, down to here." We were standing a few yards from the path to the bank under the bridge. We could see the scudsing and leaves on the brown water drifting past us. I pointed to the river, "The water goes that way."

"Uh. I'm kind of new at this. Is 'downstream' the way the water flows?"

My mind flashed away again, to my students. She may be lost, I thought, but she is gutsy enough to say so and to ask for help. She had stated her situation and her need for information directly and without pride. It was a kind of spontaneity and innocence hard to evoke in the classroom. And she is willing enough to ask the most basic of all questions: "Is 'downstream' the way the water flows?" I had to smile. "Yes, it is. Here, I'll show you on the map." We found the dam, Cortner's Mill, and I pointed out the downstream bridges below the mill. We traced the roads along the river leading from the mill and I reminded her of her turns. The last I saw of her was her blue Cherokee raising dust at the corner of the field as she turned on to the blacktop and headed 'downstream'. I think she was going to be late.

As she left, I began to feel confused and lost in my own way. "Is 'downstream' the way the water flows?" She had appeared to be about thirty-five. She was married and although she had not said so, I assumed she had children. It seemed to be a family outing where dad, probably, was taking the kids for a Sunday afternoon fishing float trip on the river. Married or not, mother or not, her life had intersected with someone else's life which had intersected with rivers and canoes. Her getting lost was not noteworthy. Anybody can get lost. But her getting lost had evidently derived from her lack of a primordial piece of information: downstream is the way rivers flow. How could she have not known that? Where were streams in this woman's childhood? Had she never played with sticks in the gutter? *Row, row, row your boat, gently down the stream. Merrily, merrily, merrily, merrily, life is but a dream.* Had she never sung that round in school? Or did she sing it without a clue? Was she a victim of the way her father treated her brothers, and had she been left to dresses and shopping and not taken fishing or boating?

I thought again of my students. Sometimes they will ask the basic, innocent question. I remember the one who asked in my Southern Religion class as plainly as if she were asking what page we were on in the text, "Do they still pick cotton by hand?" I had been talking about the effects of the invention of the Whitney gin on the South's commitment to cotton, stressing the reduction in hand labor made possible by the gin. It was a good question, too, needing to be asked. The stereotypes that separate us from the history of the South are as powerful as those that now separate us from farms. For this student, who drove several times each week past a cotton field, instruction was easy. I asked her if she had noticed the white, snow-like edging along that road and the big wagons with wire bins parked along the road. "That is cotton," I said. "The field you pass is a cotton field. The cotton is picked by machine and blown into those wagons. Some of it falls out as the wagons are pulled down the road. That's the white stuff on the shoulder of the road. We haven't picked cotton by hand down here for a long time."

My students are children of an urban world. Very few of them know farms. Fewer and fewer of them hunt and fish. And the world of natural lore they no longer have access to is not any more a matter of gender. In class the other day, I said that I kept a whittling stick in my truck to use when I was talking to a certain farmer I knew. I explained that many of the conversations I had that provided insights about land and people and the changes taking place had come when I would sit with them and whittle and pass the time of day. As I said this, I took out my pocket knife and held it out to the class to illustrate the point. I asked if any of them had pocket knives. I expected to find a few. I was stunned when there were none, not even a poor blade riveted into a money clip or nail clippers. There was not a sharp edge in the class. I chided the guys, "When I was growing up, no self respecting boy would have ever gone to school without his pocket knife." One of the girls spoke up, "Boys never have knives anymore. Our sorority had a party the other night and we needed to cut some ribbon. We asked the boys if anybody had a knife and no one had one then either."

I can understand, I suppose, why the habit of carrying pocket knives has disappeared. One student stated it, "The teachers wouldn't let us carry knives. They were afraid we would fight." I don't think that thought would ever have occurred to my teachers. Knives were a familiar tool--like a pencil sharpener or eraser or a pair of scissors. We did not carry knives to be armed. We carried knives because there were things that needed to be cut, scraped, pried, or whittled. I did not know a boy in my school who did not have a pocket knife. You carried a pocket knife to

school--and every where else--as naturally as you carried your books or a pencil. No one even thought about it. Later that day, I asked another class the same question about pocket knives. This class produced one pocket knife--in the purse of a girl. Her father had given it to her, and it was a using knife, not an ornament. She was proud of it and proud to carry it with her. She was one out of fifty that day.

Another group of students came to mind. In an upper-level American literature class at Vanderbilt, the professor had asked a class of thirty-four students if any one of them had ever seen a live chicken. Not one of them had. I remember another young college woman. She had never seen a "shooting star". We were co-counselors at a summer camp. She was embarrassed in front of our campers. That night we took our whole campsite to the dock in the middle of the lake and lay on our backs looking at the sky. It was July, and the Aquarid meteor shower did not let us down. In a little while the kids were cheering for each white streak across the sky. It had been easy to turn that page of experience for the campers. The harder page to turn was in my own assumptions. Raised on the edge of town and going daily back and forth to my grandparent's farm, hunting, fishing, frog gigging, hiking, walking, sitting, in the woods I had acquired knowledge I carried as part of myself without having to think about it. Hunting and fishing were important then as they still are for one reason: if you are going to hunt or fish you have to pay attention to what is going on in the woods or in the water.

Not all my knowledge was self-acquired, however. What I can now look back and recall having learned myself was a second order of knowledge. The first order of knowledge had arisen in the instruction--often the silent instruction given only in a pause along the path in the woods or a turning of the head in the corn row--of my father, grandfathers and great-grandfather, uncles I didn't know they were teaching me anything. They were the most important people in my child's world and I wanted to be like them. I walked behind them on the paths. I held the crossbeam of the plow handles and walked in the furrow behind the mule with my grandfather. When they stopped talking, I stopped talking. When they began to search the sky or trees ahead, I did too. At four or five years old, I did not know what they had heard or seen, but already they had taught me to look and listen. Soon I was doing it for myself. Scoutmasters and science teachers years later only built on what was already there.

The more I think of it, the knowledge and experience I carry is more a generational thing than a matter of gender. My grandmothers killed the chickens and taught me about blood and viscera. I watched the entrails coil about their wrists like yellow-gray snakes. I can still see the sheen of fat on their knuckles as they worked chickens into frying pieces or reduced the tubs of hog parts to useful food. Grandmother Emma's eye was a sharp as any man's for the hawk or fox around her chicken yard, and the .32 break action Smith & Wesson she carried in her apron pocket when she was in the garden or on the wood path was not carried for sentiment. She was more efficient with a hoe on copperheads around the porch than my grandfather was. I always had the sense with her that, in a way I never thought about then, she always seemed to know that something was not quite right outside and would put down her biscuits or cloth and go outside. I learned to listen for the high kree of hawks from her. How she knew the snakes were on the well deck, I never fathomed. She just seemed to know. Perhaps what she paid attention to was the silence of the other animals or a change in the bark of the dog. My aunts, her daughters, could shoot as well as their brothers, and they never had to ask a man to check a gun to see if it were loaded. They

checked for themselves. Farms were more egalitarian than we recall, and the division of labor between the house and the fields was practical and far less ideological than we can now admit.

Between that world of my childhood and that of my college students a lot has changed. The Vanderbilt students are not unusual anymore. When I asked the same question of my own class, several had seen live chickens because some of them had come to college from rural areas. But when I broadened my questions beyond the farm yard to the open fields and woods, their experience thinned. At Sewanee, we still attract many students who hunt and fish and these, young women and men alike, represent as continuing tradition of natural education. Many of these students, however, like college students across the country, come from exclusively urbanized experience and have little knowledge of anything off the edge of the pavement. Our campus is infested with deer, but many of them will still say they have never seen a deer. Many have never walked the wooded ravine path that bisects the middle of the campus. Few can identify the trees or shrubs around them. Some days as we walk the campus to "have class outside" I think I am a camp counselor again headed for the lake at midnight.

What kind of world is it we have made when our educated citizens have not seen live chickens, think cotton is still picked by hand, and have to ask "Is 'downstream' the way the water flows?" How can we expect an enlightened electorate to make good decisions about environmental issues if they have no native sense of what the parts are and how they fit together in the natural world? The more I find myself explaining in class about land, water, trees, animals, farms and forests and the general processes that link these into communities of dependency the more I think that there is not only a problem of cultural literacy confronting American education but a problem of natural literacy as well.

I learned as director of our outing program that guided wilderness hiking, canoeing and kayaking are not enough to produce natural literacy. The linear, channelized, experience of a trail or whitewater stream is not an experience of wilderness or nature. Improved, park department trails and now whitewater rivers, are intrusions into wilderness from the paved world. As often as not, the trail or river experience keeps the person from seeing things instead of allowing them to see them. Wilderness experience is powerfully distorted in the array and cost of the equipment that both makes possible access to remote areas and at the same time insulates our minds from the experience of the area. I have seen students in full catalog gear that would serve to protect them in any wilderness on earth stand on a mountain top to watch a sunrise and be unable to point to south when I told them which way we would be hiking.

This kind of natural illiteracy is dangerous both in the wilderness and in society. Of course, if they stay on the trail and follow the person ahead of them, they won't get lost. Most trails eventually go somewhere. That is not the problem. The problem is the mental cocoon that insulates their mind better than their polyfill does their bodies from the experience of what is around them. That cocoon keeps them from knowing that they are already part of the world that they stare at externally as observers. It is not just that they lack the information or lore. Knowledge can always be supplied by precept, instruction, manual, and carefully constructed experience. What they lack is the sense of already given unity with something that they do not have to deduce an external relation to. The knowledge our culture has stolen from them in the lie of the streets and houses and malls is that the world I talk about is already their world; it was

their world as birthright before they ever had to see it as something to be learned about or recovered.

American culture kidnaps its children and steals them away from their home in the natural order of things. It supplants their natural literacy as birthright with an artificial, synthetic, alien awareness that curses most of them for the rest of their lives. Sometimes I feel a great sadness for my students. The know so much and so little at the same time. I hunt and fish. I see snakes and hawks, herons and loons. I smell spoor and finger the slime on the water. And I am not the alien here. I am not the stranger in this land. The strangers are the sad children and their parents and teachers and public guardians who do not walk the land as birthsoil and who, in great delusion, think now their's is the real world. It is not. It is, of necessity, an artificial world, but it is dangerous for any culture, any society, to think that it lives to itself and apart from the blowing of the wind, the rotting of leaves, the heat of the sun, the falling of rain, or the drumming of the grouse. And it can be a dangerous thing not to know which way the water flows.

Letters to Liza[1]

I.

Dear Liza:

I have been carrying your summer letter around with me in my environmental journal, composing in my head and on this machine, fully intending to get a letter/response off to you before now. Today in the SPO was the alumni magazine with your "A Lower Education" in it, and it prompted me to get on with writing to you.

At the end of the summer letter you had inquired, "How's the fly-fishing?" Let me begin there and work my way, back upstream as it were, to the Sewanee Environmental Network (SEN, for now).

The fishing is poor to so-so. You know I fish the Timsford tailwaters of the Elk River below Winchester. [I fish other places as well, but I regard the Elk as my home stream.] When I began fishing the Elk in 1988, it was regarded as one of the great secret trout streams of Tennessee. The water was clear, there were hundreds of fish, and most importantly, the food chain in the river was ample to support the fish and hundreds of birds that zoomed over the water as well. Trout of 16-18" were common and many fish above 20" were taken. I described many of my experiences my first three years on the Elk in the journal I have enclosed. It was a rich and rewarding passage of fishing, not least because it taught me to know a river, and in knowing the river, its land and people.

Then, in the late fall of 1990, a great storm changed the Elk--and precipitated for me a new chapter in my ecological awareness. I referred to this storm in my subsequent writings as the "Great Solstice Storm." The storm--actually a powerful, but very slow moving low pressure system--made up over Mexico around the 17th or 18th of December. By the 21st it had drifted across Texas, toward Arkansas and northern Louisiana. Winter storms here, as you know, tend to track toward Memphis thence north and west of the plateau and eventually work themselves out in Kentucky, Ohio, Pennsylvania, and New York or they tend to veer around Tuscaloosa and take what I call the Birmingham-Chattanooga track. These southern storms sweep the southern part of the plateau and the southern Appalachians, working themselves out across Georgia, North Carolina, and Virginia before heading up the East Coast.

In 1990, because of a combination of a strong high pressure area over the central midwest and another low-pressure system over northern Florida, the Great Solstice Storm took a track seldom taken here. It veered east just south of Memphis and began to track slowly toward Columbia, Fayetteville, and Winchester. Somewhere between Columbia and Fayetteville, it stalled for about 30 hours, making little eastward or northern progress. The leading edge of this storm--and spin-off from the Florida low--had already caused rain across Tennessee for several days. By the 22nd, the ground was saturated and puddles were standing everywhere. Friday evening, the 22nd, it began to rain steadily about 10:00. It rained steadily, but not really hard, for the next thirty hours. We recorded 15.5" of rain.

By 10:00 a.m. Saturday, roads in the valley were under water, bridges were already being eroded by flooding streams, and water was backing up in the basement of Walsh, the new Telecommunications Center, Hamilton Hall, the Gym, Bairnwick, and in several of the dorms. I was in my truck, riding the county and the campus, taking pictures and coordinating by radio the effort to pump out the basements of university buildings. About 8 miles from here, between Monteagle and Tracy City is Payne Cove. 16+" of rain fell in Payne Cove and--more to the point--on the plateau above it. The stream in Payne Cove, like the small stream beyond Mr. Lytle's house in the Assembly, and like the stream in Abbo's Alley, is part of the tributary watershed system of the Elk River. By Saturday evening, that stream in Payne Cove was running 20 feet deep and in some places a half mile wide. The Sewanee Fire Department Mountain Rescue Team and the Sewanee EMS conducted a highwater rescue using ropes, pulleys, and baskets for the people trapped in the cove. [Chattanooga TV filmed it as our crews worked.]

The tributaries of the Elk acted as a physical multiplier of the water, channeling and concentrating--and deepening it. Hundreds and hundreds of millions of gallons flowed down the Elk, cascading into the first impoundment, Woods Reservoir. At the Woods Reservoir dam and control house, the work crew knew something was amiss. The waters rose rapidly, and before TVA clearance could be acquired to release downstream, the dam was nearly overwhelmed. The floodgates jammed and in the control house the windows broke under the tension and the dam itself surged and vibrated. Finally with the help of a commercial crane, the floodgates were raised. The resultant bore of water tore down the middle valley of the Elk sweeping over the Mill Road bridge where it drowned one man who was crossing the bridge in his truck. The bridge, which is 20 feet above the river would eventually be under nearly 8 feet of water.

This flood poured into the next impoundment, Tims Ford Reservoir. Tims Ford is a big lake, and had enough surface area to receive most of the water, but it caused the lake level to rise to within 18" of the top of the floodgates at the Tims Ford Dam. They held the water as long as they could. By Christmas Eve, it was clear that water would go over the gates and thus begin to threaten the dam itself. By the 26th, TVA had the floodgates open 9'. That does not sound like much, but it meant that a volume of water greater than the 250,000 gal. capacity of the Sewanee water tank was flowing out of the dam every second. The effect of this water was hard to understand. Afterwards, its grosser effects were apparent everywhere in the river valley: barns and houses were washed away, bridges were washed out, fields were flooded for miles to depths of 15 to 20', livestock and wildlife were swept away, roads were "un-asphalted" where the rush of the waters lifted the asphalt off the roadbed, great log jams of trees, building debris, and trash were mountained into place at the heads of islands, under bridges, and in the bends of the river, the work or some mad ecologic Caliban building a landfill of trees and limbs. On the 30th the still surging waters claimed their next victim, Jonathan Acklen, whose boat overturned at one of the places I fish. Because my truck has several emergency radios I ran the search command post until the sheriff's department could get organized. We found Jonathan about 9:30 a.m. New Year's Day 1991.

The smaller effects of the flood were harder to see, but to a biologist or an angler were just as real, and in certain ways more important. In the weeks and months after the flood I made hundreds of photos of the Elk River valley from Paynes Cove far down the river below Tims Ford, and I walked the banks and fields below the dam [which for a while were covered with hundreds of thousands of large and small fish displaced by the flood and then trapped when the waters finally went down]. Since then, I have continued to study the river, and now--eighteen months afterward--as the waters have begun to clear and flow cold again, I have explored the bottom and re-learned the river by wading. The smaller effects of the flood are many and they interact in a synergistic and complex way. I will try to sort some of them out as best I can, and then try to relate this to the SEN and your letter to me.

First, flood waters are violent and have unbelievable force and do great damage. [I found places where boulders the size of beachballs were lodged 5 or 6' off the ground in the forks of trees!] Flood waters are also muddy [this is not just a hydrologic truism, but an ecological/environmental problem as well]. Just a few hours into the Great Solstice Storm, every stream in the valley of Franklin County was running brown with the soil and silt being eroded from the land. Now this erosion, even in "century" storms is a natural phenomenon and not to be lamented. However, the siltation in the streams and river and in the lake was not natural because of the abuse of land that has occurred all across the Elk watershed. During the summer and fall of 1990 in particular it seemed as if a frenzy of bulldozing had overtaken the local valley farmers. Tens of miles of fencerows and hedges and half-lanes were bulldozed, shoved into piles and burned. By the 1990 solstice the edges of the fields were raw, unprotected earth sores. In the storm, these fields eroded rapidly and the ditches ran red with soil and the lake was silted in for month after month.

This silt has numerous effects: it's removal physically destroys the land, it fills and chokes all tributary streams, it fills in the lake bed, it adds 'color' to the water of the reservoir, it brings with it the nutrients and chemicals that have been sprayed on roads, lawns, and fields, and it "shocks"

the watercourse and the lake--that is, it creates a sudden change in the water chemistry of the lake and river, smothering some life forms, buffering some chemical reactions, altering others, changing the pH of the streams and river, and favoring certain phytoplankton. The silt also alters the light regimen of the lake water, and has some effect upon temperature. The result, whether in the little tributary streams, in the edges of the lake, or in the river, is that the normal reproductive processes and the prevailing ecologic balance of species is upset.

The violence of the floodwaters--"spate" is the stream hydrologists' term [see Hynes, *The Ecology of Running Waters*]--also has another effect besides eroding the land and carrying silt, debris and trash into the watersystem. The hydraulic vortex created by the floodgates not only lifted plates of limestone rock out of the streambed and tossed them into the air, but scoured and plowed as effectively as any bulldozer the entire streambed below the dam. The gravel and sand substrate of the grass, moss, and algae beds was overturned--as if by a plow--so that rock that was on the bottom of the river fill was rolled over, shoved downstream and eventually ended up now on top of the fill. Sometimes the vertical displacement of the bottom was as much as 5'. The micro-invertebrates living in the upper 1" of the bottom fill were utterly destroyed in the main course of the river. On the Elk, the spate of the Great Solstice Storm severed the food chain, swept away the fish, and smothered the bottom in silt.

Without adequate phyto/zoo plankton, the rotifers and associated grazers have no food, without rotifers and their sort, the caddisfly and mayfly larvae have no food, without caddisflies and mayflies the trout have no food. [The relationships here are both more numerous and more complexly interrelated, but you understand the significance of foodchains.] Neither do the birds and spiders that feed on the hatching insects have any food. I caught very few fish in 1991. Although I keep almost no fish, I occasionally keep a few to share/study: often I give the fish to Mr. Lytle who likes trout and I give the gut to Dr. Yeatman who sorts and types the gut content for me. In 1991 most of the trout on the Elk had thin, shrunken bellies, and the gut content was algae and snails. Very few birds zoomed the waters, and the spiderwebs along the bank held very few mayflies.

Rivers do not quickly recover from spates, particularly once-in-a-century floods. Ordinary 10 to 25 year-type storms may require 3 to 5 years of recovery on a river. I knew the 1990 flood had hurt the Elk, but just as we thought we were going into a recovery, another storm in late November-early December 1991 dumped another 15 inches of rain across the watershed. Fortunately the rainfall of the 1991 storm occurred over about 60 hours instead of 30, so the erosive effects were not so violent on the land. The lake refilled, however, and the floodgates again had to be opened, re-scouring the riverbottom just as it appeared recovery was beginning. I am now beginning to find mayfly

larvae well downstream from the dam, and I occasionally see a few flying as I fish. The great trout fishery of the Elk River has been destroyed, however. The fish are gone, despite the hatchery stocking. After the initial stocking of hatchery rainbow in April-May of this year, I caught only one other rainbow trout all summer. The food chain and water conditions--chemical balance, temperature, grass beds--required for the trout to survive, grow, and carry over are just not there.

Throughout 1991 and now into 1992 and I took my photos and as I walked the fields and banks, I have tried to understand this flood event on the Elk and to try to see it from the bottom of the streambed where I fish back up to the top of the river and its banks and then back upstream to where it originated. Part, not all certainly, but a real part, of the destruction of the Elk where I fish was caused by Sewanee, in particular by the University of the South. The Domain, of course, occupies only a fraction of the total watershed area of the Elk River, but that fraction is significant to me for two reasons. First, all the developed areas of the watershed contribute more pollution to the river than equal areas of non-developed watershed. This is true not only with respect to rates of "natural" erosion but also with respect to the amounts of nutrients, pollutants, etc, that the unit sub-area contributes to the watershed.

The Sewanee fraction of the Elk watershed is significant for a second reason: it is that fraction of the watershed occupied and owned by the University of the South: an enlightened and concerned liberal arts school in the Christian tradition with a first rate science program, department of natural resources, and producer of students like you. It is also a school lost in a romantic, anti-agrarian dreamworld that has not equipped its own students with the education necessary to let them understand the pollution of the Elk River watershed that begins on the Quad and under the eaves of their dormitory windows. Where do we suppose the silt in Boiling Fork Creek [along the highway to Cowan] comes from? What happens to the chemicals that we spray on the grass in the cracks of the sidewalk in front of Walsh so that Sewanee won't look seedy when its alums return? What happens to the excess nitrogen and phosphates in the fertilizer that we dump on the Manigault lawn? What happens to the breakdown or decomposition products that we spray on the ivy of the Chapel to "control" insects? What happens to the lawnmower/leafblower exhaust fumes that are ejected into the air when the lawns are kept neatly mowed?

