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## ETHICS OR EXPEDIENCY: AN ENVIRONMENTAL QUESTION

By Douglas H. Strong\* and Elizabeth S. Rosenfield\*\*

### INTRODUCTION

Most ethical systems existing in the world today fail to take into account the need for a healthful physical and social environment in which the human species can survive and the human spirit thrive. Economist Robert Heilbroner noted recently that "affluence does not buy morale, a sense of community, or even a quiescent conformity."<sup>1</sup> As the quality of life on earth declines, the Western, individualistic model of behavior based on the pursuit of self-interest and material improvement is losing credence. We struggle to make adjustments that will satisfy the poor and aspiring classes and nations while protecting the interests of the advantaged, but lack adequate ethical principles to guide us.

Americans as well as all other peoples of the world have two choices in response to the rising tide of social and environmental crises: begin now to seek guidelines for meeting such fundamental problems as how to achieve a better distribution of the world's wealth and how to protect the world's physical resources from ultimate exhaustion, or wait until drastic change is forced upon us by the severity of the problems which we have helped to create. We can adopt new social and environmental ethics now or wait until human degradation and environmental deterioration threaten our very existence.<sup>2</sup> Whichever path we elect to follow, we must recognize that the future depends upon our present decisions, and that neither as individuals nor as a society can we escape responsibility for them.

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<sup>1</sup> R. Heilbroner, *The Human Prospect*, 20 THE NEW YORK REVIEW OF BOOKS, Jan. 24, 1974, at 26.

<sup>2</sup> INSTITUTE OF ECOLOGY, *MAN IN THE LIVING ENVIRONMENT* (1972); B. WARD and R. DUBOS, *ONLY ONE EARTH* (1972); D. MEADOWS ET AL., *THE LIMITS TO GROWTH* (1972).

To draw a line between environmental ethics and social ethics may seem artificial and arbitrary since every environmental problem is in some sense a social problem. For the purposes of this discussion, however, "environment" is used to mean physical environment as distinguished from social environment, and is limited still further to mean natural physical environment. A tenement house is certainly part of the physical environment of those who live in it, but whether the existence of such a dwelling is right or wrong is not a question of environmental ethics within the present definition. "Ethics," on the other hand, is used in a very broad sense to mean any value system by which to judge the rightness or wrongness and the desirability or wisdom of our actions and objectives.

Decisions on environmental issues are peculiarly difficult to make. As individuals we tend to be guided by personal considerations, as members of a society we tend to be guided by the society's cultural patterns, and as members of a species we must ultimately be guided by what is needful if the species is to survive. Thus the factors that influence our decisions range from the purely individualistic and hedonistic at one extreme to the purely biological at the other. Inevitably, personal inclination, cultural patterns, and concern for humans as a species will often be in conflict. For this reason alone we need ethical guidelines to help us make valid decisions.

How, for example, should we answer such questions as the following. Should couples be free to choose the number of children they will have, or should we, since there is a limit to the number of people the earth can support, begin to restrict the right to reproduce?<sup>3</sup> Is it justifiable to close down a factory that is causing a high degree of pollution, or to prohibit the manufacture of automobiles that use excessive quantities of fuel, even though these actions cause unemployment?<sup>4</sup> Should we stress the immediate needs of people alive today or the quality of the environment that will be our legacy to future generations? How should we balance our desire for individual freedom with the need for social controls to assure the survival and welfare of mankind?

In looking for criteria to help us answer these and similar ques-

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<sup>3</sup> D. Callahan, *Ethics and Population Limitation*, 175 *SCIENCE* 487-94 (Feb. 4, 1972); P. EHRLICH & A. EHRLICH, *POPULATION, RESOURCES, ENVIRONMENT* (1970).

<sup>4</sup> P. Drucker, *Saving the Crusade*, 244 *HARPER'S MAGAZINE*, Jan. 1972, at 66-71; N. Faramelli, *Ecological Responsibility and Economic Justice*, in *WESTERN MAN AND ENVIRONMENTAL ETHICS* 188-203 (I. Barbour ed. 1973).

tions, this article will start by examining two ethical systems that have contributed to our present difficulties, and will ask how they could be amended to serve us better.

