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Condit, Stephen Huntley

SURVIVAL OR COMMUNITY: A CRITIQUE OF GARRETT HARDIN'S "LIFEBOAT ETHICS" BASED UPON PAUL TILLICH'S ONTOLOGICAL THEOLOGY

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SURVIVAL OR COMMUNITY
A Critique of Garrett Hardin's "Lifeboat Ethics"
Based Upon Paul Tillich's Ontological Theology

by

STEPHEN HUNTLEY CONDIT ·

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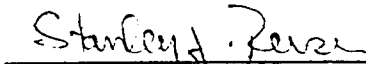REQUIREMENTS OF THE DEGREE

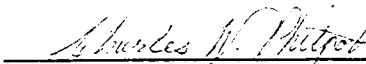DOCTOR OF PHILOSOPHY

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ABSTRACT

Survival or Community:
A Critique of Garrett Hardin's "Lifeboat Ethics"
Based Upon Paul Tillich's Ontological Theology

Stephen H. Condit

Although specific articles by the biologist Garrett Hardin have

been frequently cited there is a lack of critical analysis of them and

of his position as a whole. Hardin's position has two basic problems:

it holds survival to be the ultimate value and it views mankind

primarily in biological terms. These problems lead to a rejection of

traditional moral values, to an inadequate view of society and to a

limited view of the nature of mankind which limits morality to the

members of one's tribe. Hardin emphasizes survival as a value and a

biological view of man to support the assumption that present

generations have an obligation to all the future generations of mankind.

A critical exploration of the influence of the works of Bridgman

and Schoeck on Hardin's thought clarifies his presuppositions about

ethics, society and the nature of mankind. This clarification, in

conjunction with an analysis of the development of Hardin's thought

from "The Tragedy of the Commons" through "Carrying Capacity as an

Ethical Concept", reveals the inadequacies of his position.

A review of the literature on obligations to future generations, a

major concern of Hardin's, provides the groundwork for a consideration

of the nature of moral community and suggests that a concept of moral

community can ground obligations to future generations in a manner that appreciates the importance of biology while recognizing the human transcendence of biology through culture and while maintaining traditional moral values.

This dissertation argues that community is a better ultimate value than survival. Building upon Tillich's theology, an alternative which avoids the problems in Hardin's position is constructed. Hardin's and Tillich's positions are compared by considering three elements of moral community: the spatial boundaries, the temporal boundaries, and communal being. The Tillichian position furnishes a better basis than Hardin's for dealing with the question of obligations to future generations and lays the groundwork for constructing an ecological ethic.

ACKNOWLEDGMENTS

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INTRODUCTION

The purpose of this dissertation is to criticize Garrett Hardin's "lifeboat ethic" which emphasizes the value of survival, derives moral values from biology and views man as primarily a biological being and to contrast it with a position built upon Paul Tillich's ontological theology in which I claim that survival is not the ultimate value, that biology is not an appropriate source of moral values and that man cannot be adequately understood primarily in biological terms. My Tillichian position supports an anthropology with a more complete view of man than Hardin's biological view allows and it rejects survival as the ultimate value in favor of a Tillichian view of moral community which provides better support for Hardin's valuing of obligation to future generations than Hardin's own position does.

The first chapter considers two works which greatly influenced Hardin's thought and provided some of his presuppositions. It presents Hardin's view of survival as a value, traces the development of his thought from the tragedy of the commons scenario, through the lifeboat metaphor to the concept of carrying capacity and discusses his view of the nature of man as an individual and as a social being.

The second chapter examines Hardin's ethics and, like the first, starts with a consideration of the ethical ideas which serve as Hardin's starting point. It then discusses Hardin's ethics. The second part of the chapter considers the critical literature and shows

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the need for a more thorough consideration of Hardin's thought.

The third chapter addresses what has come to be increasingly emphasized in Hardin's thought, the assumption that we have an obligation to future generations. For Hardin future generations include the future generations of all humanity and the obligation extends into the remote future. Chapter three considers the literature on obligations to future generations. This literature sees the problem in three different ways: (1) as a question of rights, (2) as a question of identity and (3) as a question of moral community or the human project.

The fourth chapter considers three constitutive elements of moral community: temporal boundaries, spatial boundaries and the communal being. It begins by summarizing Hardin's position on these elements and continues by summarizing Tillich's theology to serve as a basis for developing a counter position to Hardin's view. The following sections alternately present the views of Hardin and Tillich on the elements of moral community and develop a Tillichian position which expands the spatial boundaries of moral community.