Where did the silt from the excavation and backfill of Clement Chen Hall go in 1990 because the contractor was not required to put up silt fencing while that house was built? [It ran down North Carolina Avenue, past Cleveland Dorm, past my house, into the feeder stream of Abbo's Alley, thence into Miller Cove, Boiling Fork Creek, thence into Tims Ford Lake and the Elk River.] And where is the silt now smothering Abbo's Alley stream coming from and going as we begin another major construction project without silt fencing [see enclosed photos]? My point is not to find fault with Sewanee, much less to accuse particular administrators. [Please! Do not dash off a letter of attack against the administration. See below.] The point rather, is that our dear Sewanee is no more a solution to the environmental problems of America or Franklin County than is the Hamilton Place Shopping Mall in Chattanooga. In fact, it is the same kind of problem as that mall: it occupies a watershed niche without responsibility and without accountability. It is not that certain people have "abused" Sewanee, less even that certain people are evil. Not that at all. Every person in the faculty and administration I talk to is interested in, concerned about, the general problem of environmental eduatation and ethical environmental behavior--yet they do not see the specific ramifications of the problem in the very domain they administer--or teach about.

I am sorry to put it this way, but this is what I think: Sewanee's "lower education" is the naive sentiment of tree huggers and grass humpers who do not understand what is going on. Sewanee is not the solution. Sewanee is the problem [locally, but also globally because the naive views acquired here are carried--as you correctly understand--with our graduates when they leave and

thus Sewanee "education" continues to have effect far beyond the domain in the places her students live, work, and carry on making micro-environmental decisions like those modeled for them on the domain in their years here.]

Liza: please do not mis-understand me here. This is not an attack upon you, for you seem to me to be the exception that proves the general observation I make here--but then I do not expect you to come back and tell me how nice you think the campus looks. The nice looks have been bought at an ecological/environmental cost. We must have some grass, even do some spraying. I think the Physical Plant Services people who supervise these activities do their jobs conscientiously and competently; I am not attacking them. But why does a university, that has managed a 10,000 acre tract for 130 years, have to be criticized for failing to exercise responsible watershed management? Why is that 10,000 acre forest we tout so often as the essence of Arcadia--"a city set on a hill in a wood"--mostly composed of trash trees and is, with one small exception in Thumping Dick Cove, almost without value to me in explaining land-people relations in the South? Why in the name of the Lord of Creation should this institution at this point in the 20th century have yet to discover silt fences? Why isn't the domain as a tract of land, and the University as the manager of it, the example among examples in American higher education of responsible land management, recycling, resource management, and environmental education?

Why isn't that so? I think at this point our tradition, because of its romantic view of greeness, has betrayed us. Sewanee needs to learn how to see the land we live on and needs to learn how, in peace and responsibility, to live on it. [Read Psalm 65:9-13, KJV]

I am delighted with you and your work. I am grateful for your giving me the occasion to write and to put some of these things in a kind of order. Thank you for your patience in reading all this. I have enclosed drafts of some of my writings. I think you can see how some of my ideas began to form and the subsequent shape they have taken. Read "Lanes" if nothing else. You will have to skip up and down a bit in the "Reflections" draft.

I think what Sewanee needs now--and where I think the SEN can help a lot--is an environmental policy. I think this policy needs to be formulated according to the parameters I suggest in the attached document [see 341 Appendices, "Policy"], and then it needs to be adopted so as to have the same status as our lease, housing, drug, or personnel policies: that is, it should become a specific administrative policy guideline [not a set of rules and regulations] for how we view, educate about, and ultimately manage this land treasure we hold.

SMITH

II.

Liza:

It was a delight to see you over the weekend and to learn face-to-face of you and Gilmer. That is a matter of much delight as well. Also, I got the brochure. It is an attractive piece. Your note, particularly the query ["Does the University recycle?"]from Virginia Otley, prompts me to write. I feel that I should caution you about me and my ideas.

Let's begin this way: If Virginia asked me that question, I would have replied, "Unfortunately, yes." Now what does that mean? Does it mean that I am some anti-environmental, closet Quayleite supporting corporate abuse? That I am indifferent to the problem of waste? No. It doesn't mean any of those things. It does mean that I do not think the University is very environmentally aware, that it has not done much in the way of systematic thinking about the relation between its institutional/corporate character and its local environment nor about the relation between its Statement of Purpose and curriculum and the environment. [Having a department of natural resources doesn't, in this case, count--George Ramseur and Harry Yeatman have probably influenced more students and the general public more on environmental issues than all the rest of us put together.] In many ways, in my view, the life of the university--as it is practiced in the management of the Domain, in its marketing of liberal education to a narrow economic niche, and in its tolerance for a now-defunct set of social values which continue to set the social [and derivatively the ethical] agenda not only of out-of-class life but of the university's vision of itself and what it is about--is out of touch with its own enviromental disorder, with the global environmental crisis and our relation to it, and it is out of touch with the kinds of changes in the lives of its graduates that have already begun to shift the character of alumni concern away from the traditional socializing: to wit--the Sewanee Environmental Network, the several emerging women's caucuses that have organized to work for change in the representation of women in the life of the university, the powerful shift of religious interest in the direction of "pentecostal-type" expressions. Recycling enables the University and its students to think they really are doing something good for the environment when in fact they fail to see the larger systems and global causes of environmental problems which our "commitment to recycling" has not touched at all--but which we are unable to recognize because by recycling we think we are doing the very thing we are unable to see we are not doing.

Does the University recycle? Have you noticed how the material you get from Public Relations has that neat little "Printed on Recycled Paper" image on it? Do we now have bins in our offices for excess/waste xerox paper? Yes. At the SPO? Yes. But consider this: with the advent of the Apple/Macintosh system--which ought to be a means of reducing paper usage--paper usage has skyrocketed [truly exponential growth in the use of paper]. Is the xerox paper recycled? Yes, much of it. Does that make it ok? NO. NO. NO. With the introduction of the Macintoshes, the capacity of students to blitz the SPO with announcement is staggering--literally--for the workmen who have to haul off the barrels of waste generated each week in the SPO. Some days the SPO floor is dangerous because it is a tile floor and it is covered in a carpet of SPO notices that students neither bother to read nor to drop in one of the recycling bins--they just rake the stuff out of their box, save their good mail and let the rest fall to the floor. We introduced Macintosh, a campus-wide computer network [Angel Net], and an integrated campus phone system--but did we offset paper consumption by installing easy access terminals in the hallways to check the daily calendar? No. The daily/weekly calendar is printed and stuffed in the SPO boxes. [There is a public user information service, but it functions like a reference book, not like a daily newspaper.] Did we, in introducing this technology, supply the additional technology for campus wide E-mail? No. We have an E-mail system, but it is mostly administrative & faculty. In short, we did not approach nor use the new technology as a way of reducing paper usage, but as a way of facilitating printing of what we write. Did we invest enough money in the hardware so that students can do more and more assignments that are paper free? No. We do not yet have a single classroom [including the computer lab] that is designed for paper free instruction; we are

about to turn the corner on the 21st Century and our faculty is still discussing the way to make better use of chalkboards, the merits of whiteboards vs. chalkboards, etc. I think I am the only person concerned to have a HUMANITIES-located, fully networked, integrated media classroom--paper free--for instruction. [Jesus Christ! I am a religion teacher. Where are the rest of these people when it comes to computer technology??] Committed as I am to reduction of paper use, it is still hard to manage that on this campus. [And why are not you and I exchanging all of this over BITNET or COMPUSERVE? Why is it not yet as easy for me to use a modem as it is to use a printer?--think this: Why not a Sewanee electronic bulletin board so we can access, from Wytheville and Seattle and New York, all manner of current university information--from the electronic SEN newsletter to copies of syllabi to current calendars, lectures, articles by profs, etc.?? Space and place mean nothing--network is everything. Why not use the networks to keep Sewanee together? Think about Gore's support for national fiber-optic information highways.]

Consider this: we still have classes where the students are required to subscribe to a newspaper--WSJ or NYT. This makes a mockery of any commitment to recycling. But, you say, can't those newspapers be recycled, aren't they recycled? Yes, yes. That is the problem. Those newspapers should not be printed or purchased; certainly students should not be encouraged to buy them. The future, the environmental future, does not belong to newspapers--nor to magazines. [Gilmer: The *Purple* is a crime against nature! Why not a paper-free *Purple* published entirely on the campus network?]

Understand where I am coming from here [and see relevant passages in the Environmental Journal]--RECYCLING IS THE PROBLEM, NOT THE SOLUTION.

Do we have recycling in the dorms? Yes. Two students--Tim Wahlers and Julia Sibley--put together the original program. [These two students were real stars in their concern for the community nature of this place, and they were religion majors.] They needed a faculty sponsor to get student government funding. I agreed to be faculty sponsor--but I stated my strong reservations about recycling. The group Waste Not was created and "funded". In the next year, Waste Not began dorm recycling: cardboard boxes in the stairwells: "Paper" "Bottles" "Cans"--"Please Recycle". There was paper collected. University workers--that is, the economic bottom of the scale in the University--collected the cans; their can collection worked better than anything. By the middle of the first year, the boxes were trashbins. Roaches had infected the dorms and safety had become a problem. After two dormitory hallway fires, I, acting as fire marshal, banned all containers in the hallways and stairwells. A committee was formed to study the problem, new collection bins were selected, and I mapped each dorm to locate the bins in a safe place. Now there is a moderately well-functioning program working in the dorms that is coordinated with office recycling programs, and it is largely staffed by student volunteers and the university supports it by designating custodians time and vehicles to move the recyclables to the recycling center. I was part of this. I assisted it, and I am--as I have told every person I have worked with--opposed to it.

I am opposed to it for two reasons: first, all recycling is bad--immoral--economics. It presupposes and validates a culture of waste and asks volunteers to subscribe the cost of the external dis-economies of the corporations that generate the waste and reap the profits. Second, all recycling is psychologically deceptive--it makes people think that they are doing something

good, when in fact they are simply perpetuating the system that causes the need for recycling in the first place. The point is not whether recycling works, not whether a community can attain a 50% or 75% recycling rate, not whether some people of very good intent are into recycling. Recycling is not the point. Waste is the point. I know that the "in" expression is "Reduce, Re-use, Recycle", but the commercial/production agenda of the developed world is not oriented to reduction. It is oriented to production--which means that re-use and recycle are the only means for dealing with corporate ruin of resources. Recycling mentality then merely extends, endorses, perpetuates that corporate culture of ruin and exploitation. The only reason we need to deal with the problem of aluminum cans in our dormitories is that we allow them there in the first place--in fact, by administrative consent, encourage them to be there even to the point of compromising the fire safety of certain dorms in order to make space for private vendors to install vending machines. Why?

It is time for America, for the university, to move morally beyond its endorsement of and abetting of the cola addiction of America. Liza, I am not naive. I know that when I speak of cola addiction, people usually think that I am simply a nutty professor and they smile or laugh. It is the nature of the systems/conceptual disorder of our culture of acquisition that it is very difficult--in a consumer society driven by production-consumption-advertising--to raise consciousness about things that radically challenge our way of life. Things such as newspapers, mail, containers. But we MUST re-think all these things, and we must stop giving in to the prevailing conditions. Twenty-five years ago, no one would have thought that we could envision a smoke-free America. We are not there yet, but we now have smoke free flights, smoke-free malls in some cities, smoke free offices, etc. It is possible to imagine that we will have no newspapers, a national "thing" deposit system, even that we will produce a generation of children who are not cola addicted. [The health & social costs recovered if we could wean Americans from colas, cigarettes, candy, and alcohol would fund both all our schools and all the environmental cleaning up we would ever need to do.] [Think also of this: in some Latin American areas, the social forms associated with the drinking of cola beverages--specifically Coca Cola--lead to levels of cola consumption which displace more than half of the monetary (non-produce) income of the village/town males each year. In the face of the poverty of these villages, the advertising that has led to their social addiction to colas is ruinous. The cola industry is as bad as the tobacco industry. Why should we abet it by making it more economical for them to acquire beverage containers while assuming the cost of waste management for them ourselves?]

Think new thoughts.

Yes, Virginia, Sewanee is into recycling--and it spends more money in staff salaries cleaning up the campus--where these Sewanee students have thrown their trash under every bush and on every lawn and in every parking lot and in every hall way--than it spends on recycling. Sewanee student--love them as I do--are a trashy lot, because they come from an indulgent culture of trash: they mirror the values of the society that produced them. A few years ago, I was on a consulting visit to another college to evaluate its philosophy and religion programs. This college, like Sewanee, had a large campus [thousands of acres], but unlike Sewanee was not so academically sound nor so well funded. I was on their campus for several days and on one day was driven--at my request--over the whole campus: every street, backroad, and fire lane. As we drove, I kept a running tally of the pieces of trash--some paper, some cans--that I saw. I counted-

-on a tract twice the size of Sewanee's 10,000 acres--29 pieces of trash. When I got back to Sewanee, I began to make the same survey, but quickly gave it up. I found over half that many pieces of trash on the site of Fulford Hall, then the residence of the Vice-Chancellor. Now, I am sure that that campus I visited had more than 29 pieces of trash on it; I am equally sure that I have never been on another quality campus that has as much trash on it as Sewanee. You don't see much of it--that is because we now have regular grounds crew rotations early in the mornings, including weekends, to pick it up so you won't have to see it [we both hide the trash from ourselves as well as the costs of our endorsement of the American beverage packaging industry--this is why I am opposed to and will not any longer support or participate in "clean-ups" along the roadside].

Last Mardi Gras season, I was driving past Elliott Dorm. I saw two girls dressed up and loading their car to leave for New Orleans. As they put their trip clothes in the back seat of their BMW, they removed the contents of two wasted six packs--and simply threw them on to the front lawn of Elliott. These were not "Tennessee Trash"--they were Sewanee's prettiest and they gave no mind whatever to disposing of their trash right on to the lawn--completely confident as they well could be that it would be picked up by their indulgent university. Were these women typical? No. Not at all. Most students don't trash--at least not quite that way, but if you drive the campus early on weekend mornings, you will find more trash here than I have ever seen on another campus. [Why don't we have a universal--American--beverage container that is standardized across the nation--not the damn stupid Sierra cup--but a real workable container recognized by all bulk beverage dispensing businesses, a kind of Hardee's special mug, but one that is national? Why don't we--instead of using so many plastic cups and cans--[if we are going to have kegs] have a Sewanee cup given to all students when they enter to be used at Gailor, parties, etc.?] Recycling will never cure a culture that thinks it is alright to waste and trash in the first place. Sewanee in this regard is simply as American as--well, a coke can.

What does all of this come to? Only this. I think I can say that I am a concerned environmentalist, but I must also say that my concern is seldom symmetric with the current popular causes. When I talk to you or my students, you may like some of my ideas and my talk, but the actions that arise from those ideas are not always what current environmentalists expect or assume. I am at the point where I am less and less attracted to lost causes whether traditional or contemporary--and I think many environmental causes--especially recycling--are lost causes. I am almost daily worrying the limits of my mind to reconcile my upbringing with my vision of the future and to think in effective ways about the nature of our global crisis and of effective measures that might be taken. Right now, my mind is such that I do not think many of the environmental "actions" are anything but delusions in the face of our problems. [Buying and setting aside land-as per the land trust--is about the only environmental action that makes sense to me right now.]

Sometimes, when I say things like this, my students accuse me of "not wanting to try" or "giving up" or of "despairing". I accept none of those criticisms. America needs to know that even if recycling works, it doesn't work. I am not being cynical if I recognize that and try to envision something beyond it. Nor do I think any longer that, well even if it doesn't solve the problems you are talking about, it doesn't do any harm and it might make people think about the environment. It does do harm. Most of our environmental concern arises from real, legitimate

issues BUT is then expressed as nonsense. Then we begin to think the nonsense is helping when it is fatally delaying the responses we need to make, and it is fatally deceiving us from undertaking the critique of our culture necessary if that culture--in a transformed mode--is to survive. We need to educate our children, our students, our people differently--and that needed education is not about the benefits of recycling.

Several things are enclosed:

the environmental journal

a working draft of an essay on Battle Creek

my letter last summer to Julia Sibley who queried me on several issues

Real Indians and Smoky Mountains

Purple Butterflies

I hope you enjoy them. [all of this is made possible, of course, by the miracle of the Macintosh--and recycled paper.]

Please do not think you must respond. I am happy if you read the pieces eventually and think about them. Nor do I expect or even anticipate that you will agree with me so don't worry about that.

You may quote any of these things for the Newsletter. I only ask that you be careful to indicate context and intention--and just to recognize in literary terms that not all of what I write has the same value.

SMITH

III.

Liza

One more missive and I will have gotten most of what I want to tell you out of my system.

I did not attend the meeting of the land trust when it was organized in Sewanee that Sunday afternoon. I went fishing instead. I deliberately did not attend and I would like to indicate why. It connects with rivers, but it involves more than that. All the week before I had planned to come to the organizational meeting, but when the Messenger came out the Thursday before and I began to learn some of the local people involved, I decided not to attend. Most of those local people I know. Some of them for a very long time. Some of them are friends and some of them I have worked with on many public service projects here in Sewanee. With some of them I have shared experiences and knowledge of mountains and rivers, cliffs and caves, woods and birds. So why didn't I attend?

I didn't attend because my experience over the last decade or so has caused me more and more to reserve my affiliation with many of the interest groups I once supported or was interested in. I found that all too often--and I mean most of the time--when I was with many of these people that they often talked about or were concerned about the same issues I was concerned about--pollution of our rivers, waste of resources, denial of access to public resources by structures of power, and so on. But I also found out some other things. I found out that many of the people who were concerned about the environment were issues activists, that they had a very short list of approved people, issues, and actions--and, what troubled me the most, a very long list of disapproved people, issues, and actions. I found that I could express my concern about management of the university forest and we would agree, but if I let it slip that I had voted for Bush or owned a hand gun or opposed roadside cleanups, then the conversation became awkward, people looked away, and the immediate social order dissolved so as to un-include me. It was ok for me to agree with the problem of excess paving and its effect on runoff in Sewanee, but not for me to say that I thought it was fine for each student to have a car. It seems that if I was against more pavement or for better pavement management, I had also to be against cars. I could be for waste reduction, but since I am opposed to aluminum recycling--again, I was out in the cold. It seemed that if I were to be part of the "action" I had to agree in advance to an agenda and set of issues that I was not and am not prepared to agree to.

Let me give you an example. On balance I am opposed to clear cutting for chip mills, but not because they involve clearcutting, but because even with the so-called "best management practices" I don't trust the American fiber or timber industry not to abuse the land where they cut/chip, and I know that the greed driven industries that have ruined the south will ruin more of the south and that the result will be--immediately--more ruined waters from siltation and other runoff. At the same time, I accept the argument that most of the forest proposed for clearcutting/chipping is not better suited for anything else--since it has, like the Domain, like most of Tennessee, like most of the original deciduous forest of the South, already been destroyed by multiple high grade cuttings that have left millions of acres of waste trees that take up enough sunlight in the canopy to make what children and fools think is a forest but that is not now and never will be healthy, and in any case in no way resembles the original form or mix of the forests that once grew in this region. Clear cutting and chipping--particularly on large areas of the Domain--[this is the vilest heresy] is the only thing that will restore a natural forest to this area--but it will require a natural reforestation and succession [the area cleared cannot be exclusively managed for poplar and locust except where that is the natural succession on the site]--as would have taken place after a large forest fire--and it must totally exclude all intrusive, alien softwoods, and it will take approximately 100 to 150 years to bear fruit. Clearcutting and chipping will not be the worst thing that ever happened to the Domain or the South or Tennessee; the worst thing that ever happened has already happened--it was called white settlement. It destroyed a native people, it ruined and made extinct several species of game animals, it wasted the remaining game, ruined the land and soils, and destroyed the world's last remaining upland deciduous forest. We have come to accept it as perfectly normal only because we do not understand what was here before.

Let Gilbert Imlay, c.1792, say it: "The land on the waters of Tennessee and Cumberland rivers is generally well timbered. In some places there are glades of rich land without timber; but these are not frequent nor large. The general growth is poplar, hickory, black-walnut, buck-eye, or the

horse-chestnut, sycamore, locust, and sugar-maple. The under growth, in many places, is cane 15 or 20 feet high, so close together, as to exclude all other plants; where the cane does not abound, we find red-bud, wild-plum, spice-wood, red and white mulberry, ginseng, Virginia and Seneca snake-root, angelica, sweet anise, ginger, and wild-hops. The glades are covered with clover, wild-rye, buffalo-grass, and pea vine. On the hills, at the heads of rivers, we find stately red cedars; many of these trees are four feet in diameter, and forty feet clear of limbs. In those hills there is abundance of iron-ore, lead-ore, and coals. Copperas and alum fit for use have been gathered in caves near Nashville." *Topographical Description of North America* (London, 1797), p. 41. Even when we allow for the surveyor's exaggeration, Imlay is describing a world none of us have ever seen. I have never seen a red cedar as he describes. I don't think he was exaggerating, however. Consider a more recent account from eastern Kentucky as given in Caudill's *Night Comes to the Cumberlands*. Caudill cites one deed that had the following terms: "that for and in consideration of the sum of $20,000, the grantor hereby bargains, sells, grants, and conveys unto the grantee 40,000 poplar and whiteoak trees, each of said trees to measure not less than 30 inches in diameter under the bark, stump high, measuring three feet above the ground, without fire damage or blemish..." [Caudill also recounts a whiteoak tree that was cut and sawed square for shipment to England in 1912 that was 36 inches on the side and 42 feet long. (pp. 63-64)] There are very few whiteoak trees of this description on the domain--the only ones in fact are on the Quad. All the rest have been cut--decades ago. The "nature" in this case we are trying to preserve is rather analogous to trying to preserve an old garbage dump because the trees that are left are exactly analogous to garbage: they are left behind because they are waste trees that no one wanted. Though they have in the intervening half-century acquired some value, we are fools to pretend that they somehow represent "nature" in general nor especially that they somehow represent something worthy of preservation because they are a last remnant of an old forest not yet destroyed by development. The only reason I can think of not to cut them and start over is that we could never do it right so it is best to leave it alone--though we seem to have trouble doing even that.