### I. THE JUDEO-CHRISTIAN ETHIC

Many recent commentators on environmental ethics begin with a discussion of Christian attitudes toward nature. Historian Lynn White Jr.'s controversial thesis, for example, is that the root of the ecological crisis lies in our Judeo-Christian heritage. White's belief is that the Christian teaching that nature exists apart from people and was created for their use has encouraged the unchecked development of science and technology at the expense of the environment and that as long as Western society maintains its basic Christian values—including the "Christian axiom that nature has no reason for existence save to serve man"—we shall suffer a "worsening ecological crisis."<sup>5</sup>

Critics of White's thesis argue that he overemphasizes the influence of religion on our beliefs about nature and on the way we have treated the environment. Biologist Richard Wright, for example, agrees with White that Christianity nurtured science and technology in its early growth, but insists that scientists themselves, not Christianity, are responsible for the destruction caused by their activities and discoveries.<sup>6</sup> Social scientist Lewis Moncrief, while he does not discount the influence of religion, stresses the impact of the democratic revolution and the scientific-technological revolutions of the eighteenth and nineteenth centuries as a cause of environmental degradation today.<sup>7</sup> Geographer Yi-Fu Tuan points out that the Christian West is not alone in its destructiveness. Even traditional China with its adaptive attitude toward nature has greatly altered and damaged its landscape through deforestation and consequent erosion.<sup>8</sup> Rene Dubos, even more critical of White, maintains that the ecological crisis today "has nothing to do with the Judeo-Christian tradition" but results from the pursuit of short-term eco-

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<sup>5</sup> L. White, Jr., *The Historical Roots of Our Ecological Crisis*, 155 *SCIENCE* 1203-07 (March 10, 1967).

<sup>6</sup> R. Wright, *Responsibility for the Ecological Crisis*, 20 *BIOSCIENCE* 351-53 (Aug. 1, 1970).

<sup>7</sup> L. Moncrief, *The Cultural Basis of Our Environmental Crisis*, 170 *SCIENCE* 508-72 (Oct. 30, 1970).

<sup>8</sup> Yi-Fu-Tuan, *Discrepancies Between Environmental Attitude and Behavior: Examples from Europe and China*, 12 *CANADIAN GEOGRAPHER* 176-90 (1968); and Tuan, *Our Treatment of the Environment in Ideal and Actuality*, 58 *AMERICAN SCIENTIST*, May-June 1970, at 244-49.

nomic self-interest.<sup>9</sup>

White has recently assured his many critics that he is well aware that religion is not the sole cause of the ecological crisis, that ecological damage was widespread prior to the rise of Christianity, and that it is widespread in non-Christian societies today.<sup>10</sup> He has said also that to understand a society's value system we sometimes need to rely "less on what that society says about itself than on what it actually does." Nevertheless, reaffirming his original thesis, he insists that in the last analysis our society is a product of individual beliefs about who we are, where we are going, and how we ought to behave toward nature and our fellow man—in other words, a product of our religion and our "value structures."

While White has concentrated on the effect of the Judeo-Christian tradition on the rise of science and technology in the past 1,000 years, David Crownfield has argued that our present irresponsible attitude toward the earth's resources can be traced to the pre-Christian seminomadic Hebrew sheepmen who were always able to move their flocks to greener pastures, leaving behind the land that had been over-grazed and eroded. Their profligate use of the land was encouraged by their belief in a divine shepherd who would intervene miraculously and deliver them from their earthly troubles. Meanwhile, during their secular existence, the earth and its resources were theirs to use as they saw fit. Calvinists would later argue that only by full use of all that earth had to offer did people show their readiness to migrate to heaven.<sup>11</sup>

Not only historians but a growing number of theologians are inquiring into the relationship between Christian ethics and the environmental crisis. Although Richard A. Baer, Jr., Frederick Elder, Joseph Sittler, and others disagree somewhat on the meaning of Scripture, they fear that some interpretations of the Bible have encouraged an arrogant attitude toward nature. They are calling for an interpretation of Genesis that sees human "dominion over the earth" as a kind of trusteeship. They believe that people were placed on earth to "tend God's garden," and that this being so, they have no absolute right to the land or its fruits.<sup>12</sup>

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<sup>9</sup> R. DUBOS, *THE GENIUS OF THE PLACE*, Horace M. Albright Conservation Lectureship X (University of California School of Forestry, 1970).