The concluding chapter summarizes the discussion of obligations to future generations, the nature of man and the values of moral community and survival.

CHAPTER I

THE DEVELOPMENT OF HARDIN'S THOUGHT

Garrett Hardin's "The Tragedy of the Commons" was one of the 100

articles most frequently cited by social scientists from 1969 to 1977

(Garfield:1978) and it has been reprinted in over 50 anthologies

(Hardin, 1978a:277,n2). Hardin's lament that it has been little

discussed (1972e:vii-viii) still holds. Even though it is frequently

cited, it generally has been uncritically accepted. "Living on a

Lifeboat" (1974), Hardin's extension of the themes in "Tragedy" has,

however, met with much criticism /1/. He then attempted to remove the

emotional criticism which the lifeboat metaphor aroused by restating

his ideas in terms of "carrying capacity" (Hardin, 1976; 1978:244).

The Limits of Altruism: An Ecologist's View of Survival, develops the

major points of the above articles and is Hardin's most complete

statement of his views (1977a).

A complete understanding of Hardin's position includes seeing

these works in the context of his thought as a whole and considering

his presuppositions. Many of Hardin's basic presuppositions and his

method are derived from two books that he says have had a major

influence upon his thought (1978b:994): Bridgman's The Intelligent

Individual and Society and Schoeck's Envy: A Theory of Social

Behaviour. Using these works, this chapter will consider the

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influence of Bridgman and Schoeck upon Hardin's position and using
Hardin's works, especially the four mentioned above, it will
systematically restate three aspects of Hardin's position: (1) his
view of survival as the goal for social policy, (2) his use of the
scenario of the "commons" (Hardin, 1968a:254), the metaphor of the
"lifeboat" and the idea of "carrying capacity", and (3) his view of
man particularly in regard to the possibility of altruism. Hardin,
who is primarily an essayist, does not deal systematically with these
issues. He has characterized himself as a "taboo stalker" and a
heretic. He has been a gadfly disturbing the pretensions and
violating the taboos of the scientific community (Hardin, 1973c:x;
1978a:preface, 107, 143ff, 206-207). Hardin's style and the
non-systematic nature of his writing have made it difficult to
interpret his work. Dealing with his thought systematically will
provide a context for its critical appraisal.

Presuppositions

Bridgman provides Hardin with a method, operational analysis, and
a view of traditional ethical terms (and religion in general) as empty
ciphers to get an individual to act against his self-interest and in
society's interest. Hardin may also derive some of his assumptions
about the individual and society from Bridgman and certainly has spent
his career dealing with problems which Bridgman mentioned. Schoeck's
influence is more subtle. Perhaps his documentation of the modern
taboo on the discussion of envy led Hardin to become a "taboo stalker."
Schoeck also provides an analysis of envy which may have helped shape

Hardin's view of guilt, conscience and justice. Although Schoeck provides a more complete view of society than Bridgman, Hardin's position on society is closer to Bridgman's. Likewise, Schoeck presents a balanced view of man while focusing on the potentially negative and individualistic trait of envy, but Hardin does not maintain this balance which results in an incomplete understanding of man and the interaction between individuals and society.

Bridgman

Following the model of the reconstruction of concepts in physics, Bridgman's goal is to achieve a "valid reconstruction of social concepts" in the hope of understanding and predicting human behavior and planning accordingly (46,3). Aside from the remark that "individual rights" is a dangerous concept in the modern world, his position is extremely individualistic. Starting with the idea that "the supreme social limitation is perhaps the isolation of the individual" (142), Bridgman develops a view so individualistic that concern with another's pain or the future of one's loved ones after one's death is incomprehensible (147,169ff). Thus any person who buys life insurance (presumably to provide for his family after his death) can actually only be motivated by a present concern for what others would think of him now if they knew he did not have life insurance. Bridgman's statement that it is hard to appeal to an individual against his own self-interest (234-235) becomes Hardin's "Cardinal Rule of Policy" (1977a:2,27,28,42,80).

On Bridgman's view it is impossible to be concerned about others for their own sake; all such concern is the result of self-interest or peer pressure. Altruism is simply not a human possibility for Bridgman. Hardin's position is not as individualistic as Bridgman's and allows at least a limited altruism.