I support the concept of a land trust for the Sewanee area, not so much for the quality of the forest it will preserve, but because it will put land out of the reach of cutting and thereby protect the critical watershed areas I am interested in. Even waste trees of the wrong type have roots and if left alone can protect hills, soils, drainages, and contribute to quality waters. Sewanee sits astride three watersheds I study: the Elk, Battle Creek, and Crow Creek. During this past summer a watershed/water quality controversy arose that you may be familiar with because it involved some of the people who are in the land trust group. One day in the Sewanee *Messenger* there was a planted front page story on the Tracy City project to dam Fiery Gizzard Creek. The story had been submitted by the SOCM crowd and it took me a while to figure out that they were talking about a dam on the creek north of the Tracy City highway; their rhetoric in the article made it seem as if the creek was about to be dammed in the gorge itself. In the weeks that followed there was additional material in the messenger--a letter from a Tracy City resident, from local friends of Fiery Gizzard, and from a person involved in the survey of Tracy City's water supply. I don't think I exaggerate to say that the SOCM position was that building the dam would be not only unnecessary [which I agree] but an environmental disaster, albeit on a small scale. Here was another issue requiring action: it seemed clear that if one was to be in conversation with SOCM, there was only one position that was tenable--you had to be opposed to the dam.

On general principles, I am opposed to all dams. I certainly do not want to see this one built, but if it is built, it probably will do as much good as harm. Why? Most of the people who get wrought up about Fiery Gizzard Creek know it from the upper middle end. That is, they don't pay much attention to it until it passes the highway and falls off the bluff. The Gizzard falls and surrounding natural area is a gem and should be protected. I agree. But what about the quality of the total watershed from end to end? What about the strip mines on the upper end? Did the people who oppose the dam raise the issue of those mines--or of the effects of runoff and siltation on the creek? Did they indicate in their opposition to the dam that the dam would virtually stop siltation in the lower stream course? No. All Dams Are Bad. If you see a good in a dam, you are bad. These enthusiasts hue and cry to save Fiery Gizzard, but the dam may actually be an element in saving it--at least with respect to water quality downstream. Did they raise the issue of siltation? No. All dams are bad. Did they consider the impact of septic tanks in the Fiery Gizzard Estates now developing south of Tracy City and the fact that this runoff will negatively impact the creek as much as the dam? No. Did SOCM go into the lower creek after the 1991 flood and look at the effects of poverty on trash dispersal along the stream? No. The dam is a good image issue. Real water quality is a much more complex issue. SOCM has many good people, and they know much that needs to be known, but they are, in my opinion, no more balanced in their approach to complex issues than the other sides they are always lining up against. Fiery Gizzard is one of three large tributaries of Battle Creek. The others are the upper Battle Creek drainage itself and Sweetens Creek. Did the land trust people talk about the relation between the Ladd Cove drainage of Battle Creek and the Domain--and the problem with the dam there? Why not? SOCM has come out against the Fiery Gizzard dam. Have they taken an equally active role for the residents of Ladd Cove? Now I don't want to blame SOCM. The issues here exceed even their range of interest. My point is that these issues are complex, they are connected across large areas, and they will not be resolved by taking "action". At the very least, environmental action groups need the honesty of accepting and indicating the complexity of the problems that confront us.

A few weeks ago I was talking to a friend and fellow flyfisherman in Chattanooga who is active in Trout Unlimited (in some ways I regard him as one of the leading and most involved environmentalists in Chattanooga). He had recently pulled out of the movement against the woodchip mills--not because he wants the mills, not because he did not recognize the damage likely to be done by them--no. He pulled out because he said he no longer trusted the environmentalists he had to work with any more than he did the woodchip companies. I could understand his feeling. It was the way I began to feel years ago as my environmental conscience quickened and as I found it more and more difficult to find people to talk to who did not expect me to endorse their issues agendas. [You will see some of this frustration articulated in the journal.]

So what I have come to is this: I will write--but generally not for magazines--only for my students, friends, and books. [There are zillions of tons of magazines in landfills--but very few books. In my dump surveys, I almost never find books. Books are still taken seriously; magazines and newspapers are not.] I will teach. But I will not go to meetings, sign simple-minded petitions, or recycle without protest. I will support the land trust, contribute to it when I can, but I won't act on issues. One of the people involved in the Fiery Gizzard discussion was my friend, Herman Bagenstoss, of Tracy City. He is pro-dam, anti-SOCM. I am anti-dam [really],

but pro-Herman. Will he benefit because he owns property adjacent to the pond to be created by the dam? Yes. Does he want to destroy Fiery Gizzard? I don't think so. Herman is the only person I can talk to about the lower and upper courses of these streams. Am I expected to believe that a man that still talks about a 7# rainbow trout he caught in Fiery Gizzard Creek wants to destroy it because he is pro-dam? I don't believe it. I don't happen to agree with him on this, but neither do I agree with SOCM. Our problem is not the dam. Our problem is the issues oriented disjunction of our society that has made it impossible for these good people to work together--whether on the quality of Fiery Gizzard or the Domain or the Hiwassee or any other environmental problem.

I am beyond issues. That's me. I don't know where I am going, but I have some strong ideas about where I am not going. I'll write. I'll listen. We can talk.

SMITH

IV.

Liza (#IV, I think):

I wrote somewhere else that to be is finally to belong. All being is the incarnation of mutual otherness we call community. [Read Buber's I and Thou; it is the <u>one!</u> piece of theology I read] I can make community with them. Mono-communities are not communities--not in faculties or classrooms or neighborhoods. Good communities--and good community organizations--survive their diversity; in fact, become good communities doing all kinds of new, different, needed things because of their diversity which is a resource for their creativity. Diversity is energy which can be expressed as friction or creation--or friction and creation. The trick/wisdom is to find ways to use the heat of friction to fuel creation and not burn it down. When we work with people, we are playing with fire; sometimes we get burned; sometimes we make smores and sing songs. What is already significant about SEN/Land Trust is that it exists, not that we all agree. We don't want Sewanee or UofS or SEN to be only one thing for one group of people. You have a great heart and vision and you taught me and I learned with joy. Thank you. As I read, I kept having this mix of christmas + cummings (ee) echoes. The joy, peace, love--good news--of christmas and all of cummings patient, loving, wonder at the creation with all its warts and weals. [cummings was a great environmentalist, but fortunately is not seen as such and continues to have good influence all over the place: do you remember "I thank you god for most this amazing day and for the leaping greenly spirits of trees...?"].

Your excerpting is fine. I would leave in the plankton/grazers passage. I want people to be kept thinking about the food chain at its most obscure level.

Resist the temptation to make too much of me. I write and talk a lot and take up a lot of space, but the other voices need to sing too.

peace

you and gilmer make babies soon. I may just get to teach them before I retire.

smith

V.

Liza:

I don't quite know where I am, but part of me at least is in Sewanee. I am here for the duration--today we just finished three weeks of Humanities workshop, Sunday we begin Summer School, and then Summer Seminar. It has been a busy time lately. There has been a bit of sickness [Pat's mother and mine], and a lot of busy-work Sewanee foolishness [which I love nonetheless] like Trustees and Commencement on back-to-back weekends. Also there is Alicia--now 8# @ 7 weeks. Miriam's child. Born on an infinite blue sky day of April 19th. Something of a distraction from fishing--although I have taken her in the truck to the river twice. She already likes the river. [I am typing with her on my left shoulder now--slows down the typing a bit.]

I have been thinking about you all a lot. I am working on several pieces, but nothing has much shape yet. My new course, "Religious Ecology" [or some such title] will be offered Spring '94. I am looking forward to it and reading all kinds of stuff old and new. I can't recall everything I have sent you, so there may be some duplicates in this batch. "Snag Ecology" is new. I wrote it after attending my first meeting of the Tennessee Rivers Assessment group with Doug C. That group is fun--although, as with any government or academic group, inclined to specialist reductions that fragments the whole and so does not fully understand what Polanyi called the "comprehensive entity" that is the gestalt of our integration of fragments into meaning.

mkv kvkovopjhviukm fuyvknb m kn bkkllkfvhu8folfy9 [Alicia's first mac-gram]

I am still seeking a voice or mode. The point is not to despair but to understand. But understanding is not a conclusion, interpretation, deduction. It arises from being-as-belonging. Insights arise dolphin-like and then disappear. We do not live by wit, but by grace and love.

It is so hard to know what to do anymore. When I was younger it all seemed much simpler: do a good turn daily. Be prepared. God and Country. A scout is trustworthy, loyal, helpful, friendly, courteous, kind, obedient, cheerful, thrifty, brave, clean, and reverent. I can still say it after forty years. I grew up in a small town of good scouts and girls who took home economics where they taught sewing and cooking. After the prom and graduation, you got married, got a job, rented an apartment, made babies. I had to look up Malaya and Thailand and Vietnam in an atlas; I had never heard of them. Now I can never forget them. My daddy worked in a paper mill. We never heard of or thought about pollution. Was the world more innocent back then? No. Were we naive? No. The focus was different. And the scale was different. In those days, good turns could make a difference--there was still less than one phone or car or radio per household and the butcher still delivered. Most of the produce was fresh and there were nine small markets in my childhood neighborhood. When there was a problem--trash, a family in need, a natural disaster--we all worked together: usually shoulder-to-shoulder and most of the work was heaving and shoving.

Today, there are six phones in my house, I am listening to Alicia on a "baby beeper" in another room from me, there are three radios in my truck and when something happens I may be coordinating up to 20 different public emergency agencies on 12 different channels. Now I don't hold firehoses or climb ladders; more often than not, I am on the radio with an EPA rep about whether we can use water on an oil leak without flushing it into a watershed. Today the "volunteers" on any project are sometimes but frequently not neighbors--they may as often be out-of-state people who are networked by a common interest rather than a common life. And today whenever we work shoulder-to-shoulder, my best management sense tells me we are doing something wrong.

Did the world become evil? No. At some point between 1960 and 1980 it just reached a critical mass of complexity that was no longer amenable to local effort. Most of us, however, carry on as if boy scout morality and dutiful girls in cooking classes will see us through. They won't. Knowing that they won't is not, however, a cause for despair nor especially is it a conclusion arrived at on the basis of cynicism. The hardest thing I have to do is to "decry" the folly of good causes without giving my students cause to quit or collapse into despair. There is much to decry; we must never despair. All our projects are doomed. The transformation of the world will not cease. At 36 or 48 billion people nothing of the world you or I know will remain. The entire globe including Antarctica will look like Belgium, Tokyo, or Mexico City. The rainforest along with the Siberian taiga will be gone. There will be no open spaces, no free flowing streams; little or no grass. We must prepare now for that world as we must prepare now for a world of 12 billion which will happen in your lifetime. Alicia will bear children in a very different Tennessee from the one I live in.

In the end, we must believe in each other not in our projects. Projects and causes are a rage against community, denying what they would affirm, keeping us from what we must be and do. In knowing all our projects are doomed, I find a very great freedom. Bonhoffer said we were a world come of age and must seek to formulate a "religionless" Christianity, a new way of Christ free of dogma, historicism, bad faith. If we are also come of age ecologically, we must formulate a causeless environmentalism--an ecology that begins as human ecology and studies economics and ethics and sociology before it ever looks at a stream or landfill. The time has come for us to look beyond the environment to a global suburb that will house and feed all people. No environmental program--no cause--will ever work as long as there is a society where some people are rich enough to throw their cans out the window and some people are poor enough to want them to. All [I have said this before]--ALL--environmental problems are the direct product of two interwoven things: greed and need.

Conservation begins with two bullets--one for the surplus and one for the liberal; environmentalism begins with two bullets--one for the rich and one for the environmentalist.

You need despair only when you cease to believe that we can live in peace on the earth, feed, clothe, heal, and shelter all people. We can do it. We can do it. If we had spent the hundreds of trillions of dollars we spent on the arms race from 1940 to 1990, we could have had food for all, universal education, universal--global--healthcare-----and we could have done it on a sustainable yield basis with appropriate infrastructure, technology and low environmental impact. Tobacco is a $47 BILLION per year industry--exclusive of the related costs of cancer, air filtration, fires:

1000 people die in the US every day from health problems related to smoking: we are looking at a national madness that consumes capital in excess of $100 billion per year. There is nothing you or I or any Somali or Russian could desire for health or the environment that could not be purchased with that kind of money. When we add alcohol and its effects to those of war and tobacco, the economic scale is stunning. One year's cost of war, alcohol, tobacco, would fund every thing the environmental movement has attempted or fought for in this century. The money was there; it is there. I do not despair because I believe in our capacity to manage for a common good, but such management means a great re-direction in national priorities.

Two interesting comments at the Summer Seminar (I) last week: Bran introduced me as a "naturalist"--I was honored to be so designated; a participant [who did not like what I had to say about farmers and soil management] accused me of thinking as I did because I was a professor! I wonder what he had expected.

I am enclosing several pieces--for your enjoyment, etc. The "God and the Land" piece is in process and will be re-worked again. [The footnote apparatus is [as you can see] a mess.] A couple of them I may have sent before; I suppose I should keep track, but I don't.

SMITH

VI.

Dear Liza, et alia:

"Leases taken of every available locality"

Curious how so many things come together at once. I spent yesterday on the computer working on a part of my essay about the natural history of Abbo's Alley, musing from time to time on SEN and whether I had missed the last newsletter, and in my writing on Abbo's Alley I was re-reading the Proceedings of the Board of Trustees for 1882-89. And today the Newsletter arrived! "Network News" brought the problems of development on the Domain into focus yet again for me.

Like Bran Potter, I have been involved in a variety of ways with the general issue of Domain land use as well as with several specific issues such as TVA right of way clearance, landfill and garbage disposal, cleanups, and recycling. I served on committees of the original [and abortive] land use/campus plan of the eighties; and served both on the steering committee and the outdoor recreation committee of the most recent land use study. In addition, I learned much of my local ecology from the classes and labs of people like George Ramseur, Harry Yeatman, and Henry Smith. These teachers were my first mentors in the natural history and ecology of the Cumberland Plateau.

Over nearly twenty-five years, I have seen a lot change around Sewanee. When I first came to the Domain, the forest cover of the central campus was much more dense than it now is--on the golf course one could hardly see from fairway to fairway and seldom did balls go so far astray as to be played from the next fairway over. [Today, of course, Manigault Park and the Quad are far

more sunny--with lawns in constant need of mowing--and the fairway margins of the golf course now hold only token trees where once were dense rows.] In the late 60's most of the lesser streets and roads were unpaved and the only curbing was along University Avenue. The only dorm with a paved parking lot was Courts. Up through the 1980's, most leaf gathering was done with rakes and tarps, not with power blowers and monster vacuums. It was a more ragged [and quieter!] world and the edges were not neatly trimmed.

Sewanee entered the 1990's striving to be neat and clean even while the sentiments of many Americans and some alums were turning against the environmentally devastating aesthetic of neatness in lawns and walkways. [See *Redesigning the American Lawn*] Once again, it seemed as if we were caught at cross purposes in our own good intentions. Proud and growing, we wanted Sewanee to be pretty, yet we knew something was beginning to be wrong in Arcadia, in the city set in a wood on a hill. The wood frankly was not well. Too many of our trees were lost. Years of high-grading left us a poor and weakened forest excessively vulnerable to natural events like the ice storm of 1985. Worse though, our seventy-five year obsession with mowing had left us--in the core campus, at least--with an inverted bell curve of young/old tree distribution: a lot of recently planted young trees standing under 250 year-old oaks about to die. Soon the old trees of the Quad and its contiguous areas will die, the canopy will open further, more grass will need to be mowed while we wait five decades for those saplings to reach young middle age. Our spate of mowing-without-planting killed the middle of the curve, and Sewanee folks will pay for it for two or three generations yet to come.

We lately discovered we are also choked with cars and face the absurdity not only of having 70+% of our students maintaining at least one car apiece on campus, but in actually using those cars to drive from Johnson Dorm to Walsh Hall; from Cleveland Dorm to the Chapel. I suppose I would not have minded the cars and the curbs and the paving so much if we had ever given any attention to the erosive and polluting impact of runoff. Where does the storm water go that flushes our parking lot drippings? Not once in my eleven years on the Lease Committee nor in my work on several land use committees did I ever find this issue addressed.

And as the Domain became more attractive to retirees, affluent alums, and friends of Sewanee fleeing the dysfunctional cities, the Domain fell under the irreversible spiral of rising property values and static faculty salaries that began the core/periphery transformation of Sewanee like that at most every other college across the country. So great was the interest that available leaseholds could not keep up with demand and the new word we quickly learned was "development". This was the operative, driving concept of the last land use study. We were told that if we did not plan for it, it would happen anyway without planning. We were told that we needed "affordable housing" which seemed as much a way of trying to justify housing market expansion in terms of the needs of lower income families as it was a reflection of real need. The realtor-driven expansionist rhetoric led to a fatal acquiescence of university and community alike in the inevitability of development.

Much evidence of the inevitable was already around us. Cliff Tops, Deep Woods and Jump Off had already begun development supported in part by the [now] highly questionable extension of water services to areas where the capital costs of installation quickly exceeded the economic carrying capacity. The ecologic question of carrying capacity--i.e., of the capacity of the

environment to supply water and its capacity to absorb waste in relation to population load--was never asked: we were all quickly assured that there was plenty of water,"Sewanee didn't have a water problem", that the "system would pay for itself" for the "foreseeable future." Rattlesnake Springs was developed, and then Sherwood Estates, then Laurel Brae. All these folks wanted fire, police, and EMS protection--along with other quasi-municipal amenities; they wanted, even expected and demanded these services, yet did not participate in the lease fee system that supported the cost of such services. In town, Oak Hill developed and was quickly filled, followed by Carpenter Circle. The dynamic of escalating housing costs, outside buyers, lagging faculty salaries, and University administrative support for development intensified.

Environmental/ecological questions about development have notably conspicuous by their absence. In reference to the steadily expanding numbers of student cars, more than one administrator had said: "Sewanee has plenty of land, we can build parking lots." Laurel Brae was a more difficult case. Strong pressure from the community of realtors, an alumnus, and internally from within the administration was applied to the members of the Lease Committee and to the University Forester to approve a new road which would bisect a largely unbroken tract of University woodland instead of utilizing a portion of an existing roadway which would leave the forest tract intact. Despite the detailing of environmental objections, a single individual executed the contract for easement and the road was built. We were told that "developers have rights too." Bill Davis and I had never argued against the development, only the location of the access road, but our position was construed as "unreasonable" and our environmental concerns dismissed as without warrant by persons having no knowledge whatsoever of the environmental issues.

Sewanee approaches the end of the Twentieth Century poised for greater expansion and development than it has seen since the transition from log to stone buildings a hundred years ago. Our national image apparently requires it and, more tellingly, market and demographic forces both internal and intrinsic to Sewanee as well as external pressures compel this development. Educational and support programs are growing and along with them professional and support personnel are expanding while at the same time enrollments in both the College and School of Theology are rising. Faculty housing remains in short supply and seminary student housing is at a near-crisis stage. Already market pressures and other forces are driving faculty away from the core campus residential zone, and faculty along with some students have begun to occupy residences not only in Monteagle but also in the valley, including Cowan and Winchester and beyond. For about a decade we have seen the slow emergence of a group of commuters in the Sewanee area--people living in Sewanee, Midway, Jump Off, etc.--who commute each day from the mountain to work or schooling in places such as Chattanooga, Huntsville, McMinnville, Smyrna, and Nashville. Recently a new twist has begun to develop in this commuting pattern: Sewanee full-time faculty living off the mountain who now commute to Sewanee to teach their classes.

Since 1969 extended tracts of woodland have been cleared along the highway to Monteagle, along the Jump Off Road to the crest of the plateau above South Pittsburg, and the slow sprawl of housing--and the demand for infrastructure--continues to grow all around the Domain. The Sewanee Summit/Cedar Mountain development located just below the rim of the plateau beyond the University boundary at the end of the Breakfield Road continues to pressure the University for a road connection. [A water line has already been extended through the fire lanes to supply

this development.] The eventual building of the Nissan plant [to be located between the foot of Lands End Ridge and the outskirts of Decherd] and the proposed Lake Cheston area development will put almost irresistible pressure upon the University to approve a road connection from the Breakfield Road to Sewanee Summit. The joining of these two areas by continuous roadway will not only cause the university the loss of control of access to the forest, but will impel continuing housing development between Lake Cheston and Sewanee Summit.

Unfortunately so much of what is now happening is exactly what the Founders' envisioned and desired when the land of the Domain was acquired. Consider the 1886 comments of George R. Fairbanks:

The founders of the University, those grand, wise and sagacious men, Bishops Polk, Otey, Elliott, Cobbs, Green and others, had in their minds a definite plan and system. The securing of a domain of ten thousand acres was the foundation of their plans. They wished room enough upon which to build their University buildings without restriction as to the area to be occupied. They set apart a campus of one thousand acres as a Reserve for this purpose. This Reserve was destined primarily for the University buildings, Professors' houses, and boarding houses connected therewith. Outside of the Reserve, the domain was expected to be occupied by Church families. Distance was not regarded, because the class of residents who would be expected to erect residences for summer homes necessarily belonged to the same class who always, at their homes, provide themselves with conveyances for use and pleasure. It was anticipated "that a time not distant would come," when, in the language of Bishop elliott, "this whole plateau would be covered over with villas and cottages and watering places, and would teem with the most refined society of the South and West."