<sup>10</sup> L. White, Jr., *Continuing the Conversation*, in *WESTERN MAN AND ENVIRONMENTAL ETHICS*, 55-64 (I. Barbour ed. 1973).

<sup>11</sup> D. Crownfield, *The Curse of Abel: An Essay in Biblical Ecology*, 258 *THE NORTH AMERICAN REVIEW*, Summer 1973, at 58-63. See also P. CARROLL, *PURITANISM AND THE WILDERNESS* (1969).

<sup>12</sup> For example, see F. ELDER, *CRISIS IN EDEN: A RELIGIOUS STUDY OF MAN AND ENVIRONMENT*

One recent interpreter of the Bible, David Crownfield, suggests that the Garden of Eden (before the fall) was a stable plant and animal community.<sup>13</sup> Humans were fruit-gatherers who cooperated with all other living things in a self-sustaining environment; the apple tree and all fruitful plants reseeded themselves and shared their abundance with other residents of the garden. Certainly not only Jesus but other early Christians lived simple lives close to the land and preached kinship with the earth and all living things. Also speaking in this vein, theologian Sittler reflected the thought of many enlightened churchmen when he stated that the solution of the environmental crisis was to be found in "joyful and intelligent fellowship with our sister the earth—and *that* concept, utterly basic to the massive changes we must make if we are to survive as human beings, is a religious concept, a spiritual vision."<sup>14</sup>

## II. THE PRAGMATIC-UTILITARIAN ETHIC

The second ethical system believed to have contributed to our environmental problems is the Pragmatic-Utilitarian ethic espoused by most Americans today. As popularly interpreted, this approach has become an ethic of expediency. Whatever is of the greatest immediate benefit to the greatest number of people at the lowest cost is judged desirable or "good," and therefore moral.

The primary problem is not with the theory that the greatest benefit at the lowest cost is good, but with the failure to take into account future good as well as present good. The shortsighted policies stemming from this philosophy have been ecologically disastrous. One outstanding example is the dust-bowl of the American midwestern plains, which resulted from over-grazing and over-ploughing the land. The indigenous buffalo-grass had held the soil against the periodic droughts and merciless winds. When it was ploughed under the preparation for crop-planting, the operation could have been said to be benefitting the greatest number at the lowest cost. The long-term effect was anything but beneficial, how-

(1970); F. SCHAEFFER, *POLLUTION AND THE DEATH OF MAN: THE CHRISTIAN VIEW OF ECOLOGY* (1970); R. Baer, Jr., *Land Misuse: A Theological Concern*, 83 *CHRISTIAN CENTURY* 1239-41 (Oct. 12, 1966); and R. Baer, *Conservation: An Arena for the Church's Concern*, 86 *CHRISTIAN CENTURY* 40-43 (Jan. 8, 1969); J. Sittler, 8, 1969; J. Sittler, Jr., *A Theology for Earth*, 37 *THE CHRISTIAN SCHOLAR* 367-74 (June 1954); G. Fackre, *Ecology and Theology*, in *WESTERN MAN AND ENVIRONMENTAL ETHICS*, 116-31 (Ian G. Barbour ed. 1973);

<sup>13</sup> D. Crownfield, *supra* note 11, at 60-62.

<sup>14</sup> J. Sittler, *Two Temptations—Two Corrections*, 45 *NATIONAL PARKS AND CONSERVATION MAGAZINE*, December 1971, at 21.

ever, and everyone suffered. Over-grazing, strip-mining, dumping factory wastes into lakes and rivers, the indiscriminate use of pesticides—all of these practices have been justified as “practical” and therefore right.

A utilitarian ethic naturally makes for very flexible standards of conduct. Biologist Garrett Hardin argued, for instance, that “the morality of an act is a function of the state of the system at the time it is performed.”<sup>15</sup> The frontiersman who polluted a nearby stream did not necessarily harm anyone if his closest neighbor was over 20 miles away. Nor was he culpable if he “wasted” resources that were greater than anyone’s need for them. Today, in a crowded world with depleted resources, comparable behavior would be immoral. By the same token, freedom to reproduce according to individual election is no longer defensible in as much as it threatens to result in a population that the earth cannot support. Every human being in order to exist must consume a share of the earth’s air and water and other essential resources, and none of these resources is inexhaustible. Hardin sees the unrestricted use of the land and its resources, coupled with the pursuit of individual self-interest, as ruin for all. The state of the system has so changed that what was once ethical is no longer so.<sup>16</sup>