According to Bridgman, altruism is a rationalization by society to get an individual to act in socially desired ways against his own self-interest. Even the limited biological notion of kin altruism is more appreciative of the possibility of "self-sacrifice" than is this physicist's concept. Altruism usually involves an assumption of underlying harmony, but Bridgman notes:

> The very meaning of an "underlying purpose" can be found only in mysticism, and the emotional drive to merge one's identity I believe will have appeal only if one's realization of the full implications is deliberately suppressed (214).

"Mysticism" is the term Bridgman uses for "religion" to indicate its non-objective nature and thus to dismiss it as irrelevant. The quotation also links it strongly with the process of psychological denial /2/.

Bridgman's view of the nature of society is ambiguous. At times he expresses insights similar to those of Berger or Berger and Luckmann, but at others he seems to deny the reality of society /3/. For example, Bridgman says that society is a "verbal world" and "many of our difficulties I believe have their origin right here in the fact that this verbal world is subject to no control of self-consistency" (46). This shows an appreciation that social reality is constructed in conversation (Berger and Kellner), but his remark that "Again,

operationally, society is an agglomeration of individuals"
(Bridgman:235) seems to deny this social reality and suggests that he
does not make the distinction between lived social reality and science.
And his method of "operational analysis" is designed precisely to
approach lived social reality and scientific reality in the same way.

Ridding one's self of useless ideas which are no longer
"operational" constitutes the problem that the intelligent man has
with society. And this is made somewhat easier with the collapse of
religion which means that society can no longer use religious
sanctions to enforce its conventions (Bridgman:244). Bridgman makes
the same point that Berger makes twenty-nine years later in The Sacred
Canopy; as the religious sanctions that unified society cease to
function in the modern scientific world, something new will have to
replace them or society will fall apart. Bridgman thinks that a
scientific reconstruction of social concepts can provide the necessary
means to change the structure and goals of society and that this will
occur when there are a sufficient number of intelligent individuals in
society, i.e., persons who can apply the scientific method to social
relations.

At times Bridgman does see a dialectical relationship between the
individual and society. He states both that the individual must adapt
to society as part of his environment and that the individual helps to
create society (258). And in one passage, he refers to society as a
"suitor" of the individual (272), suggesting that society exists
independently and prior to any individual it is pursuing and that it
is more than an "agglomeration" of presently existing individuals. He

also is aware of the dialectic between the individual and society from the individual's viewpoint which Tillich characterized as the polarities of individualization and participation (Bridgman:207-208, 214, 214; Tillich, 1951:174-178). This dialectic often takes the form of conflict between the individual and society and Bridgman came up with a Kantian-like principle to deal with this:

> The compromise which I have reached in order to reconcile as well as possible my conflicting interests is this: not to demand or allow for myself as an individual any privileges which, if assumed by everyone, would result in a kind of society that I cannot contemplate with satisfaction (Bridgman:280) /4/.

The existence of individual self-interest must be accepted and "my task as a member of society is to devise such a society that he [the individual] shall not find it possible to get away with anything to the common hurt" (281). (This is exactly what is required to solve Hardin's tragedy of the commons.) But if individuals are as isolated and self-interested to the exclusion of others as Bridgman claims, whence springs his interest in the common good? At this point the question becomes one of motives and values, a proper topic for ethics.

Bridgman also uses survival as a criterion: "Bitterness is a human reaction difficult to understand; it is difficult to see how it could have had any survival value" (250) and therefore it must have tagged along with some other trait. If, however, what Bridgman calls "bitterness" is the same as, or related to, what Schoeck calls "envy", the latter presents a convincing argument that it does have survival value.

Schoeck

Envy: A Theory of Social Behavior by Helmut Schoeck had a more

subtle influence upon Hardin's thought than Bridgman's work. This

influence occurred largely at the level of implicit presuppositions.

Hardin cites Schoeck occasionally in regard to envy, but the paucity

of direct references belies the importance of his thought /5/. There

are several points of agreement where Schoeck's thought may underlie

Hardin's. The clearest is Schoeck's provision of a concrete example

of taboo in modern culture by means of his careful identification and

thorough documentation of the contemporary reality of the taboo on

"envy". The concept of envy has rarely been studied and little has

been written about it because of the strong taboo against its

discussion. Even in the field of literary criticism, where one would

expect little or no pressure to conform to a particular viewpoint, it

has led to false and incomplete interpretations of Melville's Billy

Budd (Schoeck:134-159). An awareness of the reality of taboo helped

Hardin define his task and pointed him to taboos that needed to be

brought to public attention (1973c, 1978a). Besides this

methodological influence there are several points where Hardin may be

implicitly relying on Schoeck's work.