They believed that the domain of the University, if managed with a prudent forecast, would create at no distant day a secure endowment, ever increasing in value; leases taken of every available locality, and a large and refined society, brought together here from all parts of the South, homogenous in sentiment, centering around these halls of learning, interested in and advancing this great work.

It was not the purpose to build up a town, but a large sylvan population, where every home should be surrounded with the leafy shades of the primeval forests, mingling the wildness of nature with the improvements of man, and placed upon wooded knolls, with meandering paths upon their gentle slopes, or on bold summits presenting distant scenes of unsurpassed beauty, rich valleys and a boundless horizon stretching far away into purple hued cloudlands, where clouds and sky are undistinguishable.

They realized the advantages which this magnificent plateau presented for such a development. Its absolute healthfulness, its pure freestone water supply, its admirable building stone,its accessibility by railway and common roads, the abundant region surrounding it, "with milk and honey blessed," as well as everything needful at moderate cost.[2]

Bishop Elliott's vision of the "whole plateau...covered over with villas and cottages and watering places" unfortunately has inspired and sustained a potential for development that may now ruin the treasure of the Domain which the Founders in simpler times thought so desirable to exploit. Neither Fairbanks nor

Elliott--nor the others if we may trust Fairbanks account--envisioned the Domain with a need for vast greenways or conservation reserves, and they were not opposed to bluff sites for houses. They saw--in terms as specific and realistic as those of any contemporary realtor or developer--a capital asset in the land of the Domain which could be exchanged for a continuing flow of liquid capital and at the same time provide a pleasant ambience teeming "with the most refined society of the South and West." They envisioned a "large and refined society" living upon "leases taken of every available locality." The Founders called this concept development and neither the concept nor the term is any different today. Unfortunately, in this case, past is precedent with a vengeance which may unravel the tradition built upon it.

Unfortunately also, the University has now managed to put into place a comprehensive land use plan without at the same time setting or approving any environmental policy by which to assess, approve, or monitor the development of its Domain. We should note carefully: *the land use plan is a plan for the use of land; it is not an environmental policy. It is a development plan, not an environmental plan.* I participated in the formulation of the land use plan because I believed it was needed to guide--not determine in advance--the developmental decisions which would face the University in the 1990's and beyond. As a general developmental plan, it is a good plan--BUT it is not an environmental policy or plan and it does not insure that those things which may become either inevitable or desirable will be achieved in ways that are environmentally sound or ecologically wise. As a planning instrument, it possesses good characteristics--it is systematic, comprehensive, flexible, detailed. According to this plan, good arguments can be developed by the administration for the development of the Lake Cheston perimeter for housing, but there is nothing in the plan--nor in any other existing university policy--that will protect Lake Cheston and the nearby sensitive ravine waterways from pollution by construction siltation or lawn nutrient runoff. There is nothing in the plan that evaluates the factors of biological diversity or habitat diversity and their intrinsic value or their value to the educational program of the University nor how these will be impacted by this or any other development.[3]

The land use plan is not the end but the beginning of the challenge we face. The university still must formulate a thorough, systematic, environmental plan to ground its land use plan. If it does not, we risk the certain consequences of environmentally unsound actions taken by people of good will who do not know what they are doing. I am in favor of the primary constituencies of Sewanee--composed much along the lines of the steering committee of the land use plan--coming together to formulate and recommend an environmental plan for the Domain.[4] I would see such an instrument, however, in strongly positive rather than negative terms: that is, it should guide us in how to accomplish what we want to do rather than serve as a perennial objection against doing anything at all. Ultimately, the environmental plan should grow out of the Statement of Purpose and give environmental form to the more general moral sensibility that Statement embodies. The environmental plan then would serve not only to protect us from short-term abuses and exploitations but would also serve as the basis of a positive model of environmental management for the University. In conjunction with the land use plan the environmental plan could allow the University to assume a position of leadership in environmental education. I hope for the day when managers and university administrators and environmental scientists and landscape architects and developers will come here and see what we have done and be able to say with us: Ecce Quam Bonum. Behold How Good.

Gerald L. Smith

Sewanee

November 1993

[1]"Liza" is a former student of mine and a founder of the Sewanee Environmental Network [SEN]. She and her husband Bill Gilmer live in Wytheville, Virginia where they publish the *Sewanee Environmental Newsletter* in which excerpts from these letters have appeared.

[2]Fairbanks was a lay trustee from the Diocese of Florida. In 1886 he was the last remaining of the original or founding trustees. In the Proceeding of the Board of Trustees of that year his memorial, "The Plans of the Founders of the University" was inserted into the minutes. See *University of the South Papers, Series B, No. 25. Proceedings of the Board of Trustees*, 1886, pp. 61-70. The section quoted here is found at pages 66-67. Interestingly, for all his support of development, Fairbanks was much ahead of his time in his concern for the abuse of the forest cover and the loss of so many trees to careless cutting; he was especially sensitive to the effects of the loss of forest and understory cover upon water quality and the potential of the soil to sustain sanitary processes [which was the original reason for large 2 to 4 acre lease sites].

[3]There is, for instance, no existing inventory of plant or animal species that would indicate which animals are locally threatened or where they are located or what their habitat requirements are. Black bears have re-entered the Domain beyond Lake Cheston. Where do bears or cougars or ruffed grouse or the amphibians of the green-tree ponds fit in to our development plans? Where do nuisance animals such as beavers, skunks, coyotes, and timber rattlers fit into these plans. What is our management plan for the whitetail deer which has become a near-nuisance animal on the Domain? The large "conservation reserves" of the land use plan apparently protect big enough areas for some species, but is there a need for "micro-reserves" within the areas proposed for development?

[4]This plan must include a full assessment of Domain bio-diversity, wildlife inventory, and habitat assessment conducted in detail by professionals to serve as a base line for the future. Currently, for instance, there is no accurate inventory of whitetail numbers. It is ecologically unwise and, I believe morally wrong, to develop land and not ask what impact that development will have on wildlife, plants, and natural waters.

Ecology

The nature of nature is a matter of science.

The meaning and use of nature is a matter of religion. [1]

Religion is concerned with the use and meaning of nature, not the nature of nature.

Religion cannot tell science what nature is. Science cannot tell religion what nature means.

The limit of technology is set by the nature of nature. The goal or purpose of technology cannot exceed its limit, but the goal is set by religion [i.e., by culture] not by science.

Ecology is the nature of nature considered as an entire system.

Environment is used nature [i.e., applied ecology] and therefore falls in the realm of religion or culture. Scientists cannot tell us what to do with or about the environment; they can only describe the ecology which is the limit or basis of the environment. All environments are nature-as-used and therefore fall under the realm of goals and values, hence within the domain of religion-as-culture.

Ecology is a science; environmentalism is a branch of cultural studies and requires different analytic tools.

Ecology as the system of nature-as-nature has intrinsic internal principles and limits, but it leaves open the boundary conditions which are determined [set] by the next higher lever of use, the environment. Environment leaves open boundary conditions which are determined by the next higher level of use, society--and so on: society by culture; culture by religion.

Evangelical fervor--to redeem or save or alter--must be directed at people, not at trees; i.e., at culture, society, or environment, not a nature. Ecology is a bad vehicle for religious motives to express themselves.

Footnotes:

1. The term 'religion' is used here in the academic sense of Tillich, Geertz, Bellah, and others to mean the comprehensive meaning system of a culture and as such includes disciplines such as philosophy, theology, economics, politics, and sociology among others. Note carefully that this approach to religion is neither conventional nor well understood by most Americans.

Sewanee Needs an Environmental Policy

Sewanee/The University of the South needs an environmental platform--formal policy statement--for its environmental guidance and usage decisions. We now have in the University formal policy statements governing leases, faculty employment and tenure, staff employment, student life, drug and substance abuse, sexual harassment, and racial discrimination. We also have a formal policy statement on HIV infection. If the university and its larger community wants to express its concern for environmental issues, it needs to have an environmental policy [or platform] no less formal than its policy statements in other areas. This policy statement should be debated by all university constituencies including faculty, students, staff, Sewanee community, alumni, and Domain neighbors. The policy should, in the broadest terms, have the following characteristics: it should be based in the creation theology of the Judaeo-Christian tradition; it should be global in its awareness; and it should be thoroughly systems oriented in its design.

Creation Theology

The University has a specific heritage in the Christian tradition and the full resources of this tradition for environmental understanding and morality should be invoked as a resource for our environmental thinking. The Judaeo-Christian tradition, despite misguided criticisms of its "dominion over nature" element, represents a powerful resource of global potential for developing an adequate environmental and resource management policy for the future. Sewanee could lead the way among universities and schools of theology in developing this resource *in conjunction with the actual management of a large tract of complex land.*

Global

All environmental, resources, pollution and population thinking today must be global in its frame of reference. Any group doing environmental thinking that does not see its work in relation to problems of the rest of the world is simply elitist. The global perspective is necessary because the problems we address are in fact global, but also because our educational philosophy must escape the limits of all parochialism in its vision of the human condition and the mission of the faith.

Systems Oriented

Most environmentalism fails because it does not see or understand the full systems nature of all environmental problems. Environmental systems thinking means we must see problems of waste disposal, ground water pollution, garbage, toxic chemicals, and automobiles as social, economic, political, educational, and moral problems of immediate relevance and global connection. No one can, in good conscience nor in good systems order, address trash on the roadside or recycling unless and until the problem of Appalachian poverty has been addressed; it is patently absurd to have "cleanup" days on the mountain highway and not also have an educational campaign to teach children better ways; absurd to recycle third class mail and not be politically active to have it banned by congressional act; absurd to recycle xerox paper in our offices and not restructure our forms of administrative communication that require so many copies.

P.S.

Post-Christian natural theology [contemporary pantheism & nature mysticism] are not enough. Only when environmentalism becomes liberation theology will it cease to be romantic bullshit.

Some thoughts on technology

A system is an organization of energy or information consisting of nodes, relations, and a network. A node is any concentration of energy or information. A relation is a flow of energy or information between two or more nodes. A network is the set of relations and nodes of a given system. There can be different kinds of systems; each system is distinguished by the specific

content of its information or its energy flow. For practical purposes systems can sometimes be treated independently, but in terms of the ultimate energy flow that is the basis of all systems, all systems are interconnected and interdependent. Systems may be simple or complex: in simple systems, the number of nodes and their relations are finite and directly measurable; in complex systems, the number nodes and value of relations may not be fully knowable or measurable. The science of statistics is used to measure complex systems. A systems analyst discloses and describes the nodes and relations of a network; a systems manager monitors, adds, removes, and alters nodes and relations and the network array of a system in order to attain a goal. A goal is a desired configuration of a system. Technology is the manipulation of a system in order to attain a goal.

All tools and machines belong in the realm of used objects; technology is not about objects but about systems: systems are a different kind of human invention, because they are not about the organization of physical material [i.e., shaping wood into a handle, stone into a blade, smelting ore into metal, casting metal into a machine], but about the organization of human relations into orders of information and energy based upon external characteristics [i.e., markets, populations, species, genders, races, classes, groups, societies, cultures, organizations, institutions, crafts, guilds, armies, economies, wards, precincts, denominations, nations, etc.]

Both tools and machines are used objects--the difference is that a tool is an extension of a human limb [hand (hatchet) or foot (spade)], where a machine is a used object too large to be used as the extension of a human limb: a log rolled across a stream to make a bridge is a machine. Some machines are small [logs, steps, ladders, cross-cut saws] while some are very big: shuttle rockets, oil platforms, marine dredges, aircraft carriers, strip-mine coal scoops]. Tools and machines manipulate, shape, alter, move materials. Technology manipulates system relations in order to attain goals. Technology is not about tools and machines: it is not about objects or collections of objects, but about relations. The only way to talk about technology is to talk about the forms of human relations.

Human relations can be based upon three things: affection, consent, and power. Affection is not an efficient basis of large-scale human relations because it requires unstable hierarchies of information [old friends, falling in love, nurture and care] to effect social ordering. Power has certain short term efficiencies [i.e. a curfew that forces rioters off the streets; economic power that raises the cost of gasoline to drive down consumption or abate pollution], but in the long terms power is too costly because it also requires excess information input [management hierarchy] and because it generates excess waste: either as social dysfunction [anger, rebellion] or waste/pollution. Some applications of power generate both social dysfunction and waste [war, industrial manufacturing, third world debt].

The most efficient form of relation is consent. Consent is the outcome of mutually perceived common good. Technology succeeds when it engenders participation in a common good; it fails when it destroys or lessens the common good. Community is the traditional life form of people who perceive themselves to be related through a common good. The way to evaluate technology is not to group objects into a "+" and "--" list of good and bad [evil], i.e., GOOD--pencils, pens,

forks, spoons, rakes, shovels, stethoscopes, etc.; EVIL--guns, knives, cars, tractors, plastic utensils, imported sandals, calculators, TVs, computers, etc. All such lists have too little information for decisional management and when extended become self-contradictory. Technology should be evaluated in terms of its impact upon the life forms of the common good: does the technology promote the common good and participation in it or does the technology diminish or lessen the common good? The pyramid machine was bad technology; the Southeast Indian fur trade was bad technology. TV and computers and phones are good technology.

Technology is our capacity to lessen common labor or increase efficiency by the creation of a form of human relation that transcends--exceeds--our capacity to use tools or build machines; technology is our capacity to manipulate relations between nodes of energy or information in a network. Two people carrying a log is technology [the *log* is not technology; it is a machine]. A man using a hoe is using a tool; the hoe is *not* technology: the garden he uses it in [gardening] is the technology. The garden is simply a local [however stylized] form of agriculture. Agriculture is a vegetable/plant systems technology. It is the way a group of people [agriculturists, planters, farmers] have organized themselves to use certain aspects of the natural world [seeds, soil, light] to promote the common good by lessening effort [working together or by using a group concept such as hilled crops or laid rows] and increasing efficiency [boosting yield, generating and storing surplus].

Instead of talking so much about the evils of technology--and especially the evils of objects such as tools and machines--we should be talking instead about the common good: what promotes it, what lessens it. Technologies which lessen the common good--usually because they involve too much power--are bad: shooting flies with a shotgun, aborting babies because we will not do education or prevention, fighting wars to sublimate the effects of male hormonal surplus. Some technologies lessen the common good by generating too much waste: pulp paper processing, internal combustion engines, sugar cane farming, beef production, etc.

Some technologies can be good and then become bad; that is, at one time promote the common good and then at another time lessen it: when there were no other media, newspapers [=pulp-based-information-distribution-system] were once good technology; now they are not. Now they consume too many resources needed for other purposes and generate too much waste in production and consumption. Now we have media which can more efficiently replace the informational distribution needs of global society; newspapers are environmentally costly and so diminish the common good instead of promoting it.

In relation to the common good, every technology can be measured by the simple question, "Is it neighborly?" Technologies that make the water undrinkable, make the air smell bad or make people sick, technologies that poison the land and food or wipe out species are un-neighborly: they lessen the common good. The "common good" is not static, however. The common good of Greek shepherds or yeoman farmers or Niger spear-fishermen, or Masai lion hunters is not necessarily the common good for the descendants of those people today [however much we may be attached to their activities on the basis of our affection for folk ways]. The common good evolves--and in that evolution--transforms how nature is seen and used by the community of common good.

Freedom is our capacity to choose what we hold in common; it is not in our right to impose our choice on others. Democracy is one political expression of the common good. There can be trans-democratic political forms that also express the common good: rice paddy allotment by councils of village elders in Southeast Asia. Town meeting democracy is an old political technology; TV media democracy is a new political democracy which is more efficient: "More Americans get their news from ABC than from any other source." More Americans are exposed to the chronology of American history at Disneyworld than in the curriculum of American public schools. American commitment to town meeting democracy once promoted but now lessens the common good that transcends small towns. Regions, nations, the globe, cannot act as a town meeting democracy: we cannot wait for every little hamlet to vote against chloro-fluro carbons to save the ozone. Regulatory bureaucracy is a more effective technology than local political participation. Statistical market sampling is a more efficient means of shaping legislative political decision than the "will of the people."

The best way to rule [change, improve, alter] the world--to attain alternative system goals--is to change channels. The best technology is the information system that can motivate large populations at that point at which they control the button on the channel selector. Sesame Street has long since become more important than Mom or Apple Pie. Disney was a first order technocrat--information systems manager--because he understood sooner and better than any other person in the twentieth century the importance of packaging information for wide, effortless consumption. His success can be measured in the American attitudes which are more pro-Bambi than pro-baby. Disney understood what few Americans yet understand: technology is not about tools and machines; it is about information systems.

Benson said we needed to talk about technology. The problem with technology is not that there is some evil inherent in any technology; it is rather that any technology can and most likely will be downwardly transformed by sin. All technologies are subject to distortion by sin. The problem then as ever is not with technology but with people--with the nature of community and of responsible spiritual citizenship. The failure of technology is not a failure of machines but a failure to use the gifts of God for the people of God.

Lanes

...Now the light falls
Across the open field, 1eaving the deep lane
Shuttered with branches, dark in the afternoon,
Where you lean against a bank while a van passes,
And the deep lane insists on the direction
Into the village, in the electric heat
Hypnotized...

T. S. Eliot, "East Coker"

When I was a child in the 1940's, the term the old people used for a narrow road was a 'lane'. Some routes in the country were called roads like the Plank Road and the Telegraph Road, and

generally roads were wider and were paved. The wider width of the paved roads was denoted by referring to them as "two lane" roads thus preserving the older term in the newer form. Most of the other roads were narrower and, in those days in the Virginia countryside, were unpaved; if they were paved the paving was of the tar-and-gravel sort, not hot-mix asphalt. Many of the unpaved roads were called lanes. Lanes were roads with a double corridor of trees along them. Some of them wound along for miles between farms while others were shorter leading from the road "out front" up to the farm house set on the hill back from the road. I remember being a little fearful sometimes toward dusk as we drove to my grandparents' house because the lane to their house seemed like a darkening tunnel. In the heat of summer, these lanes were always cooler because of the thick canopy of trees over them. This canopy bordered the the lanes even in the "open" countryside so that often you could not see directly into the fields from the lane. Some of the oldest lanes had worn well below the surface of the surrounding fields and had large trees in their edges. Occasionally, the lane was interrupted by a turn out so that access could be made to the fields, and from time to time there were wider places where cars-or wagons-could pull aside to allow another to pass. In the winter, the banked edges of the lanes protected the road from wind-driven snow.

This border of the lanes contained many types of trees-oaks, hickories, maple, sweetgum, elm-below which was a middle story of dogwood, sourwood, sasafras, and sometimes chinquapin. The understory closed the edge and the line of sight to the fields with briar, honeysuckle, sumac, blackberry, old rose, and many shrubs and weeds. There were also cedars, young and old, in the edges and occasional mulberry trees. Probably no other thirty foot wide strip could be found that contained the diversity of fauna and flora contained in and along these lanes. The lanes were the richest corridors of birds I have ever known. Sparrows, robins, cardinals, wrens, blackbirds, thrashers, thrushes, mockingbirds, jays, tits, woodpeckers abounded. If the lane were walked on the outside, on the field edge instead of in the lane itself, quail and rabbits could be encountered.

Although roads are always intrusions in the original wilderness, the lanes created a derivative ecosystem that arose in the wake of felling the forests and clearing the land. Lanes are then entirely artificial, but in this artificiality was a fortuitous circumstance. Lanes evolved in conjunction with the clearing of the land and the erection of fences as edges doubly defined by their inner boundary as the edge of a road and by their outer margin as the edge of a field. The lanes thus generated four miles of edge for each linear mile of passage. In time as weeds grew and birds nested, trees grew or sprouted along the lanes. The lanes became wind shelters as well as barriers to erosion, and a cycle of growth and enrichment began that would persist until the days of convict road crews and bushhogs. No richer environment existed anywhere for the small animals-from the shrews, mice, hoppers, beetles, and snakes at the bottom to the large and small birds, to the groundhogs, rabbits, and skunks, to the hawks and foxes that worked the outer edges of the lanes. My earliest lessons in wildlife observation took place along these lanes, and I now see that the root of my sense of wildlife ecology also began there. Today the lanes are mostly gone.

The lane at Garner's Ford on the Elk River is perhaps 150 years old-if I judge correctly from a 36" Chestnut Oak I found growing in its edge. The lane may be older than that because settlers were already establishing mills on the streams and creeks around this area by about 1820, and before the lane ever started to form, the fields had to be cleared and the road defined between

them. The great oak had come later when a row or hedge had already begun to form and offered shelter to the sprouting plant from browsing cattle or sheep. Although the lane runs straight down the hill for more than a half mile, the tree, brush, grass, and root array keeps it from eroding. Mudholes will form in the lane, but with its canopy, banked edges, and crosslaid roots, the lane is a self-protecting whole. Rain and wash as well as wind and drought are part of its life. It works as it is supposed to, even as an artificial intrusion upon the land. The fifteen inches of rain that fell on the winter solstice did not erode the lane, while nearby paved roads were washed away and gullies were cut fifteen feet deep in some places. And of all the places along the river, it changed least; in fact, it did not change at all. At the foot of the lane at Carson's camp the flood damage is obvious; it can be directly pointed to in the washed away cabin, broken trees, and trash and leaf deposits. In the lane, however, it would be hard to infer that any major weather event had occurred. Today I counted more than two dozen species of trees in this lane. The canopy, limbs, trunks, and roots of these trees hold the lane together and shelter road, soil, banks, plants and animals from the direct impact of rain drops. The lane holds together and grows. It does not erode. It protects itself but it also protects the land around it by acting as a windbreak and erosion barrier.