Whether the Judeo-Christian Bible is reinterpreted, or the Pragmatic-Utilitarian ethic reformulated, we obviously need a more clearly defined ethical principle by which to judge whether any course of conduct that affects our environment is right or wrong. The hazards of our present unguided course are plain to be seen. A correlation clearly exists between an increased prevalence of degenerative diseases and nervous disorders, and an increase in pollution of air and water, in contamination of foods, in exposure to radiation, and in urban expansion at the expense of open country. Since those who have adapted best to the environmental conditions created by over-population and over-industrialization are most likely to survive, in generations to come we could conceivably propagate a physically and mentally inferior species, not only suited to an anthill existence but content with it.<sup>17</sup>

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<sup>15</sup> G. Hardin, *The Tragedy of the Commons*, 162 *SCIENCE* 1245 (Dec. 13, 1968).

<sup>16</sup> *Id.*

<sup>17</sup> R. DUBOS, *MAN, MEDICINE, AND ENVIRONMENT* 103-06 (1968); R. DUBOS, *SO HUMAN AN ANIMAL* 16-17, 63-77, 144-60 (1968); J. LIVINGSTON, *ONE COSMIC INSTANT* 225 (1973).

### III. THE SEARCH FOR A SOLUTION

Of many suggestions<sup>18</sup> that have been made, one of the most promising is that we begin our search for ethical guidelines by looking at our biological past. Our aim would be to determine, if possible, the sort of environment most conducive to mankind's health and well-being. People are unique among animals, but they are animals, and like all other life on earth, the product of evolution. They can reasonably assume, therefore, that the environment to which they are genetically best suited is the natural environment in which they evolved, that is, their global environment before they began to change it.<sup>19</sup>

In *The Tender Carnivore and the Sacred Game*,<sup>20</sup> ecologist Paul Shepard discusses primitive peoples who accepted the world as they found it and learned to live in harmony with it. Shepard says:

We commonly hold that we want a society that operates economically and nearer to a steady state, a life that enables us to achieve personal fulfillment, enough small group contact to let us have a consistent body of close friends, the means for according a respect for all of living things, a sense of connectedness of life, of atunement and alertness. Such is a description of those primitive people.<sup>21</sup>

Shepard goes on to point out that aboriginal peoples lived a remarkably good life in which the equivalent of only two or three days a week were spent in providing for his sustenance. These peoples spent most of their time in peaceful "socializing, sleeping, dancing, visiting, being hosts, telling stories, playing with children, making music." They lived in a "rich, stable, and diverse environment" and maintained a healthy and alert population that the land could comfortably support.<sup>22</sup>

This remarkably successful adaptation of humans to their environment began to break down some 10,000 years ago with the rise

<sup>18</sup> Among the most useful proposals are the following: E. GOLDSMITH, *BLUEPRINT FOR SURVIVAL* (1972); *THE CALIFORNIA TOMORROW PLAN* (A. Heller ed. 1971).

<sup>19</sup> H. Iltis, O. Loucks, and P. Andrews, *Criteria for an Optimum Human Environment*, 26 *BULLETIN OF THE ATOMIC SCIENTISTS* 2-6 (Jan. 1970).

<sup>20</sup> P. SHEPARD, *THE TENDER CARNIVORE AND THE SACRED GAME* (1973).

<sup>21</sup> P. Shepard, *Hunting for a Better Ecology*, 258 *THE NORTH AMERICAN REVIEW*, Summer 1973 at 15. For a brief account of the African Bushmen, see M. Sahlins, *The Original Affluent Society*, 4 *ECOLOGIST* 181-89 (June 1974). See also Kenneth MacLeisch's account of the Tasa-day, *Stone Age Cavemen of Mindanao*, 142 *NATIONAL GEOGRAPHIC MAGAZINE*, 218-49 (Aug. 1972).

<sup>22</sup> P. Shepard, *Hunting for a Better Ecology*, 258 *NORTH AMERICAN REVIEW*, Summer 1973, at 13.



of agriculture. Shepard thinks that the objectives of the herders and farmers who appeared on the scene derived from the nature of their activities; “. . . they all shared the aim of completely humanizing the earth's surface, replacing wild with domestic, and creating landscapes from habitat.”<sup>23</sup> Each person tried to maximize his or her share of space and goods.