Both reject Marx's "golden rule" -- "From each according to his

abilities and to each according to his needs" -- as unrealistic and as a

harmful social policy (Schoeck:234; Hardin,1977a:62, 1977d:3-7). There

is a cluster of themes which serve as assumptions in both the Marxist

view and in Western culture generally. They include a romantic view of

poverty, the belief that we can return to the golden age of harmony among men and between man and nature, a view of developed countries as "big brothers" of the third world and certain ideas about the relationship between the rich and the poor, and between the individual and society.

The rejection of Marx's "golden rule" involves a rejection of the myth /6/ of the golden age and of any utopian view about an envy-free future for mankind. Schoeck also rejects the romantic notion that as poverty increases so does community. He presents a clear counter-example; the Siriono, a poor, primitive tribe, do not show a greater spirit of community than modern societies. Sociologists, rather than carefully observing primitive societies, succumbed to the myth of the golden age: ". . . and social scientists should have known better than to fashion out of it a set of utopian standards with which to criticize their own societies" (Schoeck:31, 289; Eliade:39-56). Hardin clearly rejects this romanticized notion of poverty (1972f:358).

Further, primitive tribes and modern societies hold opposite beliefs about the basic nature of man. Each tribal member recognizes and deals with "the malice of his fellow tribesmen." He does not relieve man is good, rather "the other is always an envious enemy" (Schoeck:358). But, for modern man, there has been an increasing "need to believe in the goodness of man, independent of the society that spoils him" (Schoeck:359) /7/. This leads logically to egalitarianism, which is impossible because of the necessary presence of envy as a social control (Schoeck:359).

The taboo on envy has lead to unrealistic views about charity and the relationship between the rich and the poor. Acknowledgment of envy in the giver and of the envy the recipient might feel towards him is prevented by the taboo (Schoeck:168).

> And in the twentieth century, too, for the first time, certain societies have grown rich enough to nourish the illusion that they can afford the luxury of buying the good will of the envious at ever steeper prices (Schoeck:255).

Envy is by no means limited to primitive cultures. It also occurs in modern "utopias", the kibbutzim (Schoeck:293), and is an even more potent force in the undeveloped countries (Schoeck:198,197) /8/. The rising acceptance of envy has led, Schoeck suggests, to an inappropriate lack of appreciation for our contemporary Western society. In chapter 13, "In Praise of Poverty: from Sumptuary Laws to Contempt for the Affluent Society", Schoeck (210ff) expresses a view very similar to that expressed in Hardin's lifeboat article (1974b:239) and to Hardin's view that we have to accept nature's unequal distribution of resources (and be thankful we got the better deal) (1977a:85, 90). Schoeck rejects the idea that "being miserable [poor] should bring one closer to the truth" (210-211), especially in the context of science, while noting it may be true in religious or theological [and psychological] contexts.

Some social critics, the Toynbees, who had praised poverty in the past have shifted their views (Schoeck:212). This leads to an issue which Freud raised, cultural pathology: some social critics think men never have or will be able to "discover the truth about their own society". Schoeck allows this "social agnosticism" and that "from the

point of view of an epistemological purist--a correct relationship between members of a society and the social system as such" has never existed. But, he asks, "Can a social system somehow be held responsible for so misleading its members that they can never learn the truth about the nature of their society?" (Schoeck:213). The issue becomes insignificant when we realize that:

> . . . there has always been sufficient correlation between what was believed or habitually done, and what was in fact possible in any given social, political, economic and geographical environment, so that somehow, despite all the waste and inefficiency, social existence was possible (Schoeck:213).

Schoeck is as unsympathetic as Hardin towards those who enjoy the benefits of modern society and attack the system that makes them possible (Schoeck:214-215). "Luxury as such has never existed, and never will exist, but only envy of consumer behaviour that is branded as luxury" (Schoeck:216,217), which suggests that the real issue is envy and not a lack of equality. He notes that sumptuary laws are rooted in a fear of divine envy and thus hark back to primitive religion. Although these fears should have been eliminated with the acceptance of Christianity, "I suspect that those who scorn the affluent society are partly governed by these same archaic emotional complexes" (Schoeck:217) /9/. All these factors can lead to the undervaluing of our contemporary affluent culture:

> High culture is inseparably bound up with luxury and wealth. Luxury, that matter-of-course environment of things of culture that belongs spiritually to one's personality, is a premise of all creative periods (Schoeck:223).