The farmers could learn a lot from the old lanes. In this season of now six months of storm after storm, of low pressure areas, "upper air disturbances," stalled coldfronts, and cloudbursts that have flooded the lake time after time and produced scouring surges in the streams and Elk river, most of the problem of water quality in the lake and the river derives not from the volume of water but from the silt. The rivers and streams can handle the rain. What is killing the river is not the weather but the farmers. With each storm-with each storm-the streams run red with ruin and thousands of tons of silt and gravel are washed into the ditches, then into streams and the lake and river. Tonight as I write 5" of rain has fallen between here and Chattanooga, 51/2" fell at Tims Ford Dam. Last Tuesday a single storm produced 4" here, the week before 31/2". Because it has been a wet spring, many farmers have been late making their hay or plowing. Most of these heavy rains have fallen on raw, newly plowed fields. But the flelds are plowed to the edges of the ditches, and with the least rain the ditches run red.

The American farmer has lost his native sense of soil. And in doing so he has ceased to be a farmer. While he loved the soil, he was a farmer and adversity and calamity only made him a victim-someone deserving sympathy and the immediate aid of neighbors to put things right again. When he ceased to love the soil itself for the life it holds, he ceased to be a farmer. He became a miner or industrialist and joined the ranks of spoilers, wasters, and polluters. Now he is not victim but culprit. He has become the enemy. A man who bulldozes every fencerow on his place, who obliterates without trace the lanes that guard his fields, who scrapes the earth down to mineral along his road, tills straight downhill and does not contour or berm or leave grass in his runoff channels, who plants edge to edge, and when he plants puts in a government supported cash crop is not a farmer. He is a fool. Between the farmers, the politicians and bureaucrats, and the experts our land has been overrun by an army of fools. Add to them the fifth column of bankers, brokers, and developers and the land does not have a chance. I am not a farmer but I know this: no man can be a farmer and throw his land in the ditch.

One day as Bob Benson and I drove along looking at the effects of the heavy rains on fields and on the lake, I said to him, "Wouldn't you have thought that the combination of farm pride,

American know-how, and traditional frugality, along with Christian piety and biblical stewardship-all of them things familiar to Southern farmers-that all of these taken together would have produced a sense of natural stewardship of the land?" Benson said, "No. It's a fallen world." Perhaps I have not been willing to accept the universality of the biblical indictment. Naively, I had thought that America might be going to hell, but that farmers still stood for the good things, that of all people left, they alone would understand the maxim, "Waste not, want not." I think I have been trying to understand contemporary farmers on the basis of nostalgia: I had viewed them because of their age, because of their ownership of farms, as I had viewed farms and farmers in my childhood. But that was a different world.

It wasn't that long ago, but we plowed with mules more often than we did with a tractor. We still used oil lamps and an icebox. We did not use bulldozers or bush-hogs or chain saws. Winter wood was cut with axe and crosscut saw. Tall grass and weeds we cut with sickle and scythe. I now realize that what guided us was the need not to waste; then I just believed my grandfathers: "Waste not; want not." "Everything will come in [i.e., should not be thrown away but will be useful again] in seven years." And the grandmother who said in simple declaration, "Waste is a sin." We kept a nail bucket. Any bent nail and all nails out of old planks went into the nail bucket. When you needed a nail, you got a nail out of the nail bucket and hammered it straight on the anvil. We weeded and picked by hand. Neither the guts nor the manure of animals was thrown away. We didn't clear our fence-rows or level our lanes-and the creek didn't run muddy. It is not that way anymore. I had attributed to the farmers natural wisdom and piety. I now realize that I know more than these farmers do. They know a new and different kind of farming. A farming of cash flows, hundred weights, pre-emergence herbicides, antifungal baths, air-conditioned tractors, bar-code ear tags, fat-to-lean ratio feeding schedules, futures trading, toll free numbers, brokerage fees, and most of all, ruined land. These farmers have performed the ultimate futures trading: they have committed to produce at a later date and cannot answer the call. They have traded their own futures, not just grain futures, and they are bankrupt. Aldo Leopold saw where such farms were headed fifty years ago when he observed: "... rivers washing our futures into the sea."

These new farmers trouble me. They are older; their wisdom should flow to me. They should be my teachers. They are rural. I am city. Their life is of the soil. It is authentic. Mine is derivative. And now I am saddened and angered. I cannot go home again. The home in the land I knew is far away and long ago. It is past. It does not survive on the farms, only in my memories. The world is upside down. The ruinage of modernity has taken the farms and the farmers too. Where is natural wisdom if not in the soil, if not in the farmers' life? Where are our teachers if not the people of the land? Where is our hope if not in the land itself? The land is lost and we are lost with it. I would have said to my children and my students, "See, here is wisdom. Look to the land. Now look there; that is folly. Shun the streets." The streets perhaps have always been folly, but now folly claims the land as well, and the strong brown god of river carries away soil and men alike.

"Do not let me hear
Of the wisdom of old men," Eliot said,
"...but rather of their folly,

Their fear of fear, their fear of possession,
Of belonging to another, or to others, or to God.
The only wisdom we can hope to acquire
Is the wisdom of humility: humility is endless."

Perhaps it is, after all, as simple as that. We have lost desperately and need the wisdom of humility. There is no wisdom in knowledge or experience, and no science, no ecology, can hope to exceed pride. The only wisdom is the capacity not ours to receive by being ourselves transformed the gift given. Only humility senses deeper than knowledge the gift is never our own to claim or hold. The land is never ours. It was bought with prices that our contracts cannot measure. Nor can we devolve it. The land owns itself. What we pass on is our pride or the gift of others. The land is not an environment nor a problem needing to be solved. The land needs from us only humility before the gift of the past, past carried in the soil where the land's own memory is perpetually entwined with the inheritance of those before us. In the soil of graves, man and land make perfect ecologic community, one nurturing the other in covenants of rain, decay, and growth. The soil bears our fathers and mothers to us in never completed gift, ever renewed, through us to children of children. With humility the land could be endless and from grimpen and wood and field there would arise the music of the weak pipe and the little drum, and dancers in the lane,

"Lifting heavy feet in clumsy shoes,
Earth feet, loam feet, lifted in country mirth
Mirth of those long since under the earth
Nourishing the corn..."

On Subduing the Earth

I think it is very difficult to argue that modern western technology derives in some linear causative way from the biblical injunction to "subdue the earth". The biblical imagery is at every point the imagery of gardening, that is, of utilizing the earth by limited means for very specific humane goals. It is the worst kind of denial syndrome that a culture that by other lights had the means and the knowledge to do better with its technology and in its treatment of the environment has not done so. That it hasn't is not because we have somehow been blighted in our understanding or our capacity by a kind of implicit curse in the biblical command but because of our own inability to see the specific causative factors of waste, degradation, ruin and pollution in the principles and dynamics of western culture itself. We have not ruined the land, the rivers, the air because we were fulfilling the dark side of Judaeo-Christian creation theology: we have ruined the world because of simple greed and selfishness which we have managed to monumentalize in deed and thing, in precept and law, across the modern world. We have built this greed--in the form of sanctioned external diseconomies, in the form of abject apathy about the social consequences of our actions--into the structure of our technological culture and it is in this dark covenant between technology and economics, between culture and morality, that is to

be found the origin of our ecologic crisis. It is a very dangerous thing to selectively use the bible as the source of causative analyses of the human condition or of culture: for scripture in the end always points us to itself--to the whole truth of scripture and scripture's God. And in the full light of scripture there is no precedent, no sanction, no permission, no cause for what we have done; in fact, quite the other way around--there is to be found in a full reading of the historical, prophetic, and gospel texts only condemnation of what we have done for our failure to live out the full meaning of creation theology--the redemption of the people and the earth in a new creation unmarked by greed and selfishness. Subdue the earth does not mean destroy the earth; it does not mean dump waste into the rivers, it does not mean pile up consumer goods without end, it does not mean place newspapers in the hands of every person--it means none of these things. It does not mean ignore all consequences of toxic waste and dump them on one's neighbors or the poor. If there is any flaw attributable to the Judaeo-Christian tradition in the matter of the environmental crisis, it is not that the tradition caused it, but that it failed to condemn it. There is more than adequate biblical basis--in creation theology, in prophetic judgment, in Christian morality--to say: "These things are wrong. It is wrong to abuse and waste the land. It is wrong to dump waste on the poor. It is wrong to use the law to cover our sins. It is wrong to exploit people. It is wrong because God condemns it. It is wrong because Christ condemns it. It is wrong because it violates each of the two summary commandments: 'Thou shalt love the Lord thy God with all thy heart and soul and might and thou shalt love thy neighbor as thyself'." Pollution, waste, and ruin; exploitation and greed are neither divine nor neighborly. God doesn't approve of pollution. Don't blame God. Don't blame the Bible. Don't blame Christianity.

On Not Cleaning Up Battle Creek

Environmental Action and the Culture of Despair

by Gerald L. Smith

Battle Creek tumbles from the southern side of the Cumberland Plateau and drains southerly for eighteen miles into the Tennessee River between Kimball and South Pittsburg, Tennessee.[1] With your eyes slightly out of focus, its drainage area on the map looks like a leafy plant--a long stalk with a cluster of short tributaries at its head and a couple of stalks off the side. It drains a long, narrow valley[*] with two major tributaries coming in at Sweden's (Sweeten's) Cove[2] and Big Fiery Gizzard.[3] Although Battle Creek is a small, narrow stream at any point along its length, it is a sixth order stream when calculated from standard 7 1/2' USGS quads. A shorter stream of this width would probably rate only third or fourth order.[4] The tributary coves and many tributary streams flowing down branched ravines sustain its water flow and give it its higher order number. Were it not for the direct runoff and persistent water seepage through the permeable sandstone cap of the plateau, many of these streams would be intermittent instead of perennial, and the order number would be lower; as it is, though, the rainwater seeps and percolates through the thin soil into the rock pans, sink holes and crevasses, and the streams breaking the knickpoints of the escarpment remain flowing in all but the driest weather.

Battle Creek looks like what a small mountain stream should look like--not very wide, bordered by a steep cliff, bubbling and turning clear water through long pools and short riffles.[5] The loose sand in the bottom and the gross quartz and mica fragments in the gravel scatter sunlight and brighten the bottom making the water appear clear and light. The water is cold but not frigid, and it is an eminently wadable stream. The view upstream toward its origins in the finger coves of the plateau is easily suggestive of terrain more remote and rugged than can be assumed from the sounds of the Interstate a hundred yards away. To most travelers, however, it remains an invisible stream tucked into the seam between the valley floor and the slope of the escarpment and shielded from view at most points by a dense corridor of trees and brush growing on the levee that borders the stream.

This stream contains rainbow and brown trout, smallmouth and largemouth bass, black perch, yellow perch, sunfish, suckers, shad, and many kinds of minnows. The streambed is rich in crustaceans, and the flesh of trout naturalized in this stream is the orange-pink color typical of healthy salmonids.[6] There is almost always a thin hatch of stoneflies, caddisflies or mayflies rising from the stream. Deer, beaver[7], mink[8], squirrels, rabbits, skunks, and coyotes use the stream margins, and copperheads, timber rattlers, ribbon snakes, racers and water snakes haunt the rock tumble of the levee and the edges of the water. The high plateau rim, inaccessible slopes, and the multiple edge zones of the valley floor make excellent habitat for hawks. The dense brush of the edges and the eroded pockets of the rock cliffs shelter more than two dozen species of birds, while wild turkeys make their way down the steep finger ravines from the plateau to cross the stream and feed in the broad fields. Wildflowers are profligate in the rich damp soil of the levee and the inner edge of the fields, and the forest contains walnut, magnolia, hickory, oak, maple, hornbeam, dogwood, elm, poplar, persimmon, sourwood, serviceberry, sycamore, and, as the slope rises, hemlock[9]. Ginseng is common enough to supply a small trade in herbal medicine.

The eighteen-mile long valley--twenty-one miles counting Ladd Cove-- has an average width of slightly more than a half mile.[10] At its upper end in Ladd Cove, the valley floor is at 800' elevation. Three miles downstream near river Mile 18 where Interstate 24 forks between Ladd Cove and Cave Cove it is 700'. At the Rt. 72 bridge at Kimball, the valley floor is between 620' and 600', and the average pool elevation in the Tennessee River is 595'. In the lower section of the creek, its level fluctuates with the level of the Guntersville impoundment. The stream drops 205' in 21 miles, about 200' of the fall accumulated in the first eleven miles. Battle Creek averages twenty feet in width, with an average spring depth in its free flowing section of about two feet.[11] Besides the drainage of approximately ten major ravines and coves along its length, Battle Creek is fed by two large valley coves: Sweden's Cove--entering from the west at Mile 6--which is 5.5 miles long and averages one half mile wide and has many of the drainage characteristics of Battle Creek; and Big Fiery Gizzard Cove--entering from the east at Mile 10--which is about four miles long by one-quarter mile wide. Sweden's Creek and the Big Fiery Gizzard Creek average perhaps ten feet in width but drain very rich tributary systems.

Battle Creek and its tributary streams tend to be edge, not meadow, streams where the course of the stream lies against the breakdown of the plateau at the lowest point where the breakdown meets the edge of the fields and bottoms. Only for a short way below the Dixie Highway bridge below Martin Springs, does Battle Creek become a mid-valley meadow stream for about two

miles, then it quickly returns to its edge position on the west side of the valley. Below Mile 8 it becomes a more characteristic meander stream creating loops and oxbows typical of rivers near grade.[12] From this point to its confluence with the Tennessee, Battle Creek is slow flowing and subject to the quasi-tidal fluctuations in the pool level of the Tennessee impoundments. The valley is narrow but contains a rich soil accumulated as Battle Creek has cast its load of sediment time and again over the valley floor, wearing down the plateau and building up the valley.

The dendritic complexity of Battle Creek reflected in its high order number combined with the rim structure of the Cumberland Plateau accounts for its capacity to flood violently when more than a two or three inches of rain falls on its drainage basin.[13] Normal rainfall produces a slow surge in the stream and, unless there has been recent plowing or logging, little silting or discoloration of the water. Battle Creek can run high and clear and look like a mountain river in a more remote area. When the rainfall exceeds a couple of inches, however, the character of the stream quickly changes, surprising those who are not prepared. Then the tributary system acts, within the narrow valley, as a exponential multiplier and Battle Creek erupts out of its banks, spilling its load of water and silt onto the narrow fields that border it, ripping out and debarking trees, tumbling large boulders along the stream bottom, eroding and caving banks, flooding the low areas along the Interstate, and often bearing in its load ton upon ton of garbage floated or churned away from the houses and trailers along its edges.

Between the upper portions of Ladd Cove and the section of the creek lying below state Highway 72 (river Miles 2-0), there are in the drainage area of Battle Creek about 34 structures per mile, including houses, barns, sheds, schools, churches, stores, and sawmills. Ladd Cove and Cave Cove at the upper end of the valley contribute 28 and 10 structures, respectively. In the prime clearwater stretch between Mile 18 and Mile 13 another 89 structures occur.[14] Sweden's Cove and the cove road on the west side of Battle Creek below Mile 8 contribute another 190 structures. The last nine years since the revision of the Monteagle quad have seen the building of several new houses in Ladd Cove, including several substantial houses built upslope from the valley floor, the erection of a large number of bluff houses in the environs of Monteagle, and the cutting of a development road west through Gaines Cove to connect with the Snake Pond area off the Jumpoff Road on the plateau. In addition, a large subdivision has recently been constructed on the east side of Battle Creek along Dixie Highway between Miles 3-4.[15]

The structures reflect the mixed use--and quality--characteristic of the modern rural South. Residential, agricultural, and industrial uses are not segregated nor regulated by zoning, and a sawmill and church or house and quarry may be on adjacent sites. Similarly, residential usage is not sharply discriminated between more and less expensive housing;[16] the valley exhibits numerous well-constructed and well-kept houses adjacent to structures which could only be designated as shacks. Leaving aside the older houses on working farms, the pattern of discrimination between sites and houses is reflected for the newer houses in elevation: poorer houses or trailers are often situated on low ground; better houses on higher ground. In the winter floods of 1990-91, flood damage to residences correlates well with elevation and assessed value.[*] The valley is now experiencing increased pressure of development as residents of Jasper, Kimball, and South Pittsburg begin to move out "into the country" and as children of older valley residents begin to return to the valley and build homes.

Today, after the great winter floods of 1990-91, Battle Creek is a curvi-linear garbage dump. There is hardly a tree or place along its banks that has not been touched by the floods or garlanded with trash. The trash reaches from the streambed to the new sand of the banks to the branches high overhead. An inventory of this trash reflects the typical content of any rural landfill; in fact, had the residents here access to garbage service, this trash would have been landfill content. In most households in the valley, trash is bagged and put out behind the trailer or thrown into the bed of a pickup truck. Sometimes on the way to Walmart at Kimball, down the valley, the bags are thrown into the dumpsters;[17] most often they accumulate in the back yard.[18] When the floods come, the bags are quickly entrained and transported downstream until snagged by a bush or limb or until the current loses its force and spreads out in the widening fields. Here the load of trash begins to swirl in the eddies and long bands of styrofoam begin to mark, along with an underlayer of sticks and cornstalks, the edge of the high water.

Although many of the houses in Battle Creek valley are not contiguous to the creek, the distribution of trash occurs along the entire length of the creek and along most of its tributaries. It should be noted that, within the watershed, all ditches, ravines, and gullies eventually drain into Battle Creek. Many of the steep rock courses now dry and a mile or more removed from running water were torrents running three or four feet deep during the winter floods. Only the upper portion of the thinly populated Big Fiery Gizzard Cove shows little sign of trash entrainment by flooding; the lower two miles, however, are as trash laden as any portion of Battle Creek.[19]

The ebbing of the flood was as gentle as its rising was violent. Hour by hour as the water receded, the layers of flotsam were gently banded in long edges defining as neatly as a cartographer's pen the vertical intervals of the water. Far from the course of the stream, on the outside of the natural levee against the edge of the field and then again on the far side of the field at the outermost edge of the flood there is a delicate band, almost like brushstrokes in plastic and styrofoam painted into the edge of grass, silt, and roots. No hand could so carefully infold, layer, shake, intergrade, and finally pack so many small pieces into such a complex edge. The terminal form is not a layer of mud on roots and grass overlain by twigs and stalks capped by shredded plastic, no neat hierarchy here of specific gravity sorted by the slow centrifuge of the retreating river. The plastic is woven into the land, rocked and insinuated into place by the constant if low-grade turbulence of the water. Almost like the new plastic surgery, the plastic becomes fabric of the earth, becomes part of the mesh holding the edge together. Alien as it is, there is a low order protective function in some of this plastic. It works as a web of resistance to the effects of the erosion that placed it and serves to build up a micro-levee at the distal point of the flood. It is this intergrading of the plastic with its organic matrix that will work better than a land fill to breakdown the plastic and eventually return it to a natural form.[20]

Nearer the streambed, the heavier things settled out sooner so there is a trash gradient matching the rock, gravel, soil, silt gradient: heavier material in the streambed, lighter material further away. The tires, vacuum cleaners, stoves, and chairs are not found very far from the water. The material further away is the smallest and most buoyant: the styrofoam cups, Hardees boxes, Sun Drop bottles, some toys. The highest trash seems as often to be cloth--towels, shirts, sheets, rags--as plastic. It seems to take less of a snag to trap plastic and the plastic tears easily, so the plastic is arrayed at medium height--about eye level when standing in the stream--and flags many more trees and bushes than does cloth. Of course, plastic is more common in the thrown away material

than cloth. In the practicality of these cove folk, almost any cloth is useful; no mechanic would throw away a piece of sheet or bedspread which could be used to wipe parts or hands when working on a car. Plastic is more common but of far less value or use. Very little plastic has an immediate recycle value as does cloth for these people. The newest plastic, once used, is immediately waste; the worst cloth is still useful in the garage or barn. The cloth, though, rides the surge as well as plastic and turns up equally high in the trees. One might have expected that a sodden towel would have quickly snagged a root or low bush and not traveled far, but sometimes cloth is seen fluttering from a limb fifteen feet or more above the streambed.

Geologists distinguish a stream's capacity and its competence. In her *Streams: Their Dynamics and Morphology*, Marie Morisawa describes stream competency as the largest size of grain that a stream can move in traction as bed load; capacity is the maximum amount of debris of a given size a stream can carry.[21] Battle Creek is impressive in both its competency and its capacity: for the large size of the rocks it moves along the bed--basketball size or larger--the great volume of sand it distributed in long dunes and waves along the fields at its edge, the layering of the fields with new silt and mud, and the building of its natural levee which in some places has increased its height by two feet. This levee shows more clearly than any engineer's analysis the importance of tree/root structure in containing a flooding river. While the volume of water would have flooded vertically to the same level in any case, the force of the water did far less damage because of the trees, vines, and brush in the levee.[22] The large bottom rocks along with the trees and brush buffered the flow thereby decreasing its turbulence and lowering its competency. The result was that much of the sand and gravel lost their energy near the stream in the web of trees in the levee and were deposited there adding to the height of the natural levee and, at the same time, acting as a more effective dam to slow the draining of the flooded fields. This allowed the silt load over the flooded fields to settle out slowly and to enrich the fields by a uniform deposition across their width.

The stream dynamics of trash do not correspond directly to competency and capacity measurements of inorganic streamload because of variations of density, shape, and buoyancy, but some insights converge. Battle Creek can, at flood, move a large number of large rocks a long way down stream. It can also move some very large objects. A vacuum cleaner found snagged into the roots of a tree on the bank of the creek was at least two miles downstream from the nearest house. A telephone company conduit junction box was a similar distance from its origin. It is hard enough with help to move a refrigerator and one does not imagine that they float once the door is torn off, but the tractive effects of the stream can move them for miles. Lesser objects travel further until there is hardly a place left on the streambank without an array of junk as well as garbage. Battle Creek is as competent to move junk as it is to move boulders.