In time the values and characteristics of the former hunter-gatherers changed. Diversity gave way to uniformity, life became geared to the drudgery of production, to competition, and to regimentation, and “civilized” people set themselves apart from nature.<sup>24</sup> When the demands of an increasing population exceeded the capacity of the land to provide for it, wars, epidemics, and famines resulted, followed by serfdom and slavery.<sup>25</sup> In brief, Shepard contends that the golden age of humans ended with this fundamental shift in their way of life and sense of relationship to the land, and that today we suffer the consequences of having remade our environment.<sup>26</sup>

While Shepard may be criticized for his glorification of our “primitive” past, much can be learned from a study of earlier values in relation to our present values and our hopes for the future. Precivilized people regarded the cosmos as a whole and made no distinction between personal, natural, and sacred worlds. They believed that humans and the nonhuman world were bound together in a single moral order, and that they had an obligation to care for the whole, of which they were a part. Many American Indians taught their children the concept of “immanent justice”—the idea that the physical universe is not indifferent to what one does, and that the land itself exacts retribution for its misuse.<sup>27</sup>

“Civilized” individuals, on the other hand, teach that the universe has no moral quality, that it is indifferent to them, and that they owe it nothing. And they teach that, far from being an integral part of the universe, they are beings of a different order, with the natural world and all of its resources there for them to exploit as they choose.<sup>28</sup> In the words of one author:

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<sup>23</sup> P. Shepard, *THE TENDER CARNIVORE AND THE SACRED GAME* 237 (1973).

<sup>24</sup> *Id.* at 239.

<sup>25</sup> *Id.* at 16-26.

<sup>26</sup> *Id.* at 35-36.

<sup>27</sup> R. REDFIELD, *THE PRIMITIVE WORLD AND ITS TRANSFORMATION* 107-08 (1953).

<sup>28</sup> John A. Livingston has traced the religious roots of the environmental crisis to paleolithic man who utilized the magic of cave paintings in an attempt to improve his chances for successful hunting. This, according to Livingston, was the beginning of man's conception of

The contemporary Western world, now imitated by the Orient, tends to regard the relationship of man to nature as a relation of man to physical matter in which application of physical science to man's material comfort is man's paramount assignment on earth.<sup>29</sup>

No matter how appealing Shepard's picture of this primitive way of life may be, we have come too far to return to those ways. Our lifestyles and the means by which we support ourselves, both dependent on industry, are too firmly entrenched. Not many of us would be willing to relinquish the bathtub with hot running water for an icy natural pool, or a job of so many hours a day and a fair certainty of dinner for the chances of the hunt. We can, however, learn an invaluable lesson from the concern of early humankind for the well-being of the earth, and from the fact that this concern was reflected in their ethics and governed their behavior. A regard for nature similar to that of primitive peoples, and conspicuously lacking in Judeo-Christian and Pragmatic-Utilitarian ethics, is the cornerstone of an environmental ethic in any era.

The environmental ethic formulated by Aldo Leopold over 25 years ago provides a useful starting point in our efforts to evolve an environmental ethic for our own era.<sup>30</sup> While a number of biologists and environmentalists have proposed ethical principles to guide us in making decisions that affect the environment, up to this time the principle proposed by Leopold is at once the most comprehensive and the simplest.

Leopold's thesis was that all ethical systems so far evolved rest on a single premise: that the individual is a member of a community of interdependent parts. Ethics first dealt with the relationships between individuals and then with the relationship between the individual and the social community. Leopold's belief was that ethics should be extended once more to include one's relationship to the natural world. This "land ethic," as he called it, simply enlarged the boundaries of the community to include soils, waters, plants, and all species of animals, each member of which is dependent on each of the other members for its own healthy existence. As a "plain member and citizen of this community," to use Leopold's designation, each person owes respect and a duty to each of his or her fellow members and to the community as a whole.<sup>31</sup>

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himself as separate from nature and of his efforts to exercise domination over it. J. LIVINGSTON, ONE COSMIC INSTANT 134-46 (1973).

<sup>29</sup> REDFIELD, *supra* note 27, at 110.

<sup>30</sup> A. LEOPOLD, A SAND COUNTY ALMANAC (1949).

<sup>31</sup> *Id.* at 204.