This is not to say that "glaring social ills" should be accepted but rather that the critical distinction must be made between "sensible social and welfare measures, which may involve structural intervention" and "structural aggression, where satisfaction of an unappeasable envy is the principle of action" (Schoeck:226). Our present society depends upon the control of envy to continue its existence (Schoeck:228). Schoeck continues, however, with a passage that cuts into Hardin's lifeboat metaphor:

> . . . envy can express itself as much in the desire for the preservation of inequality as in the desire to achieve equality. The jealously guarded privileges of the established can be as harmful to the welfare of others as the envy of the underdog (229).

This type of balance is characteristic of Schoeck's work. A distinction must be made between jealousy (of which biological territoriality is an aspect) and envy (Schoeck:229). Jealousy is a proper insistence that higher skills get higher rewards whereas envy desires to bring everyone down to the same lower level: "If I can't have it, nobody can." /10/.

Hardin's views on conscience may rely upon Schoeck's discussion of guilt. Fear of envy can lead to a false sense of guilt in the envied which can be eliminated "Only when one has the courage to recognize the actually or ostensibly envious man for what he is, and to ignore him (realizing that he is insatiable and that nothing will escape him) . . . (Schoeck:260). That false guilt springs from the paradoxical combination of the acceptance of envy as valid and the egalitarian ideal is illustrated with a quotation from Tournier:

> I feel uneasy at being in good health when there
> are so many people sick; happy when there are so
> many people unhappy; at having money when so many
> are short of it. I feel a certain discomfort too
> at having an interesting vocation when so many
> people sigh beneath the burden of a job they hate .
> . . . (Schoeck:266-267).

This paradox can be dealt with by repressing the guilt or by "determining the limits of one's own responsibility" (Schoeck:267).

False guilt may lead to what Hardin calls "telescopic philanthropy". The concern for those far away "may in some cases be a substitute for failure to love one's neighbor" (Schoeck:269). Thus, a concern for the distant is the paradoxical outcome of a distance between us and those physically close to us. The implication of this for the lifeboat metaphor is that our concern ought to be with those in our lifeboat to insure our collective survival and it raises the question of the genuineness of our concern for those far away. Telescopic philanthropy also avoids awareness of any possible resentment of the recipient which might be clearly visible if he were nearer, but it may also meet a need to give which can no longer be met in modern affluent societies or agnostic welfare states (Schoeck:270-271).

Fear of envy is so strong that it has led to a fear of "being oneself", an avoidance of being different or individual enough to attract attention and envy (Schoeck:281). But envy, which acts through the individual's need for acceptance by a group, is "the main level of social control." It is necessary for the existence of society (Schoeck:298). Envy is a biological necessity and the task of its control is an individual task. Likewise, "Individual influential

persons in the growing child's environment can effect almost as much--either for good or bad--as the whole value system of the culture concerned" (Schoeck:300).

We cannot, then, solve the problems of modern culture by returning to an agricultural utopia or by achieving "the age of the collective" and thus destroying "individualism." The success of the collectives is not due to "a built-in affinity to the future" but to a return to a primitive view of envy. The collectives "represent a throwback to the primitive idea of causality (the other's prosperity must be to my disadvantage), and they derive from this fact their immunity to all refutation by reason and facts (Schoeck:304-305).

The poles of individualism and collectivism are in constant struggle and neither is possible in a pure form. Schoeck contends that it is possible to achieve both individual and social goals and that modern culture with its individualism provides a better basis for collective action that primitive or peasant societies. He then makes a statement which suggests that the tragedy of the commons is a problem of the control of envy: "Since one can never be quite certain that the other person will not extract from the "public interest" a greater benefit than oneself, communally useful co-operation can never really be achieved until primitive, primeval envy has been largely suppressed" (Schoeck:329).

The unity of a human group, whether it is a family or a culture, can come from a variety of sources.

> To integrate human beings there are concepts such
> as progress, solidarity, honour, renown, love,
> transcendental ideas, the concept of an historical
> mission, and even outward-directed hatred, or

> feeling of inferiority fed by envy, in regard to
> other groups. But there is one state that no
> society can live in for any length of time,
> accepting it as official doctrine, and that is
> mutual envy (Schoeck:347).