The extra-natural stream load of Battle Creek presents an interesting case in clean-up ecology. By any measure, cleaning up the streambed, levee, and overhanging trees and bushes would be an enormous task. Only the gross debris could be recovered; the finer scraps and particles could only be recovered by coarse sifting and their removal would be of more ecologic harm than benefit. The larger pieces--shredded bags, diapers, shirts, cans, chairs, tires, cups, window screens--could be reasonably recovered.[23] Bagged in the manner of roadside pickups and then loaded on to trucks for landfill disposal, the number of potential truckloads is daunting. There is about one dump truck load per hundred yards, figuring a load at fifty bags of garbage.[24] In the

upper reaches around Ladd and Cave Cove this estimate is probably low; in the area below the Martin Springs exit, it is probably high--at least until the confluence of Fiery Gizzard Creek and Sweden's Creek where the load increases again. It should be noted that for each linear yard of stream there is approximately twenty-five yards--the streambed and the edge to either side--that must be cleaned; in narrow portions of the streambed, where the stream banks are steep on both sides, twenty-five yards is a maximum width. Further downstream, the valley widens and the trash dispersal may reach 150 yards for each linear stream yard.[25]

For fifteen miles of stream, exclusive of major tributaries approximately 264 truckloads,[26] or 13,200 bags, of debris would have to be removed.[27] If the filling of a bag is estimated at one-half hour, including actual trash retrieval, walking, climbing banks or reaching into trees, and depositing the bag for a support worker to remove it, 13,200 bags filled would require 6,600 labor hours to accomplish.[28] Assuming a volunteer force of 100 persons distributed as seventy-five baggers and 25 support staff (loaders, drivers, lunch makers, etc.), the seventy-five baggers would require, each, 88 hours to pick trash on the full length of the stream. For each individual, assuming eight hours of work per day and sixteen for a weekend, it would require this labor force 5.6 weekends to effect the cleanup. Even if a 50% error of calculation is allowed--reducing the number of loads to 135 and the number of bags to 6,600--the time required is still forty-four hours per person or more than 2.7 weekends for the full volunteer force. At $4.00 per hour, the labor value of the cleanup, exclusive of bags, food, and transport, ranges from $13,200[29]to $26,400[30] for a one-time cleanup.[31]

In the most effective scenario, a steering committee working with local residents and farmers, regional conservation groups and similar organizations such as caving grottoes and climbing clubs, perhaps enlisting the help of scouting organizations or 4H, coordination of county highway departments for trucking services and landfill access, and using other volunteers drawn from the region's flyfishermen and some university students could--assuming a hundred volunteers, working weekends, and with the support structure in place for hauling--clean up Battle Creek over about one to two months.[32] The volunteers would need to be organized into crews; garbage bags, ladders, food and drink would have to be supplied; trash would have to be consolidated and loaded onto the trucks; and the truck drivers compensated or otherwise persuaded to volunteer their time on their weekends off. Although it would be an involved and labor-intensive project, it has finite, manageable, parameters. It is a cleanup that could be done and would have immediate, dramatically visible, effects.

As an ethical environmentalist, I am convinced it also would have very harmful effects. The parameters of the despoliation of Battle Creek are closed at every point but one. The trash is mostly visible, is mostly of hand transport size, probably 90% of it is within arm or stick length, most of it is on the bank or in the fields and not in the water, the bagged trash would be conveniently accessible to road transport, and it is not noxious or dangerous. The single open parameter is the origin of the trash. Since the trash originates as domestic garbage at the houses along the creek and not, as some city anglers have supposed, in the actual use of the streamside as a garbage dump,[33] the cleanup would be as short-lived as the interval to the next cloud burst. Until the solid waste disposal problem of the residents of Ladd Cove in particular is solved, the despoliation of Battle Creek will be permanent. It is a short-term ecology--and

therefore it is not ecology at all but middle class aesthetics and puritan do-goodism--that would clean up Battle Creek and not address the waste problems of the people living along it.

The advocates of recycling as an approach to the solid waste problem need to understand how remote these mountain coves are from public services and how equally remote they are from trendy environmentalism[34]. Recycling will not touch the problem the people of the coves face. If they are sick, it will be a long time before an ambulance arrives at their door; if their house catches fire, it will probably be burned to the ground before the fire department arrives. The only vehicles that arrive with any consistency are logging trucks and school buses. Garbage trucks do not arrive. Public petition at the courthouse or to the county commission is not likely to produce help.[35] The county already maintains only marginal services in more densely settled areas; it is unlikely to begin garbage service in more remote, thinly settled ones, nor in a cove that lies partly in another county[36]. The county has repaired the bridges and filled rip-rap into the eroded banks to protect the roads, but no official cleanup has or will be undertaken and no garbage service provided.[37] There is no doubt that concerned sportsmen and environmentalists could get Battle Creek cleaned up, but it is less hopeful that they could be enlisted in what would be necessary to keep it cleaned up. Keeping it cleaned up would be a far more complicated and costly project than cleaning it up.

The cove residents are among the poorest and most marginal people in Appalachia.[38] Living in a pocketed periphery of a poor county, they can count on no municipal services to provide garbage pickup or even nearby dumpsters. Some tend to treat their trash as the poor have always done--they throw it "over their shoulder", or, in a few cases, literally out the back door, or into piles of garbage bags that are occasionally taken to the dumpsters eleven miles away. Already, since the last flood, bags of garbage have accumulated in some yards. In the meanwhile this trash is pilfered by children, dogs, cats, coyotes, birds, rats, and the poorer-than-poor who are subsistence scavengers and who clothe, equip, and sometimes feed themselves by picking through other people's garbage. Such scavengers are at work in every county in this region, and they add to the litter problem by emptying dumpsters, opening garbage bags, and by strewing around what they do not want or need. Along Battle Creek, as in urban America, the cycle of waste and the cycle of poverty intersect.

Poverty, however, supplies only a partial explanation for the despoliation of Battle Creek. There is a cultural factor as well. The cove folk of Appalachia are the cultural kinfolk of Lester Jeeter in Erskine Caldwell's *Tobacco Road*, and those who would understand these coves should begin by reading Caldwell, not Faulkner.[39] Caldwell knew the upland South of coves and mountains long before he began to write about the deep South. When he re-visited the Cumberlands in the 1960's, he found little change from his first impressions forty years earlier:

"Along the trains and footpaths in the ravines, out of sight of paved roads and highways, shacks and cabins tilt and sag and rot on the verge of collapse in the shadow of the green summer thatch of white oaks and black walnuts. The faces of the young people are blank with despair and the voices of the old people are saying that all is lost and tomorrow will be like yesterday and today--unless it is worse."[40]

Caldwell's description here was of the area around Pineville, Kentucky; it could as easily have been Grundy or Marion counties of Tennessee. It is the same culture, and little has changed from the '20's to the '60's or from the '60's to the '90's. It might be called a culture of despair.

In the analysis of the role of religion in the formation of culture, Clifford Geertz and others have argued that religious ideas become socially extended in a fabric of general ideas that become the basis of the point of view of the people of a culture.[41] Applying this concept to our consideration of the coves of Appalachia, a culture of despair--a networked sensibility of hopelessness--is produced when spiritual loss or defeat becomes a general view among a people. Such a condition does not occur merely when persons lose hope but is rather a cultural condition; it occurs when a people loses hope. Hopelessness and despair can be generated for individuals at any time; they are generated, for instance, when there is personal tragedy such as death or other loss or when change in the culture cannot be interiorized effectively by the individual--as when the symbolic system is not flexible enough to span the dichotomy between the already given order of things and novel happenings. Personal events as such, even widespread loss of life in a natural disaster or war, remain non-critical for the culture as a whole, however, until the despair they generate becomes generic. The key elements in the life of a people must undergo substantial transformation (the material basis of life must be destroyed, the cultural memory and its artifacts must be destroyed, or the people itself so diminished or scattered that the collective life can not be affirmed) or the primary symbols of meaning must experience powerful criticism[42] in order for despair or hopelessness to become a general condition of the peoples' life.[43]

When such a condition becomes general--widespread in the population--and is transferred from generation to generation, a culture of despair has appeared. It becomes a spiritual condition when it finds perennial symbols of expression, that is, when the tokens of defeat or despair acquire a lived expression of their own: when, through symbol, despair becomes part of the language of faith (or, as the case is, doubt) for the people. Such symbolic expression may include language--poetry, song, speech--as well as body language or a view of the natural world; it may find expression in public ritual or in a way of thinking. Practically, it is expressed in the suppression of the desire to "make things better"--whether the roof, yard, roadside, or neighborhood. In personal terms its expression is a pattern of defeated behaviors highlighted in the various stereotypes of laziness or shiftlessness associated with the region. When this process occurs, despair itself becomes a mode of religion and it becomes a very stable point of view in the culture. It is as if the normal point of view of religion--to provide hope and to symbolize its forms--has been stood on its head or inverted.

It is this inversion of hope that is reflected across much of Appalachia among the poor of the coves, hills, and plateaus. Original Appalachian Calvinism, spread largely by old side presbyterians and regular--primitive--baptists, despite the severity of its view of original sin, the fall, and damnation was nonetheless a non-inverted religious system: that is, its adherents understood that salvation was possible for the elect and such divine reward might be accompanied by a provisional earthly satisfaction even if true happiness was always understood to be deferred. As this Calvinism mellowed through its propagation in several American denominational forms,[44] the hope of salvation became a broader and more inclusive belief of many churches. In Appalachia, however, this Calvinism and its limited theological predestination were combined with a tragic, fatal view of life, arising in the social and political conditions of

frontier isolation, poverty, hard times, and political disenfranchisement.[45] On such soil, despair became a generic life form--a general idea--and as people enculturated themselves in its spell, there was born a culture of despair: general, extensive, pervasive, stable. The face of such stability of despair is the endemic poverty of the coves.

In this regard the Appalachian culture of despair has little in common with the "Lost Cause" thinking stereotypically associated with the South. Lost Cause thinking cannot account for the cultural outlook of these coves.[46] The Lost Cause is a complex socio-political mythos which explains part of southern history and culture. As much as it is trivialized in novel, essay, and television the Lost Cause is nonetheless a token of meaning, of an albeit perverted hope, used to gloss defeat.[47] Lost Cause southerners never lost hope: losing a war is never the same thing as losing hope; it is precisely the point of Lost Cause rhetoric to keep hope alive, precluding the transformation of defeat into despair. Historically, however, the cove and mountain folk of the upland South have had little common interest in the secessionist South--or in the meaning of its defeat. And the profound racial exclusivism underlying their anti-secessionist politics and religion made them as reprobate in the eyes of New South Reconstructionists as it had in the eyes of low country slaveholders. In time, both groups would turn their backs on the Appalachians. The southerners of the Appalachian coves are lost without a cause; they have no champions of press or politics, and no cause to rally around that would serve as the local awakening that might stir them to collective action.[48] And they have no indigenous myth of restoration.

It was cove people like these that John Muir had observed in 1867 on his "Thousand Mile Walk." His account differs little from that of Caldwell eighty years later:

"On Sundays you may see wild, unshorn, uncombed men coming out of the woods, each with a bag of corn on his back. From a peck to a bushel is the common grist. They go to the mill along verdant footpaths, winding up and down over hill and valley...The first arrived [at the mill] throws his corn into the hopper, turns on the water and goes to the house....Should the stones run empty for an hour or two, it does no harm.... All the machines of Kentucky and Tennessee are far behind the age. There is scarce a trace of that restless spirit of speculation and invention so characteristic of the North. But one way of doing things obtains here, as if laws had been passed making attempts at improvement a crime....This is the most primitive country I have seen, primitive in everything. The remotest hidden parts of Wisconsin are far in advance of the mountain regions of Tennessee and North Carolina."[49]

The culture of alienation and despair had already begun to close its grip here. Muir noted as he crossed the Cumberlands the cabins and fields that had been abandoned in the war; in the marginal economic conditions of the hills and coves, many areas never recovered.[50]

What Muir, of course, had no way of seeing in his cursory transit was the effects caused by the shift in southern economy from grain and livestock production to cotton in the three decades before 1860 nor could he foresee how the economics of the New South would transform this region even as it bypassed its poorer people[51]. When the American diet began to shift toward beef instead of pork and as livestock production moved westward, the markets for mountain and cove hogs disappeared.[52] The yeoman and subsistence farming practices on small acreages never produced a cash crop large enough to affect the economy or the lifestyle of the coves.[53]

Cotton is not grown in these coves[54], although the fields along Battle Creek now make substantial wheat and corn. The coves produce an indifferent tobacco in scattered tenth acres; a more recently introduced cash crop[55] for some of the coves is a reputedly excellent marijuana. A quarter acre of marijuana interplanted with corn along the inner edges of the fields near the creeks and fertilized along with the corn will produce a cash crop far more valuable than the corn.[56]

The marginal subsistence farming of the coves is steadily being transformed by employment in the older industries such as mining, logging and quarrying and by the new industries appearing in the development along the Tennessee River. Since the completion of Interstate 24, income from tourism has begun to affect the local economy, at least at the head and foot of the valley. Monteagle at the head of the long valley and Kimball at its foot are low-grade, but profitable, tourist stop-overs. With only one exit at Martin Springs for twenty-six miles of interstate highway, little of the tourist capital is sloughed off into the valley itself. The traffic of Interstate 24 is a rich stream of wealth going and coming--Chattanooga to Nashville, Detroit and Chicago to Miami--laden with all the sense of possibility most Americans claim as birthright. This highway seldom runs more than a couple of hundred yards from most of the residents of the valley, yet its life barely touches them except for the noise.[57] Down the valley at Kimball, Battle Creek becomes a weed-choked ditch by the Interstate fluctuating with the rises and falls of the impoundment of the Tennessee River. Here, "in town" there are jobs in the fast food restaurants, motels, gift shops, fireworks stands, and gas stations that serve the travelers. This is where the young people come to work and where they come back at night because of the lights.[58] As is manifest in the lights of Kimball, the life of the coves has changed in the last fifty years, but few who live there would say it has gotten better. Although most people along Battle Creek would not say that they live lives of alienation or despair, there is a powerful sense, especially among the older cove residents that they have been left behind.[59]

The mountains of southern Appalachia and the coves of the Cumberland Plateau have a long history of spiritual depression. Long before the economic depression of the 1930's or the waste glut of the 1980's, the spiritual disorder of the psyche that antecedes environmental abuse was present. Environmental disorder had already begun to erode the the spirit and scar the land long before the stripmines arrived or the trash began to fill the ditches and wash into the creeks. Even before the intensive logging and clearing of the 1800's, the first resources that was exploited before the trees were cut was the native wildlife particularly buffalo, deer, and wild turkey. The process has been progressive, intensive. As population grew and the technological means of exploitation advanced in conjunction with a powerful external economy, the rate and violence of the transformation of the land accelerated. Today, viewing this region of plateau and coves with its scarred hillsides, stripmines, roadside dumps, and blighted housing, it seems as if the land itself were to blame for hard times.

It is important to note that Appalachia is not a social or religious monoculture and that there are well-defined complex sub-regions with Appalachia which have extra-regional characteristics.[60] Nonetheless, it is also the case that there are generic characteristics that span this region from Pennsylvania to Alabama, from Nashville to Asheville. In addition to now well-documented characteristics demonstrating departure from American norms in things such as regional per capita income, school funding, road construction, fire and police protection,

sanitation and health care delivery there is throughout Appalachia the common regional effect of economic exploitation of land and resources and consequent ecological problems--some of which have permanently altered the larger regional ecology and many specific sub-regional ecosystems.[61] Industrial timbering has permanently altered many Appalachian biomes, and coal mining has permanently altered much of the highland freshwater system. The Kanawah Valley of West Virginia may be the closest parallel in America to the ecocatastrophe of the Vistula River in Poland. Hydroelectric and navigational development has destroyed the ecosystem integrity of nearly every river in the region while supporting heavily polluting riverine industries such as paper and petrochemical manufacturing. Other types of mining--such as copper mining near Copperhill on the Tennessee-North Carolina boundary--created massive problems of pollution, deforestation, erosion, and siltation. Apart from all other socio-economic characteristics, ecologic dysfunction alone comes closest to being a defining geo-cultural characteristic of the region.

Despite the social scientist's need for parsimonious hypotheses and justifiable wariness of stereotypic interpretations, this generalization is true: Appalachia is the most economically exploited *and* ecologically damaged section of rural America. It is defined by this double characteristic if by no other. There are other areas of the nation with extensive ecologic problems--acid rain across the northeast, for example--which will have multi-billion dollar costs for their correction, but there is no other area where the effects of exploitation and pollution have left the land and the indigenous people permanently dysfunctional. This dysfunctionality is an essential parameter of the culture of despair.

Along Battle Creek we can see the despair and the rage that so often accompanies it. There is rage at the land. From the county mowing machines that leave every roadside looking like the site of a plane crash with twisted stubbs of trees, to hillsides apparently used for bulldozer practice, to the tumbled buildings, rusting cars, and piles of broken machinery arcing the backs and sides of yards, to strip-mined and unrecovered land, to coal mounds leaching acid into the streams--the land looks old, used, worn, battered. The images that come to mind are military, cataclysmic: destruction, ruin, upheaval, scars of land and trees that cannot be accounted for by ordinary experience; the scale is not familiar, not measured by stride or reach or armload.[62] Perhaps the land is to blame or perhaps now the cause and effect cycle of abused land and reciprocal despair has cycled so many times, and so fast, that it is now a spin that cannot be checked or recovered, that no one can any longer believe that anything will ever be better.[63] People who learn to live with a stream bulldozed by a logging company to use as a road can live with a lot of garbage especially if the garbage is in that stream; people who live with a flawed and leaking earthen dam holding millions of gallons of water a thousand feet above their heads in a looming hydraulic apocalypse can live with erosion of streambanks.[64]

There is also here rage at the self, for this is the true badge of citizenship in a culture of despair. What social workers--and we must count environmentalists among such--find difficult to understand is that the trashing of the land is always preceded by a trashing of the soul.[65] Pollution and despoliation are always political, ethical, before they ever become environmental. No one trashes, willfully wastes, or purposively neglects to clean up the immediate world of house and yard and field--no one accepts with dread fatality the present disorder--unless there has already been a prior disordering of the spirit. This is what the culture of despair in

Appalachia is about: the loss of the desire to believe in trying. These are the people whose hopes are post-terminal, who cannot act for themselves, and will with baffling consistency act against themselves. The external rage against the environment only mirrors without their inward rage against themselves. One who would understand the meaning of the Judaeo-Christian concept of the "Fall" and its relevance to the environment should visit the coves of Appalachia.

In this despair is the profoundest spiritual malady. Often its only antidote in the coves is the sense of grace and redemption proffered by the churches. With about seven hundred people in the valley and its side coves, there is about one church per hundred people.[66] This figure is about average for the rural churches of the region, but high given the isolation of the coves. Except for the currently prosperous Battle Creek Church of God, the churches show the skewed population curve reflected throughout the region's smaller rural churches. Most of the churches have attendance of thirty or less, many Sundays with attendance of a dozen or less, and some now alternate "preaching" Sundays or share a preacher with another church. None of the smaller churches can afford a full-time resident preacher; instead, they make do with students from seminaries or bible colleges in the Chattanooga area or they follow the long practice of staffing their pulpits with "bivocational" ministers: men who work at secular occupations and preach on Sundays. Only the larger churches with fifty or more in attendance on Sundays will have a choir. In the smaller churches Sunday attendance consists mostly of older women and younger children. There are fewer men, almost no teenagers, and few young adults.[67]

The theology of these cove churches is strongly deterministic--i.e., Calvinistic--and reflects the theological controversies of the 1820's and 1830's west of the Appalachians between mission and anti-mission groups in American protestantism. In this period, the foundation period for many of the denominations represented in the coves, the older Calvinism came under the steady challenge of the universalism represented by "free will" groups like the General Baptists and Methodists. These latter groups assumed a universal atonement as the basis of their evangelical zeal and successfully established thousands of churches across the South in the nineteenth century.[68] Theological differences between these groups along with social tensions between upcountry and lowcountry ways of life led to bitter controversy among nineteenth century southern protestants reflected in the "Anti-Mission Movement."[69] The success of the evangelical churches is noted more in the areas lying between the tidewater and the mountains; in the upper piedmont and mountains, the General--or Free Will--Baptists and Methodists made some incursions, but did not manage to extirpate the older Calvinist theology of the Primitive Baptists and similar groups who survived in the hills, valleys, and coves of Appalachia. Despite the appeal of the new theology as a basis of expanding church membership through evangelical outreach, the older theology prevailed as the basis of the world view of most cove and mountain churches.[70]

The present day churches of Appalachia, of the highlands and the coves, reflect an amalgam of theological ideas that do not strictly conform to nineteenth century types; the Calvinist theology has been softened by association with newer churches and the evangelical optimism has diminished in the face of the harshness of Appalachian life. The general ideas typically expressed in cove churches are these: a belief in the reality of God, particularly as God's power is manifest in judgment upon sin and redemption from sin; belief that the world is "fallen" because of sin and a belief in a consequent harshness of life as a result of and punishment for sin; the prevalence of temptation expressed in the belief in Satan or the Devil and in evils of liquor,

drugs, and sex; the general truth of the Bible--usually understood as synonymous with the King James Version; the reality of heaven as the home of God, the repose of loved ones ("asleep in Jesus"), and as the hope of those now alive who have been "saved;" and the reality and personal closeness of Jesus as the agent of one's salvation, as a conversant "friend," and as the Holy Spirit enlivening the church.