Leopold's premises lead to the result that we are responsible for the "health" of the biotic community, which he defined as its "capacity for self renewal." He defined conservation as our effort to understand and preserve this capacity, and warned us that the development of a land ethic required us to "quit thinking about decent land use as solely an economic problem," and to think of it also in ethical terms. "A thing is right," he said, "when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise." He believed an ethic of this kind to be an evolutionary possibility and an ecological necessity.<sup>32</sup>

Leopold's concept of people as part of a biotic community made up of soils, water, plants, and other animals, although not as all-embracing, resembles the primitive concept of being as one with the universe. The environmental ethics of these earlier peoples, however, were rooted in instinct and religion, whereas Leopold's were based on his understanding of biology. Unfortunately, as Leopold himself has pointed out, a great deal in the field of biology and especially in the field of ecology is still not known.<sup>33</sup>

#### IV. TOWARD THE DEVELOPMENT OF AN ENVIRONMENTAL ETHIC

Several steps are necessary in the development of an environmental ethic. The first is to formulate a basic principle. Leopold provided such a principle: a thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community, and wrong when it tends to do otherwise. Less explicitly, but with intent similar to Leopold's, environmentalist Joseph W. Meeker suggested that we try to understand the enormously complex world in which we live and then to "learn how to shape ourselves to please the world."<sup>34</sup> In whatever way its fundamental principle is formulated, a responsible environmental ethic by its very nature imposes on people a duty to protect, preserve, and care for the natural physical world around them.

Since a principle of this kind can be implemented only to the extent that we know what care the earth requires, the next step is to put our best minds to the task of learning as much as possible about the intricate biological processes on which the health of the

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<sup>32</sup> *Id.* at 221, 224-25.

<sup>33</sup> *Id.*, at 185-87.

<sup>34</sup> J. Meeker, *Prologue to an Environmental Ethic*, 258 *THE NORTH AMERICAN REVIEW*, Summer 1973, at 22. See also J. MEEKER, *THE COMEDY OF SURVIVAL: STUDIES IN LITERARY ECOLOGY* (1974).

biotic community depends, and about which so little is fully understood. We know, of course, that once a species of plant or animal has been exterminated, there is no way to recreate it. Also, mankind's ultimate survival depends upon the ultimate survival of other species. Even were the prospect inviting, we could not solve our environmental problems by living alone under geodesic domes in a man-made environment. To do so would be a biological impossibility.

We do not know how many species of plants and animals we dare to exterminate, either intentionally or inadvertently—by air, water or soil pollution—before we risk toppling the biotic pyramid and ourselves with it. In the vast complex of nature, what are the biological functions of each constituent? Is there any species of plant or animal, no matter how apparently valueless, that does not serve some purpose not yet understood? How much modification can our environment stand and still support human life? These are very difficult, long-range questions that are not likely to be answered soon.

Meanwhile innumerable questions of immediate concern need to be answered. These range from how best to dispose of industrial and atomic wastes, to how aerosol propellants affect the earth's protective shield against cosmic rays. Until such time as more money and trained personnel are available, research of the kind required to solve problems such as these would have to proceed at the expense of some other types of research now in progress. A great deal of time and energy is presently devoted to the development of new drugs and elaborate techniques and equipment for the treatment of chronic diseases, many of which, as noted earlier, are caused by adverse environmental conditions. With a new ethical principle to guide us, we would need to devote some of this energy and money to correcting as far as possible the conditions that cause the illnesses in the first place, and some to advancing our knowledge of ecology and biological processes in general.

Despite the vast amount that is still not known, we currently have sufficient scientific data to enable us to start drawing up guidelines for an environmental ethic. Many facts of environmental importance have been established and given wide publicity. The deleterious effects of chlorinated hydrocarbons in pesticides, of phosphates in soaps and detergents, and of pollutants in the exhaust fumes of automobiles, have become matters of common knowledge. Every day newspapers and journals report new scientific findings related

to environmental problems. Each newly established fact would add another criterion of right and wrong to an environmental ethic, but development of such an ethic need not wait on new data or additional criteria.

Assuming that we have formulated an ethical principle and have taken steps to implement it, we are still faced with the very difficult problem of procuring general acceptance of its tenets. In primitive societies common moral conceptions held the members of a community together. Because a whole community accepted the same set of values, including values related to the environment, extraordinary pressures could be put on individuals to conform to environmental rules.<sup>35</sup> Modern society, however, is not in that enviable position.