The limits of community can then be set in two ways. They can be set by an internal, active choice of the positive, thus leaving the group potentially open to any who come to share the vision. Or, they can be set by an external, active or passive choice of the negative, thus closing the group to outsiders.

Hardin is somewhat unclear on the issues of group boundaries and of the relative strengths of individualism and social control that he desires. There is a move towards the collective on the national level but not on the international level, even though "species survival" is a prominent concern. But he also advocates a return to tribalism which would require smaller than national groups. This confusion does not arise from Schoeck. Insofar as "tribalism" includes a desire to return to a past simpler life, Schoeck is clear that this is not possible. Salvation does not lie in a return to pre-industrialized, pre-capitalistic times; on the contrary, modern Western society should be affirmed. But the status quo should not be blindly affirmed. Egoism is on both the side of the status quo and of those who want more, but priority shifts to the latter "if redistribution is a matter of survival for the less well off; if, that is, he cannot obtain by any other method, or even by reasonably postponing the satisfaction of his need, what is necessary for his existence" (Schoeck:332).

Both Hardin and Schoeck are critical of certain aspects of economic thought. Hardin is dissatisfied with the notion of "discounting the

future" (1977a:75). Schoeck is critical of welfare economics. Fear of envy has led to this childish approach to economics which seeks the least envy in the greatest number (Schoeck:305-306).

Envy may well play a part in issues of famine. Western cultures have an irrational view of food waste. According to Schoeck:

> At this very moment, a glass of water might save the life of someone somewhere in the world, yet no one is worried by the equivalent of a hundred glasses of water going unused down the drain. We are afraid and ashamed of destroying the symbol [bread] not the substance. Perhaps religious conceptions are also involved (317,320).

Western cultures have no qualms about wasting water or other potentially life saving resources, and in this light, the concern over wasted food is uncharacteristic of the culture as a whole.

The problems that prevent the global distribution of local surpluses of material goods which do not spoil make it "difficult and even impossible . . . , if only for reasons of transport, so to distribute a local food surplus throughout the rest of the world as to waste nothing at all." Since the food drive is even stronger than the sexual drive, ". . . it might not be too far-fetched to assume in man a primeval fear of starvation." Most Americans, however, have never experienced a real food shortage and thus are less concerned about wasting food than other Western nations. Schoeck encourages the food-wealthy to accept their lot without guilt: "No one need be ashamed of the fact that we do not "live a stunted, hand-to-mouth existence" (Schoeck:318-319). (Hardin: Let those who feel too guilty, leave the lifeboat.)

Schoeck's theory of envy as a social control is a balanced view and shows insight into the nature of society. Envy is not "a purely negative phenomenon" but serves a positive role in social control (Schoeck:350). Social control requires a minimum amount of envy, but if envy rises above this level, it begins to cause social harm (Schoeck:348). The nature of envy is not what one might think. Rather than being

> . . . dependent on the absolute extent of inequality between people, the degree of "luxury" and so on . . . it is, indeed, wholly independent of it. Envy plays a negligible part where it is a question of restraining a prince, a head of state or a tycoon from absurd expenditure, but it plays an important part when one among almost equals has got out of step (Schoeck:349).

Envy can become a positive force for the individual who sees its futility but only if he "is able to turn his feeling of envy into an antagonistic impulse, endeavouring to 'outdo' the others by his achievements, will he attain, by intent thought motivated by envy, a fundamentally new plane of value-enhancing, competitive behaviour" (Schoeck:351). Envy, however, must be "deflect[ed] . . . to values which are not crucial for the survival of society" (Schoeck:352). The only social philosophy which fully legitimates envy is Marxism (Schoeck:352). Envy has been successfully controlled by cultures with a concept of luck or fate and by Calvin's doctrine of predestination (Schoeck:353).

The human situation gives rise to envy. "The capacity to envy is a fact. Insofar as man is a being who is able to reflect upon his existence, he will inevitably ask: 'Why am I myself and not someone else?

The next question follows naturally: 'Why is the other person's existence so different from my own" (Schoeck:359)? Envy must be accepted as part of the human condition. It cannot be eliminated, but it can be controlled:

> Envy's culture-inhibiting irrationality in a
> society is not to be overcome by fine sentiments or
> altruism, but almost always by a higher level of
> rationality, by the recognition, for instance, that
> more (or something different) for the few does not
> necessarily mean less for the others: this
> requires a certain capacity for calculation, a
> grasp of larger contexts, a longer memory; the
> ability, not just to compare one thing with
> another, but also to compare very dissimilar values
> in one man with those in another (Schoeck:360).