These general ideas are given specificity and application in two related but very different ways in cove religion. First, they become the basis of the doctrinal elaborations--and distinctions between--the particular churches. In this context, these ideas shape sermons, hymns, Sunday school lessons, devotions, homespun wisdom, and supply model for a limited personal ethic of pious behavior. These ideas also supply a general scenario for understanding the course of human life: the "old, old story" of creation, sin, fall, redemption and glory; the theological concepts and doctrinal expressions are sustained in a continuously relevant form as judgmental--or inspirational--model for personal life. Sin and redemption are understood to concern, directly, how one lives. Second, in so far as these ideas constitute a general, if unstated and unsystematic, view of the human condition that is pessimistic by modern humanistic standards, they have become compatible with Appalachian fatalism and its attendant ethical disempowerment in the culture of despair. Such ideas powerfully reinforce the notion that only God can change us; man cannot change himself or the world no matter how hard he tries.[71] In the day to day life of the coves, the theological doctrines of sanctification and holiness provide individuals with a sense of personal power over the serpent of spiritual evil or the Devil. These doctrines do not, however, provide the ground of a social or political ethic nor of a form of community identity outside of the church, and they do not provide power over the undulating viper of trash, garbage, and waste slithering down their valleys and coves.[72] As long as the theologies of the churches are predicated upon the implicit dualism of heaven and hell, the things of the world will always be associated with the "wrong" side of this dualism, making it difficult to associate religious belief with social or environmental action.[73]

Calvinism and the general religious ideas of the coves do not *cause* despair, but their pessimistic anthropology, when it escapes the limits of theological doctrine and becomes an element of existential self-definition--when it becomes the basis of a societally sustained and internalized self image for members of the culture--nurtures the culture of despair. The culture of despair grows on a soil already well-prepared by the religious history of the region. In a world where people believe in the opaque will of God, it is hard not to see ruin, natural disaster, and tragedy as divine judgment, and it is hard in such a belief system to imagine altering circumstances that are already predisposed to be the way they are because of God's will.[74] In a world of economic and political disenfranchisement and of persistent social alienation and marginalization, predestination and the "inscrutable will of God" appear all too quickly to give theological rationale to hopelessness.

In assessing environmental problems, the conventional assumption is that litter, trash, and by extension much other solid waste is generated by individuals as a specific volitional act and can be removed in reverse order by a symmetric specific volitional act. In such atonement environmentalism, pollution consists in the aggregation of simple immoral acts which can be removed by the aggregation of equally simple moral acts--"choices".[75] Polluting is something "bad" that you do; it is not seen as something necessary nor as derived from the circumstances of

having no other means to survive, prepare food, or get rid of waste. Apart from the enormous theological problems involved in the pelagian assumptions[76] about amelioratist behavior on the one hand and the naive psychology of individualism on the other, such a view obscures the systems nature of the environmental problem and the complexity of the ethical problem involved in cleaning up Battle Creek or similar streams and coves in Appalachia. Pollution, despite fifty or one hundred and fifty things we can all do to save Planet Earth, is not typically the result of many small immoral acts--nor will it be removed by many small moral acts however beneficial such acts may be or how much approved they may be in whatever is the contemporary chic version of boy-scout morality.[77] Growing demand created by economic growth in the developed countries and growing impact created by population growth in the developing countries have systemic effects annually and at every point in excess of volitional remedies; this is no less true in the "developing" ethos of Battle Creek valley than in Latin America.

Pollution as a manifestation of a spiritual condition--as the visible outcome of a predestined and fallen world--is not something that you "do"; it is something you are--or, more to the point, are not; it occurs, like sin, because of a capacity *not* possessed, a capacity which has been effaced by an original sin and is not, therefore, in the possession of the descendants of Adam. No act of self-improvement or self-restoration is possible in this way of thinking. The effect of sin then is only derivatively moral; its original effect is ontological: the diminution of a capacity to do follows from a diminution of being.[78] Moral incapacity is derivative from a precedent spiritual condition. In this regard, the evangelical theology generally and the more conservative cove theology in particular, have reasoned against most social reformers that it is pointless to try to change the world understood as the total outcome of moral choosing until the soul which has been defaced by sin has been changed and restored to health by divine grace.

There is nothing harder, perhaps, for environmentalists to understand than the spiritual point of view of these cove people and the fact that this view is the ultimate limiting condition of cleanup, change, or improvement in the environmental issues related to them. By contrast, the point of view of most western, urban, environmentalism is that of a secular optimism; western environmentalists do not generally see a spiritual state or theological premises as something that must acknowledged as part of a program of environmental action, nor are they accustomed to thinking of religous values as a socially limiting condition. The ethos of secular society tends to dismiss such values or to view them as *beliefs* and, as such, as essentially private and having no legitimate public significance. However difficult the problems facing a local society or the global environment, environmentalists tend to believe that by group action and changes in policy, changes can be made to correct a given condition or to avert disaster. This environmentalism tends also to assume that self-interest, even if latent, can be awakened and appealed to and can be directed by means of education and political organization. Such environmentalism is permanently optimistic, even as it speaks of species extinction or ecocatastrophe: these things can be averted because of a belief, itself as indelible as sin for the evangelicals, that we can act to do something.

Systems problems require systems solutions, but systems solutions involve fundamental reordering and adjustments in the structural elements of society: in education, consumption, manufacturing, exchange, and, ultimately, in values. Systems problems are not aggregates of myriad lesser problems but have a synergistic dimension which exceeds the aggregate value of

the contributed components. Acid rain and ozone depletion, for instance, are not only the aggregates of many individual uses of automobiles, hair sprays, air conditioners, and large industrial processes, but involve extremely complex secondary and tertiary reactions of products not originally released by the original sources of pollution.[79] Solid waste disposal is not simply a problem of dealing with personal garbage or litter, and personal garbage is not originated personally but in a large-scale system of production and consumption which overwhelms aggregation of effort by individuals. The systems component in waste and pollution eludes reduction to vectors of personal responsibility.

In addition, every environmental problem has at least one system's parameter which is not scientific but ethical: ethical not in the dysfunctional sense of personal piety and good deeds, but in the larger sense of social responsibility measured by and mediated within complex human groupings defined not only by contact but by either shared or competing values. The environment is an ethical arena of social consequences; how we--not as individuals--but as communities, corporations, and states use the land, dump our garbage, flush our waste, or how we make our paper and generate our power is a problem of communal, not personal, values.[80] Every private act of usage is pre-contextualized within the environment and interacts with the social systems nature of the environment. It is the already given "we" of our communal identity that locks us into the network of polluting consumption before we are ever able to dissent from that network by personal and private "virtues" such as recycling our cans or papers.[81]

Assuming the cleanup of Battle Creek could be made, there is another kind of problem that at least needs to be thought about even if its trade-offs ultimately are accepted. Removal of the trash from Battle Creek would be done most effectively by bagging it in garbage bags and hauling them to the landfill. Even if self-destructing or biodegradable bags were used, removal to a landfill would guarantee this trash to have a very long half-life. In bags sealed under dirt, most of the contents of this trash would still be recognizable in ten years; much of it would last fifty or more years; some of it would last for hundreds of years.[82] Left in place on Battle Creek, exposed to the effects of weathering, sunlight, mechanical reduction, and re-distribution by flood, little of this year's flood garbage will remain visible in three years. Some of it will have disintegrated, some will have been buried by subsequent floods, some of it will have been carried downstream eventually to be embedded in the sedimentary landfill of the Tennessee River bottom.[83] Short of proper waste reduction, recycling, and disposal, leaving the trash in place is an ecologically sounder solution than moving it. Visually unattractive as it is, the trash will come closer to being naturally recycled on the banks of Battle Creek than in the Grundy or Marion County landfills.

The trash is also more useful politically if left in place than moved. Once it is moved, it is out of sight and thereby disappears from the agenda of political action and concern. Left in place, it remains a present reminder of a continuing problem. At the end of three years, most of this year's trash will be gone from Battle Creek; but unless a cleanup is made each year, the annual trash load that disappears by whatever means will be annually replaced by new trash entering the streamflow. Cleaning up is not a solution unless made part of a larger pattern of modified consumption, personal action, and public services.[84] All of these are unlikely to have much effect on the residents of Battle Creek, and the result will be the probable permanent trashing of the stream. Anglers on Battle Creek, and on most other streams in the Southern Appalachians,

will have to accept a high load of visible trash as a general feature of the angling environment much as acid rain is an invisible feature of that environment.[85] It is possible to believe that emission reduction and control will eventually reduce acid rain; it is possible to believe that solid waste will eventually be managed and not dumped. But both are equally complex problems; neither will be solved by personal action or cleanups.

Such counsel is not encouraging to youthful idealists nor to weekend environmentalists who have been nurtured in the American tradition of "good turns" and "doing something." In this case, the 'something' that needs "doing" is neither so simple as picking up litter and putting it in bags nor so directly volitional as the choice among more or less preferable behaviors. Environmental problems--population, waste disposal, water quality, fuel and power supply, global warming, food production and agricultural pollution, and industrial production and pollution--are environmental problems, not personal problems however much individual persons may passionately care about the effects of these things. However laudable as a means of consciousness raising may be the efforts at recycling and conservation, the demands of growing consumption in the developed nations and the demands for consumption by growing populations in the developing nations continue to accelerate faster than our efforts at recycling and source reduction. While personal sentiment and motivation can have the beneficial effect of sustaining limited political action regarding specific causes, the larger issues must be addressed systematically at the level of policy management.[86]

Finally and fundamentally, the limits of the global ecosystem will set the parameters by which we shall live either reasonably or under conditions of distributed necessity and decline. We can buffer the effect of distributed necessity--such as forced and uncontrollable shortages or heavily polluted areas--only by policies that reflect national commitments to both a healthful environment and economic justice for the marginal populations of our societies and by changes in personal attitude that will come to discover tokens of worth and meaningful life in areas other than resource consuming activity and acquisition. Change from a culture of acquisition and consumption to humane cultures of affirmation will require changes of national policy, social polity, and of communal values. Change from a culture of despair will be much more difficult. Such change will neither be easy, costless, nor effected in time frames shorter than those required to evolve the present disorder. "But what can we do?" the insistent student asks. The honest answer is, "Not very much." That is the nature of the dilemma facing the human community today; the problems we face have been generations in the making, and will require several generations more--not to solve, for many of these problems are unsolvable at current levels of population--but to begin to manage within reasonable limits. Appalachian poverty is endemic and probably intractable[87]. Managing such poverty will mean learning, within certain limits, to live with it. On Battle Creek and in Ladd Cove and Sweden's Cove, living with it means living with the permanent presence of large amounts of very visible garbage.

[1]The USGS reference quads (7 1/2') are Monteagle, White City, Orme, and South Pittsburg, Tennessee.

[2]The topographic terminology--and the derivative social stereotyping--is disordered, particularly with reference to geologic origin and to historical patterns of migration and settlement. It should be kept in mind that folk usage antedates scientific nomenclature. Conventionally, 'valley' refers to the elongated lowland between mountains or to the low country

along a river; 'cove' generally refers to a low area incised into a highland. Coves tend to be short, narrow, and of steep longitudinal and sectional profile. Cades Cove in the Great Smoky Mountains National Park has both valley and cove features. Its large size, relatively flat bottom, and geologic origin should designate it a valley; its isolation and closed structure associate it with coves. Valleys typically serve as means of transit while coves are dead ends. Because of its length and use as an avenue of transit, Battle Creek drainage is now a valley; until the advent of modern roadbuilding, Battle Creek and nearby Crow Creek were structurally and culturally coves. Battle Creek and Crow Creek valleys now have one or more roads running down their length. To the east the parallel structure of Battle Creek, Coppinger Cove, is physically similar to Battle Creek and Crow Creek but continues to be called a cove despite its drainage by a stream large enough to be designated a river (the Little Sequatchie).

[3]This cove was originally settled, like the Gruetli colony around Tracy City, by Germanic immigrants; the standard name has been corrupted into "Sweeten" as both a toponym and family name.

[4]A 'gizzard' is the cove name for a furnace or smelter. The southern Cumberland Plateau has some significant seams of coal and a marginal iron ore; in the late Nineteenth Century, some smelting took place in this cove.

[5]The stream order (Horton rating) is the ranking of a stream or river based upon its branching pattern, not the *number* of branches per se. A simple stream with no tributary (or branch) would be of order 1; a stream that had a single stream joining it at some point would be order 2. As a rule of thumb, the Horton rating or order number, is one unit greater than the order of the most complex tributary feeding a larger stream. See Marie Morisawa, *Streams: Their Dynamics and Morphology* (New York, 1968), pp. 152-56; see also, Luna B. Leopold, et al., *Fluvial Processes in Geomorphology* (San Francisco, 1964), pp. 134-42.

[6]The best one-volume work on the ecology of small streams is H. B. N. Hynes, *The Ecology of Running Waters* (Toronto, 1970).

[7]An eleven-inch rainbow trout taken in August of 1989, by R.Benson of Sewanee, TN., contained more than a dozen grasshoppers, along with crayfish, beetles, junebugs, numerous invertebrates, and a finger-diameter cicada.

[8]The presence of beavers had not been noted in recent years prior to 1989; however, in that year, several dams were built on Battle Creek and its feeder tributaries. Two of these at Mile 16.5 and another at Mile 15 (near the Dixie Highway Bridge) were substantial dams that raised stream level in the local pool by 12" and obliterated riffles at the head of the pool. The vigorous storm surges on Battle Creek cause most dams to be short-lived.

[9]In July of 1990, R. Benson took a 15" trout with a nearly-severed lower jaw. The wound was identified by University of the South biologist Harry C. Yeatman as the probable result of an attack by a mink; despite the wound the fish had continued to feed. The population of both beaver and mink remains small and does not support the part-time trapping industry found on the nearby Elk River.

[10]Logging is a historic and continuing practice in the hardwood coves of the plateau. On the soils and related forest types, see Glendon W. Smalley, *Classification and Evaluation of Forest Sites on the Mid-Cumberland Plateau* (United States Department of Agriculture. Forest Service. Southern Forest Experiment Station. New Orleans, Louisiana. General Technical Report SO 38. October 1982). During the 1950's the streambed of Battle Creek between Mile 15 and 17.5 was used as a skid road for logging vehicles. The streambed was leveled by bulldozer and some of the larger rock structure in the levee probably derives from this activity. Subsequent flooding has redistributed some larger rocks to the streambed and a riffle-and-pool sequence has been restored. Interview with Herman Baggenstoss of Tracy City, TN; April 23, 1990.

[11]Widths taken at the widest point of the valley floor at each of the river mile markers (+) on the USGS quads beginning at Mile 3. Widths are approximate for Mile 6-7 where Sweden's Cove enters; no measurement at Mile 14.

[12]The summer depth is less, but not much; the persistence of the tributary streams, quick runoff from showers, and seepage from well-wooded slopes sustain the stream with good water quality into August.

[13]See the contour patterns along the present stream between Miles 1-8 on the South Pittsburg quad. See, also, Morisawa, 1968, pp. 80-92.

[14]The solstice storm of December 22-23, 1990, produced rainfall amounts from 12-15" across the head of the Battle Creek drainage; the storm of February 18-19, 1991, produced rainfall in the same area of about 6".

[15]These data are taken from USGS quads, Monteagle, Orme, and South Pittsburg, and reflect data revised in 1982, 1974, and 1983.

[16]The structure count does not include a small trailer park near Mile 4.

[17]The exception to this generalization is the lower end of Sweden's Cove Road near the Sequatchie Valley Golf and Country Club where a cluster of high-grade houses occurs.

[18]It should be noted, however, that some poorer housing is located well above the flood level of the creeks. Much of this housing consists of trailers placed on the rock outcroppings of the plateau buttresses that reach into the valley or is found high in the coves where the traditional term "cabin" is more appropriate. There is little correlation with racial patterns: very few non-caucasians live in the valley.

[19]The nearest dumpsters are opposite Mile 3.5, approximately 11 road miles from the head of Ladd's Cove. The nearest landfill is near the Marion Co. Airport 19 miles away.

[20]"NIMBY"--Not-In-My-Back-Yard--thinking is seldom a luxury for the marginal residents of Appalachia: neither with respect to household garbage nor the effects of stripmining, logging, or hazardous wastes. For many households, particularly those occupied by families at or below the poverty level, the ditch or ravine in the back yard is the only convenient disposal site for

household waste. Ditch disposal is also used by some of the businesses in the valley. A few houses deal with garbage by means of back-yard incinerators: oil drums with holes punched in the sides for ventilation that are filled with garbage and set afire; the ash from such burning is periodically dumped in a ditch or ravine.

[21]Near the Interstate 24 bridge over Fiery Gizzard Creek, the accumulated flood-borne garbage and trash cove about one-quarter acre.

[22]Many of the styrofoam cups--bait cups, coffee cups, cold food containers, egg cartons--so evident at the edges of fields in the summer of 1989 have been crushed and fragmented by the turbulence of the water and the weight of sticks and logs cast over them. In the debris masses concentrated in the turn corners of the stream much of this material is already half-dollar size; some of these masses are four or more feet deep and are interlayered mounds of trash and sticks. The array is so densely interwoven that the mounds have the appearance of a composted landfill.

[23]Morisawa, 1968 pp. 52-53; Leopold, *et al*., 1964, pp. 169-95.

[24]The section of the upper creek (near Mile 16.4) which reveals the greatest damage to the streambank and to nearby buildings is that portion which was cleared by bulldozer in 1989. In that clearing, the entirety of the levee flora for approximately two hundred yards was removed; this stretch bordered two right-angle turns of the creek and includes a vertical drop of eight feet.

[25]Unusually large pieces such as building sections and pieces of billboards washed away in the flood present more of a challenge. Interestingly, for an Appalachian site, Battle Creek is notably free of abandoned cars.

[26]Roadside cleanup calculation is about 57 bags per ten-ton truck. Information supplied by Joe D. McBee, Franlkin County, Tn., Road Commissioner.

[27]The area to be cleaned per truckload is approximately 2500 sq. yds or .52 acre. At this rate, 50 bags per .51 acre yields one bag per 453 sq. ft., or a bag for an area about 21' x 21', the size of a large family room or den. In some areas, especially the open woods, the density is lower; at turns and low spots, much higher.

[28]1760 yards/mile=17.6 loads x 15 miles=264.

[29]The number seems high. Obviously, the distribution of trash along the stream follows complex gradients and is not uniform from end to end or side to side. Consider, however: if one-third of the 500 structures in the valley are residences with an average occupancy of 4 persons, 166 houses shelter about 664 persons. Using 3.5# per person as the average daily trash load generated, the people of Battle Creek generate about 2324# of trash daily; if the average weight of a bag is taken at 7#, the daily load of two persons, then about 332 bags of trash are generated daily in the valley or about 9960 bags per month. The estimate here would represent about one and a half months accumulation of daily trash, exclusive of larger items.

[30]This estimate is based upon winter conditions after leaves are off the trees and briars and other prickly vines are dormant; by the end of March as green-up occurs, the time for filling a bag would quickly approach an hour and the cleanup would become difficult or impossible. By May the trash is almost completely hidden to all but fishermen and residents.

[31]Or 3,300 hours @$4.00.

[32]Or 6,600 hours at the same rate.

[33]Not included, of course, are the cost of bags and other support costs. Compare: 20 large garbage bags on "2 for 1" special at a local grocery cost $3.00 or $1,980 at the retail rate for 13,200 bags. Bulk discounts, obviously, would reduce the cost, but the wholesale cost of the bags alone would exceed the annual discretionary money of some families in the valley.

[34]It is unrealistic, of course, to expect a single group of volunteers to work the total time per individual calculated here; nor is it reasonable to assume eight-hour work days for volunteers on the weekends. An actual cleanup would probably take one-third longer than the estimate used here.

[35]Some minor dumping occurs around Mile 17, but this currently amounts to about one truck load needing removal; the appearance of Battle Creek certainly suggests illegal dumping, but once the origin of the trash is recognized and its location in the stream channel, very little of it turns out to have been "dumped".

[36]The kind of Third World environmental activism described by Alan Durning would be hard to awaken in the world of the Appalachian coves. Cove culture with its own history of colonial despoilation and defeatist attitudes constitutes a kind of Fourth World of its own: economically, politically, and historically sharing many features of the Third World, but largely ignored in the attention given to Third World areas or to the problems of ethnic minorities in America. See, Durning, "Environmentalism South" in *The Amicus Journal*, Vol 12, No. 3 (Summer, 1990), 12-18. See also, Dick Russell, "Environmental Racism," *The Amicus Journal*, Vol. 11, No. 2 (Spring, 1989), 22-32.

[37]According to the Marion County Executive's office in Jasper, Tn., "There is no county-wide garbage service. There are dumpsters around the county and people are free to use the county landfill on Browder Switch Road. If you live inside the city limits garbage service is available." Information supplied by phone from the county executive's office.

[38]The upper ends of Fiery Gizzard and Cave Coves lie in Grundy County.

[39]This is not intended as a condemnation of county management; it should be taken as an indication of the economic difficulties facing southern rural counties. Garbage is a costly by-product of American life; its costs are well-documented among urban solid waste planners. Rural counties lacking the tax base or service infrastructure of metropolitan areas face staggering problems. In the counties around the Battle Creek drainage, many public services decline sharply with distance from the county seat.

[40]The per capita income of Marion County is $___. The unemployment rate is__%. The school dropout rate is ___%. The literacy rate is ___%. See also, B. Keith Crew, "Dropout and Functional Illiteracy Rates in Central Appalachia," Appalachian Data Bank Report #1 (March, 1985); Grundy and Marion counties fall just outside the data area, but within the limits of the social problems defined by Crew.

[41]Erskine Caldwell, *Tobacco Road*, (New York, n.d.). Most of Caldwell's novels and stories are set further to the south or east than the coves described here, but many of Caldwell's impressions of the South were formed as a young man traveling with his Presbyterian minister father in the Cumberland Mountains of Tennessee and Kentucky. See, especially, his comments in chapter three of *Deep South*, (Athens, GA., reprint, 1980); he contrasts the Cumberlands of the 1960's with the same area in the 1920's, observing that "...there may be even less to barter and swap than there was nearly a half-century ago." (p. 30).