Hardin, who saw individualistic self-interest leading us to disaster, believed that the only way to bring human conduct into line with environmental needs was by means of stringent, legal controls: "mutual coercion, mutually agreed upon by the majority of people affected."<sup>36</sup> Whatever the exact meaning of Hardin's formula, John J. McMahon took issue with the principle involved. McMahon believed that people were genetically programmed as much for cooperative, altruistic behavior as for competition and that education could, of itself, create a sense of responsibility and a willingness to sacrifice personal interest.<sup>37</sup>

Some argue in Hardin's defense that he simply had the courage to confront the reality of man's inherent egocentricity.<sup>38</sup> Freedom to live a totally egocentric existence cannot be tolerated, and Hardin saw legal restrictions as offering the best chance for survival.<sup>39</sup> Hardin, however, was relying too heavily on regulation *per se*. The observation that we cannot legislate morals has been borne out time and time again.<sup>40</sup> As Leopold has noted, "the mechanism of opera-

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<sup>35</sup> Conformity to community values ensured stability, but at the cost of flexibility and change. Modern societies experience rapid change, but suffer from a breakdown in sense of community and security. See W. BURCH, JR., *DAYDREAMS AND NIGHTMARES: A SOCIOLOGICAL ESSAY ON THE AMERICAN ENVIRONMENT* 49 (1971).

<sup>36</sup> G. Hardin, *The Tragedy of the Commons*, 162 *SCIENCE* 1247 (Dec. 13, 1968). See also G. HARDIN, *EXPLORING NEW ETHICS FOR SURVIVAL* (1972).

<sup>37</sup> J. McMahon, *Garrett Hardin and the Search for Ecological Morality*, 37 *THE LIVING WILDERNESS*, Spring 1973, at 23-29.

<sup>38</sup> Margaret O. Strahl, Letter to the editor, in 37 *THE LIVING WILDERNESS*, Summer 1973, at 41-42.

<sup>39</sup> G. Hardin, *The Tragedy of the Commons*, 162 *SCIENCE* 1247 (Dec. 13, 1968).

<sup>40</sup> *E.g.*, note the problems with laws to ban alcoholic beverages, certain books, and marijuana, or to restrict sexual activities.

tion is the same for any ethic: social approbation for right actions; social disapproval for wrong actions."<sup>41</sup> Once the ethical principles are widely accepted, approbation and disapproval follow as a matter of course.

So far as the acceptance and implementation of an environmental ethic is concerned, a vision of the future and of a better, finer world is believed necessary to capture people's imaginations and inspire them to action.<sup>42</sup> The reason given for this view is that an environmental ethic looks not only to the present but to the future, a more distant future than any of us will live to see, and any appreciable number of individuals, unless motivated by a vision, will probably not concern themselves with what is so remote, nor make present personal sacrifices in the interest of generations yet to be born. A corollary of this view is that an environmental ethic will not succeed if it appeals only to self-interest.

We should, of course, nurture dreams and visions of a better future. Environmentalists, together with educators and sociologists, should set new goals such as adequate health care for everyone, improved housing in better designed communities, more equitable distribution of wealth, greater opportunity for creativity and self-fulfillment, and an environment that would maintain the complexity, diversity, and stability of all life on earth. Means of attaining these goals should be devised. A vision of such achievements does indeed capture the imagination.

So far as the *physical* environment is concerned, however, the authors very much doubt that a vision, no matter how inspiring to a sizeable segment of society, is capable of engendering an ethic that will be accepted widely enough to be operable. Enough people cannot probably be made to feel a sense of moral right and wrong in respect to environmental practices through the power of a vision. The authors believe that too many people in any modern society are incapable of sharing a vision of the sort required.

More likely, the route to general acceptance of an environmental ethic will actually be by way of the much deplored concept of "self-interest." Some, perhaps most, ethical systems have succeeded because they appealed to self-interest. The Judeo-Christian ethic offers spiritual incentives to do God's bidding, backed up by the threat of punishment for transgressions—it "pays" to be good. The

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<sup>41</sup> A. LEOPOLD, *A SAND COUNTY ALMANAC*, 225 (1949).