Note the casual dismissal of altruism, but in the limited context of its potential function as a control of excessive envy. In another passage he says that envy can prevent altruism: ". . . the only impediment to the ideal, harmonious, altruistic community is that particular complex of emotions and drives of which envy is the nucleus" (Schoeck:293) /11/. This may be the seed of Hardin's rejection of altruism in the form of conscience as an effective means of controlling the abuse of the commons.

Hardin has, however, moved away from hoping that rationality will solve the commons dilemma, whereas Schoeck sees increasing rationality as the means of controlling envy and preventing it from becoming socially harmful. Schoeck calls for a more realistic view of man which acknowledges and accepts envy as the part of humanity which allows mankind "to construct larger social groups and polities characteristic of our species (360). We have erred not only in hoping for an impossible envy-free future, but also in accepting the claims of the envious as valid: "The time has surely come when we should stop

behaving as though the envious man was the main criterion for economic and social policy" (Schoeck:360). Envy, at proper levels, is necessary for the existence of society:

> It may thus be said that a being who has become largely independent of instinctive activity and biologically determined behaviour can use the opportunities afforded by his new freedom in a socially constructive way only if deviant behaviour and innovations are reduced to a minimum (Schoeck:356).

> No motive that we have been able to discover, however, ensures conformity more certainly than fear of arousing envy in others and the sanctions this entails (Schoeck:356).

Inequality must be allowed by a society and a balance must be achieved between a sufficient amount of envy to power the social controls and a suppression of additional envy to allow "for those innovations which are essential if the growing group is to adapt to its environment" (Schoeck:357). Thus achieving the proper amount of envy involves a delicate balance between individual freedom and social control which is precisely the problem of the commons. It will become clear, however, as we consider Hardin's views of society, that he sees "biologically determined behaviour" to be much more important than Schoeck does.

Summary

Both Bridgman and Schoeck are individualistic in the sense that they see ideal individuals as those who can rise above society by intelligence for Bridgman and by mastery of the fear of envy for Schoeck. And both hope that sufficient numbers of the desired type of individual will arise in the society to shape it appropriately. Bridgman sees the loss of a religious grounding for social values as the threat to society

and thinks that its dissolution can be prevented by restructuring society through scientific patterns of thought. For Schoeck, however, the danger is society's growing acceptance of the liberal ideology of egalitarianism with its implicit acceptance of the claims of the envious man as "just". His solution to the problem is to acknowledge envy as the social control which preserves the structure of social life and makes it possible, and to acknowledge the necessity of limiting envy so that it does not go beyond this necessary function and destroy the creative, dynamic elements or individuals in society.

Both authors present a view of society but Hardin relies upon Bridgman's view. Although Bridgman is sensitive to the dialectic between society and the individual at times, in general his view is extremely individualistic and he presents an ambiguous view of society. It is not clear if society is merely an abstract concept or if it is a reality that is more than a collection of individuals. Bridgman does not deal with social policy but rather with how the individual can think through problems of social life. Society, he hopes, will be restructured by restructuring the thinking of enough individuals. Schoeck, although focusing upon one aspect of society, presents a more coherent and substantial view. His main concern is to show the importance of envy as a force in shaping society and in making social life, which is a human necessity, possible. His main concern is not with the individual's battle against envy although this is considered, but rather with the trend of current social policies to be based upon envy. He is sensitive to the tenuous balance between the individual and society and sees the scales tipping too far in favor of society. This

may be why Hardin does not appropriate Schoeck's views here as Hardin sees the tragedy of the commons to be the result of an overbalance of individualism. Nonetheless, Schoeck provides a view of society and a method of analyzing social concepts that is more subtle and gives more importance to subjective meaning than Bridgman's and this is to be expected since he is a social scientist while Bridgman is a physicist. Hardin may have found the latter more accessible to him, especially in regard to method.

Hardin on Survival

In considering the problem of comparing incommensurable values Hardin implies that the ultimate criterion is survival:

> In nature the criterion is survival . . . .
> Natural selection commensurates the incommensurables. The compromise achieved depends on a natural weighting of the values of the variables. Man must imitate this process. There is no doubt that in fact he already does, but unconsciously (1968a:253).