[42]*Ibid*.

[43]"Religious concepts spread beyond their specifically metaphysical contexts to provide a framework of general ideas in terms of which a wide range of experience--intellectual, emotional, moral--can be given meaningful form." Clifford Geertz, "Religion as a Cultural System," in William A. Lessa and Evon Z. Vogt, *Reader in Comparative Religion: An Anthropological Approach*, 3rd Edition (New York, 1965), pg. 177. See also, Turner, xx; Bellah, yy.

[44] This criticism has had several forms: the attack of secular science/humanism upon fundamentalist creationism; the powerful social stigmas--reflected in names such as "holy rollers" or "snake handlers"--attached to Appalachian pentecostalism; and the persistent application of stereotypes: hillbilly, covite, redneck, po'white, 'handler [snake handler], 'roller, peckerwood, etc. These stereotypes have been no less painful or debilitating to Appalachians than racial stereotypes have been to Afro-Americans; it is the measure of the distance of our removal from Appalachia that media continue sustain Appalachian stereotypes the equivalent of which applied to blacks would produce violence, legal action or boycott. For a different ethnic group, the defeat of the Sioux at Wounded Knee in 1890 was a powerful critique of a cluster of symbols, particularly those associated with the Ghost Dance, and precipitated a long-term despair.

[45]It should be noted that a culture of despair as a religious form is different from what Vittorio Lantenari describes in his *Religions of the Oppressed* (New York, 1963); oppression, per se, does not generate despair: Soviet and East European oppression of Orthodoxy did not produce despair but quite its opposite, a vigorous and growing faith that could not be extirpated; in Lantenari's historical examples, the religions of oppressed peoples typically gave rise to religiously inspired revolutions or anti-colonialist wars, or virulent forms of faith.

[46]Note that Calvinism is a theology, not a denomination; this theology found expression among Congregationalists, Methodists, Anglicans, Presbyterians, Baptists, and others.

[47]As long as the Appalachian people could maintain a healthy subsistence culture, this Calvinism was balanced by a generally benign day to day existence; once political and economic change altered the traditional small cash markets and became invasive in the fossil fuel and hydroelectric development of the region, the balance was upset.

[48] It should be noted that these Appalachian southerners who belong to the culture of despair have little in common--by way of social origin, education, occupation, or religious background--with Lost Cause southerners. (This is reflected in part in the attitudes about slavery and differences between plantation areas and upland areas on the question of secession. See xxx; it is reflected in differences in social values associated with ethnic background as well as occupation. See, Cash, Olmstead [Olmstead's obsession with slavery creates an imbalance in his observations of southern areas, but some of his observations ring true in comparison with contemporary as well as more recent observers: "zzzhhhzz'), Gray, **poor whites: the vilest,dirtiest,*** etc.)]

[49]See Charles Reagan Wilson, *Baptized in Blood: The Religion of the Lost Cause 1865-1920* (Athens, GA., 1980).

[50]The very geography of the region works against them in a topographic ghettoism more vertically rigorous than the ethnic wards of any urban area. The one form of trans-cove social networking that touches the ordinary residents of the coves is Sunday-morning pentecostal radio--"am"--broadcasting, but this network is pervaded by the co-opting messages of compensatory religion.

[51]See, John Muir, *A Thousand Mile Walk To The Gulf* (Boston and New York, 1916), pp. 36-37. Muir's walk had taken him southeasterly across Kentucky from Louisville; he entered Tennessee around Jamestown, cut across the Cumberland Mountains, made his way toward Montgomery, then to Philadelphia ("a very filthy village in a beautiful situation"), Madisonville, and crossed the Hiwassee River on his way into North Carolina around Murphy. Muir transcribed the explanation for this way of life given by one of his hosts, "I believe in Providence. Our fathers came into these valleys, got the richest of them, and skimmed off the cream of the soil. The worn-out ground won't yield no roastin ears now. But the Lord foresaw this state of affairs and prepared something else for us. And what is it? Why, He meant us to bust open these copper mines and gold mines, so that we may have money to buy the corn that we cannot raise." (p. 38) In the southwestern Cumberland Plateau, the mines are typically stripmines for coal; there is little gold.

[52]Muir, pp. 26-27.

[53]See Clement Eaton, *A History of the Old South* (New York, Third Edition, 1975), particularly Chapter 12, for an overview. See also, C. Vann Woodward, *Origins of the New South 1877-1913* [Vol. IX of *A History of the South*] (Baton Rouge, LA., 1974). Much of the historical data can be found Lewis C. Gray, *History of Agriculture in the Southern United States To 1860*, 2 vols. (Washington, D.C., 1933), especially II, pp. 831-887. The recent literature is extensive. See Genovese etc and JSH xxx.

[54]Muir had no way of noting this aspect of the cove economy of previous generations where it had been the practice to pen hogs and cattle in the coves where they would be contained by the sheer rock walls of the escarpment in the upper ends of the coves and where they could be fattened on the rich mast crops of the heavily timbered slopes. The long, narrow coves supported a substantial livestock economy with little effort required except for the construction of a rail fence at the bottom of the cove. Before 1850, in the late fall, cattle and hog drives would be made from these mountains to slaughter houses or to shipping towns along the rivers. "These old-fashioned frontiersmen of the uplands, in truth, were the predecessors of the cowboys of the trans-Mississippi range. They "rounded up" their cattle, used recognized brands, and drove both cattle and hogs to market over long distances." Donald Davidson, *The Tennessee: The Old River* (New York: Rinehart & Company, Inc.: 1946), p. 301. See Gray, II, pp. 883-884; see also Jason B. Deyton, "The Toe River Valley to 1865", *North Carolina Historical Review*, Vol. 24 (_____, 1947), 423-66 and Patricia Duane Beaver, *Rural Community in the Appalachian South* (Lexington, Ky.: The University Press of Kentucky, 1986). This method of keeping livestock, now mostly hogs, is still found in some coves. In Coppinger Cove paralleling Battle Creek on the east, a current sign warns, "No Hog Hunting," to indicate that the hogs found in the cove are not feral and therefore not fair game for hunting.

[55]See, Gray, II, p. 884: "West of the mountain ranges in Kentucky and Tennessee is the extensive Cumberland Plateau, a region of rough and broken sandy and shale soils, isolated from market. For the most part these areas attracted only a sparse population of pioneer farmers, who made little progress beyond the log-cabin stage of development. Their life contrasted sharply in its poverty and isolation with the beautiful, comfortable, and sociable existence of the valley [i.e., the valley of the Tennessee River in east Tennessee] farmers. [About 1849]...Land was worth about 30 cents to $1 per acre. Cabin windows were without glass. The main industry was cattle raising. Young cattle were brought from the mountains and subsisted for about four months on the abundant grass." See also, Gray, I, pp. 438 ff.; 483-488.

[56*]The distribution of upland cotton (1801-1811) is discussed in Gray, II, pp. 683-687; in Tennessee cotton production occurred mostly in Middle Tennessee west of the Cumberland Plateau. Production of some "hill cotton" occurred widely but for household consumption rather than the trade market. The broader bottomlands of the nearby Tennessee River downstream from Guntersville, Alabama, did develop cotton planting in the early 1800's. Cotton planting also developed in the relatively broad valley of the Elk River which enters the Tennessee River between Huntsville and Muscle Shoals, Alabama. Although the headwaters of the Elk River and Battle Creek are, at Monteagle, less than a mile apart, Battle Creek reflects the cove/mountain culture while the Elk valley developed along the lines of upland planting. See, Daniel Dupre, "Ambivalent Capitalists on the Cotton Frontier: Settlement and Development in the Tennessee Valley of Alabama," *Journal of Southern History*, Vol. LVI, No. 2 (May, 1990), 215-240.

[57]The older cash crop, of course, was moonshine. For a variety of practical and economic reasons, whisky making is now a less viable operation and survives more as an example of folk industry than as an actual means of income.

[58]The fast growing marijuana has to be carefully topped out to keep it producing and to keep it from overtaking the corn and thereby becoming visible to drug enforcement helicopters. Prudent

anglers and would-be environmental activists should always be careful to ask permission first, accept all friendly advice, and to stay out of places with names like "No Business Creek." This creek is not in the Battle Creek drainage but in the parallel sister cove (Lost Cove) just over the ridge west from Battle Creek; the culture, however, is the same. On Lost Cove, see George W. Jones *Candles in the Dark Boreen* (Chattanooga, TN, 1954); this volume is perhaps the best available chronicle of cove life, compiled from the Sherwood, Tn., Epiphany [Episcopal] Mission pamphlets 1932-1952.

[59]The Martin Springs Exit of I-24 occurs near river Mile 18; there is not another access to the highway until the Kimball Exit at Mile 2. One might wonder whether the people of the valley were intentionally left out of the economic development of Tennessee represented by the building of the highway. Considering the role of transportation in the economic development of the upland South, the limitation of access to the new highway suppressed economic growth whether intentionally or by omission.

[60]The glare of the fluorescent and neon lights over the fireworks stands lights up the night sky as one drives down the cove toward Kimball. The coves, in stark contrast, are nearly dark. There is almost no neon lighting going upstream from Kimball and very little farm lighting in the coves.

[61]One farmer along Battle Creek described life in the valley this way, "The old people died; the young ones moved away." Conversation with James McConnell near Lou's Chapel, April, 1989. See "Lonesome Country" in Harry K Schwarzweller, *et al*., *Mountain Families in Transition* (University Park, Pennsylvania and London: The Pennsylvania State University Press, 1971), pp. 226-227.

[62]For instance, the urban areas such as Chattanooga, Knoxville, and Roanoke and farming areas such as the upper Tennessee River valley and the Shenandoah Valley of Virginia.

[63]The habitat of the brook trout (*salvelinus frontinalis*) is an example; this fish is Appalachia and the South's only native "trout," and its habitat was destroyed long before acid rain became a problem.

[64]Immediately after the winter solstice storm of 1990, the broken trees, shredded garbage, eroded banks, and scattered boulders gave the appearance of an accident scene or where a peculiarly shaped explosion had occurred; in nearby Payne Cove, the landscape was so violently altered that it looked like a tornado had passed.

[65]The Nashville program "Hee Haw" parodies and effectively disarms this despair: in the "Bad Luck" segment of each show, the wasted mountaineers who appear to be either so lazy or so drunk that they can hardly move sing as the chorus to each tale of bad luck, "Gloom, despair, and agony on me. If it weren't for bad luck, I'd have no luck a'tall. Gloom, despair and agony on me." In the coves this is not funny. On the category of the 'comic' as an interpretative tool in understanding the upland South, see Robert D. Jacobs, "*Tobacco Road*: Lowlife and the Comic Tradition," in Louis D. Rubin, ed., *The American South: Portrait of a Culture*, (Baton Rouge,

LA and London: Louisiana State University Press, 1980), pp. 206-226. For the environmental--hygenic--roots of this stereotype, see xyz, The Lazy South.

[66]The reference is to the flawed structure of the dam at "Day Lake" (Lake Dimmick) in the Midway community on the plateau; state engineers have advised that the dam is unsafe and needs repair. The lake behind the dam contains approximately 600,000,000 gallons (1752 acre feet) of water. If the dam fails, this water will cascade into Ladd Cove and destroy the residences there. The dam and its surrounding property were recently donated to the University of the South at Sewanee, Tn.

[67]See James P. Carse, *Finite and Infinite Games*, (New York: Ballantine Books, 1986), pp. 158-59: "Since the attempt to control nature is at its heart the attempt to control other persons, we can expect societies to be less patient with those cultures which express some degree of indifference to societal goals and values. It is this repeated parallel that brings us to see that the society that creates natural waste creates human waste. Waste persons are those no longer useful as resources to a society for whatever reason, and have become...noncitizens....Human trash is not an unfortunate burden on society, an indirect result of its proper conduct; it is its direct product....They are therefore 'purged'. A society cleanses itself of them." The cove preachers seem to know instinctively that their hearers see themselves in these terms. It is what gives them their point of contact and, sometimes, their hold over their people.

[68]The churches in order down the valley are St. John's Episcopal Church in Ladd Cove; Martin Springs Baptist Church around Mile 18 on Martin Springs Road; Lou's Chapel Methodist church on the Dixie Highway at Mile 14; Battle Creek Baptist Church at Mile--; Battle Creek Church of God at Mile-- (Ebenezer Church?); Sweeten's Cove Primitive Baptist Church approximately four miles into the cove, and Pine Set Baptist Church 2.5 miles into Fiery Gizzard Cove.

[69]Source: fieldwork reports, Religion 391, "Southern Religion," The University of the South, 1977-1990. When the students attempt to graph the attendance they observe in the churches, the graphs typically show an inverted "bell curve" [bi-modal] distribution. It appears that in these small churches, grandparents are tending grandchildren during the service.

[70]The historical designation for this universalism is 'Arminianism', after Jacob Arminius (1559-1609), a Dutch reformer who taught that the atonement of Christ is not for the elect only [the Calvinist position] but is a general atonement for the sins of all people. It was alleged by the American Calvinists, especially in the rivalry between "primitive" and General Baptists, that this Arminian heresy lay at the root of the missionary movements and the rapid growth of the newer churches. An old but still interesting review of the two positions is [Elder] Cushing B. Hassell, *History of the Church of God from the Creation to A. D. 1885, including especially The History of the Kehukee Primitive Baptist Association*, ed. by Elder Sylvester Hassell, (Middletown, New York: Gilbert Beebe's Sons, Publishers, 1886); a consise statement is Robert E. Cushman's "Arminianism," in Samuel S. Hill, Jr., ed., *Encyclopedia of Religion in the South*, (Mercer, GA: Mercer University Press, 1984). The standard history of Calvinism remains John T. MCNeill's *The History and Character of Calvinism*, (New York: Oxford University Press, 1954).

[71]The historical controversy and its associated theological subtleties have receded, but it is still a matter of some issue well beyond the area of the coves whether a church includes--or in some instances, does not include--the description "Free Will" or "Missionary" in its name on the road sign.

[72]See J. Wayne Flynt, *Poor But Proud: Alabama's Poor Whites*, (Tuscaloosa, Alabama and London: The University of Alabama Press, 1989), p. 234.

[73]"If we admit that God absolutely governs all things according to the counsel of His own will, and that He is immutable, then we must admit that He has determined what shall and shall not transpire in time or in eternity. But to deny His universal control of all things, including all principalities and powers, thrones and dominions, things present or to come, whether they be visible or invisible, is to deny that He is the God of the whole earth, and virtually deny His eternal power and Godhead....To admit the universal government of God, is to admit the predestination of all things, from the falling of a sparrow to the dissolution of a world." Elder Gilbert Beebe, "Absolute Predestination of All Things," *Signs of the Times* (October 1, 1880) reprinted in Hassell, 1886, pp. 949-950.

[74]Sanctification and holiness are levels of the spiritual life which are believed to follow the initial act of salvation or redemption. Wide acceptance of these doctrines in the Nineteenth Century led to a powerful new movement sometimes called holiness-pentecostal--and to dozens of churches by these names. Some of these churches in Appalachia give particular attention to the Gospel of Mark, 16:12-18, and are led to practice the handling of snakes or the drinking of poisons. The holiness-pentecostal literature is extensive; an overview of older sources can be found in David W. Faupel, "The American Pentecostal Movement: A Bibliographical Essay," (Wilmore, Kentucky: Asbury Theological Library, 1972). On snake handling, an older source is Weston La Barre's *They Shall Take Up Serpents* (New York, 1969); another source which includes more personal narratives is Karen W. Carden and Robert W. Pelton,*The Persecuted Prophets* (Cranbury, N.J.: A. S. Barnes & Co., Inc., 1976)

[75]Sometimes in this dualism the dichotomy is between Jesus and the devil; , if the context or argument is moral, temptation is often represented, especially in sermons, as a woman. It is no coincidence in this point of view that women have a very circumscribed place in cove life or that they should so often become victims of neglect and abuse. On the place of women in the thought world of the Primitive Baptists, see Beverly B. Patterson, "Finding a Home in the Church: Primitive Baptist Women" in Ruel Tyson, *et. al., Diversities of Gifts: Field Studies in Southern Religion* (Urbana and Chicago, 1988), 61-78.

[76]In describing the "fundamentalism" of poor white rural religion, Flynt observes, "Their religion was fundamental not in theological terms, though few of them would have doubted the inerrancy of scripture or the miracles described therein. But they were neither literate enough concerning theology nor did they have sufficient time and energy to argue about such matters. Their religion was fundamental in the more basic sense that they attributed what happened in their lives to the inscrutable will of God." Flynt, 1989, p. 233.

[77]"A common feature of all the problems we have been discussing is that none is the result of forces beyond human control. None is caused by sun spots, or the gravitational pull of the moon, or volcanic activity. All are the result of conscious human choices. All can be cured by making other choices." Denis Hayes, "The Green Decade," *The Amicus Journal*, Vol. 12 No. 2 (Spring, 1990), 20. Hayes's context is global environmental action for the 1990's, but the conventional wisdom is the same. Such wisdom seldom acknowledges the intractability of limiting factors historically present in the social forms and spiritual outlook of Appalachia.

[78]Pelagius (c. 400 a.d.) was an early Christian heretic whose teachings were disputed by St. Augustine; Pelagius maintained that man is not completely fallen and retains some residual grace whereby he may act in his own behalf. The Church's teaching, as developed by Augustine and others, condemns this view as heresy on the ground that the Fall leaves man entirely without the means of initiating an act of restoration with God. While the controversy remains a technical discussion in formal systematic theology, in its popular sense, the pelagian position assumes that the human condition can be bettered by human effort; the Augustinian position assumes that it is very difficult except by God's aid for man to improve his lot.

[79]See, for instance, *50 Simple Things You Can Do to Save the Earth*, (Berkeley, CA., 1991); it is difficult to imagine these fifty things as having any relevance at all to the lives of most of the residents of Battle Creek valley. Jeffrey Hollander's *How to Make the World a Better Place: A Simple Guide to Doing Good*, (New York, 1990), is a more complete action guide, but equally irrelevant: "Action 28 Don't Litter WHAT YOU CAN DO: Last, but not least, don't litter. It doesn't make sense to control acid rain, practice organic gardening, conserve water, and increase the energy efficiency of our homes if we also litter. And, if you are willing to take the next step, consider picking up after a stranger or gently confronting your friends and neighbors who are less aware than you are. Often your willingness to retrieve someone else's trash will cause them to think twice about littering the second time around." (p. 87) Someone who tried to put the sentiments of this quotation into practice in the coves of Appalachia would be risking limb and in some places life. A more realistic, if less idealistic, position is taken by Veronica Kun in "50 Complex Things Public Policy Can Do To Save The Earth," in *NRDC Newsline*, Vol. 8, No. 6 (Jan. 1991), 3. See also, Peter Borelli, "Is Ecology Necessary?" *The Amicus Journal*, Vol. 13, No. 1 (Winter, 1991), 7-8.

[80]The effect of sin upon the will is affirmed in the writings of St. Paul, worked out in the thought of St. Augustine and John Calvin, and given voice by the sectarian evangelicals of the Appalachian frontier: "For I know that in me dwelleth no good thing: for to will is present with me; but how to perform that which is good I find not. For the good that I would, I do not: but the evil which I would not, that I do. Now if I do that I would not, it is no more I that do it, but sin that dwelleth in me." Romans 7:17-20.

[81]The argument is not that we should ignore individual action. The reason any form of pollution is an *ecological* problem, however, is that it affects the systems nature of the environment.

[82]Theologians, particularly process theologians, have been quick to recognize this fact and to apply the holistic insights of ethical systems thinking to economic, environmental, and ecological

problems. The literature is extensive. An introduction can be found in Sallie McFague, *The Body of God: An Ecological Theology* (Minneapolis, 1993), particularly the excellent notes, pp. 213-262.

[83]The advocates of the "Social Gospel" at the turn of this century may have been more pragmatically wise on this point by insisting on remedying the causes of social ills rather than addressing as the evangelicals did, sin and the sinner. To anyone schooled in the history of the Social Gospel Movement or in the history of American evangelicalism, the contemporary environmental movement offers some unnerving parallels.

[84]See Mark K. Solheim, et. al.,"A Cleaner Environment: What to Buy," *Changing Times*, February, 1990 reprinted in Russell Wild, ed., *The Earth Care Annual*: *1991* (Emmaus, PA, 1991), p. 211. Part of McDonald's argument for the continued use of styrofoam packaging was the "stability" of such packaging in landfills. See "McDonald's Packaging THE FACTS," McDonald Corporation brochure (1990): "...foam [e.g. polystyrene foam packaging] is an especially safe material to put into landfills because it does not create dangerous toxics by biodegrading. It is chemically inert." (p. 9). McDonald's subsequent response to criticism of its packaging is discussed in Nancy Wolf and Ellen Feldman, *Plastics: America's Packaging Dilemma*, (Washington, D.C. and Covelo, CA: Island Press, 1991), pp. xii, 41-42; this book is a good current assessment of plastic waste and the problems of landfills and recycling.

[85]On March 22-23, 1991, many acres of the water surface of Nickajack Reservoir and the upper Guntersville impoundment were loosely clogged with trash. During severe runoff, styrofoam products can be seen projected into the reservoir for hundreds of yards beyond the mouths of tributary streams and rivers.

[86]See John E. Young, "Reducing Waste, Saving Materials," in Lester Brown, Project Director, *State of the World 1991*, (New York, 1991), pp. 39-55.

[87]"Picture book angling" often interferes with flyfishermen's ability to accept the environmental realities cove people live under and with. Fly anglers apparently think they have a right to bankside conditions approximating those represented in their magazines and picture books. Were the artificiality of such pictures not protected by such a strong apparatus of elitist fantasy, anglers might be more active in working to change the actual causes of stream and bankside pollution.