<sup>42</sup> *E.g.*, see L. Mumford *Closing Statement*, in *FUTURE ENVIRONMENTS OF NORTH AMERICA* 718-29 (F. Darling & J. Milton eds. 1966).

Utilitarian ethic that exalts the greatest good for the greatest number also appeals to self-interest—so long as the individual regards himself as one of the greatest number.

The appeal to self-interest in the case of an environmental ethic would be two-fold. With respect to the present, an appeal would be made to our very natural desire to live out a healthy life. We cannot escape ingesting or breathing the deleterious substances which we are releasing into our waters, soils, and air. Whether affected by sulphur compounds that travel from auto to air, or mercury that travels from factory to water to fish, our health inevitably suffers, although just how seriously will only be known as the evidence gradually accumulates.

Looking to the distant future, the appeal would be to a natural interest in posterity. Most human beings, the authors believe, feel an identity with their species, and see in their descendants a kind of immortality for themselves. Consequently they have a personal interest in the continued existence of this earth and of humankind. The threat to the future is not, of course, that God will visit his wrath upon an erring world, but that the earth itself will take its vengeance. For every violation of its integrity, from the denuding of watersheds to the pollution of lakes and rivers, the earth exacts a price. The idea of "imminent justice" that was taught to American Indian children is beginning to appear as a simple but inescapable law of nature.<sup>43</sup>

For an appeal to self-interest on these grounds to succeed, we must be convinced of the danger to ourselves and to posterity. If the facts are presented clearly and simply, however, the layperson need not know a great deal about biology or ecology to understand the risks we run of causing irreparable damage or of starting irreversible and disastrous processes. How soon and how thoroughly he or she could be convinced would depend, if we can judge by the success of advertising methods, upon how thoroughly and repeatedly he or she was exposed to the facts.

To persuade enough people who cannot share a vision that an urgent need exists for a new approach to environmental problems, to persuade them that whatever we do that affects the ecology is morally either right or wrong, to educate them to the point where they are willing to make personal sacrifices (as envisaged by McMahon) is, to say the least, a formidable task. Educators at every teaching level, journalists of every order, the powers of radio and

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<sup>43</sup> R. REDFIELD, *THE PRIMITIVE WORLD AND ITS TRANSFORMATION*, 107-08 (1953).

television, in fact all the powers of communication, would have to participate. To see it as an impossible task, however, is surely to lack another kind of vision.

#### CONCLUSION

Once an environmental ethic is adopted, what will be the answers to some of the questions posed earlier in this article? In the matter of personal freedom, the reconciliation of the individual's desire for independence on the one hand with the requirements of his neighbors on the other has been an issue since the beginning of community life. An environmental ethic will simply add a duty not to cause harm to the land. To the individual's present duty not to cause harm to other members of society, this duty toward the land could in fact be considered as simply another duty toward society, since whatever affects the environment adversely will eventually harm everyone. Whether the question involves the size of one's family or the cutting of trees on one's own property, the good of the earth will come first. What is ecologically sound will be right; what is ecologically unsound will be wrong.

With respect to any course of action that protects or improves the condition of the environment at the expense of someone's job, the duty to the environment will be, by its very nature, greater than the duty to the job-holder. Readjustments can be made. At least the chance for another job exists. But the child crippled by mercury poisoning, or whose lungs are damaged irretrievably by polluted air, has no chance for another life. As for the question, should we use the earth today as we see fit at the expense of those who come after us, the answer is implicit in the ethic itself. Care of the earth is its essence, the present and future health of the earth its objective.

To recapitulate, we suggest that enlightened self-interest can form the basis for an effective, generally acceptable environmental ethic.<sup>44</sup> As for those who seek a vision and can be guided by one, what could be more inspiring than the vision of people learning to understand the earth in all its complexity, the vision of people coming by reason and insight to see themselves as members of the biotic

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<sup>44</sup> An environmental ethic that is accepted and complied with because it appeals to one's self-interest is not, admittedly, on an altogether sound footing. Such a view continues in part the erroneous concept of one's separateness from nature. The authors believe, however, that an appeal to self-interest is the best if not the only hope for the adoption of an environmental ethic at the present time, when such an ethic is critically needed. Our hope is that ultimately people will recognize and accept the right of other species to exist simply for their own sake and not because people need them.



community, administrators of its laws, insurers of its health, custodians of its beauty? For those who share this vision, an environmental ethic already exists.