Man must and does imitate nature and the "reward" is survival. Failing to achieve a proper weighting results in "ruin to all" (Hardin, 1968a:254). This is not an absolutely clear statement that survival ought to be our goal. Are there any other possible goals stated in "The Tragedy of the Commons" which could be Hardin's highest value?

According to Hardin, Bentham's goal, "the greatest good for the greatest number", is impossible in principle because we cannot maximize two variables (population and good). It is also biologically impossible because maximizing population would mean minimizing good,

i.e., "No gourmet meals, no vacation, no sports, no music, no literature, no art" (Hardin, 1968a:252). Hardin says the goal is "the maximum good per person" (1968a:252) which indicates that mere survival is not enough, some quality of life above physical existence is the minimum standard. This is a utilitarian ethical principle, but interestingly includes a simple misunderstanding of Bentham's goal (Copleston:26). A more reasonable reading sees Bentham's principle as one (latent perhaps) of distributive justice. Hardin, however, is clear that survival is a higher value than justice: "[A]n alternative to the commons need not be perfectly just to be preferable." And, "Injustice is preferable to total ruin" (Hardin, 1968a:261). He appeals to biology in discussing values when he says "that those who are biologically more fit to be the custodians of property and power should legally inherit more" (Hardin, 1968a:261) and that we ignore this injustice in our legal system because we lack a better system /12/. Justice is evaluated by Hardin in terms of biological criteria.

Just as survival may require dispensing with justice (Hardin, 1977a:98,99), it may also require a loss of individual freedom, especially the "freedom to breed" (Hardin, 1968a:253, 257-258, 262-263; 1972e:205). "Freedom in a commons brings ruin to all" (Hardin, 1968a:254). Hardin's solution to the tragedy of the commons, "mutual coercion mutually agreed upon" (1968a:261), "is what we [Hardin] mean by 'freedom through law'" (1972e:130). Hardin clarifies Hegel's statement "Freedom is the recognition of necessity" with a biological example: "We are not free to violate the laws of nature.

We become free when we recognize their necessity" (1972e:132). Both
freedom and justice have then been stated to be lesser values than
survival. Hardin does not present an argument that survival is the
highest value but rather assumes that it is threatened by the population
crisis.

Exploring New Ethics for Survival: The voyage of the spaceship
Beagle is an attempt "to make the structure of the argument [in "The
Tragedy of the Commons"] clear (Hardin, 1972e:viii). It addresses the
population problem which "could not possibly be solved without
repudiating certain ethical beliefs and altering some of the political
and economic arrangements of contemporary society " and one of these is
"responsibility" about which Hardin says his view "is far from being the
common one" (1972e:vii,viii). Hardin calls for "revolutionary" changes
and states his goal in the concluding paragraph of the preface:

> . . . the time is now ripe, I think for a concerted
> attack on the population-environment-quality
> complex. I think it is almost time to grasp the
> nettle of population control, which we sometime
> must, if we are to survive with dignity. I hope
> that my efforts will help evoke the courage, and
> wisdom, needed for this revolutionary step
> (1972e:viii-ix, emphasis added).

The goal is also the problem--"the eminently practical problem of
survival" (Hardin, 1972e:5).

Hardin's acknowledged concern in "Living on a Lifeboat" is "the
problem of the survival of the human species" (1974b:221). Human
survival is impossible unless rights are coupled with responsibilities
and the lifeboat metaphor tells us what we must do: "Admit no more to
the boat and preserve the small safety factor. Survival of the people

in the lifeboat is then possible (though we shall have to be on our guard against hoarding parties)" (1974b:222,224). Hardin admits that this is unjust and allows those with troubled consciences to yield their place in the boat to another (thus eliminating passengers with consciences from the lifeboat). This quotation makes it clear that for Hardin the survival of the human species is threatened and that our first goal and highest value is to meet this threat and survive "in dignity", in a quality environment, and without creating a world in which everyone is "equally and miserably poor" (1974b:241, 234, 232).

Hardin concludes this article with the following statement: "For the foreseeable future survival demands that we govern our actions by the ethics of a lifeboat. Posterity will be ill served if we do not" (1974b:241). The language used here suggests that survival is a moral imperative and , as Hardin says in "The Tragedy of the Commons", an imperative that can dispense with justice, especially "complete" or "pure" justice, and justice which ignores consequences (1974b:224, 226, 235, 239). These statements also explicitly link Hardin's concern for species survival with his concern for future generations (1974b:234, 236, 238, 240, 241). And even though he says:

> To be generous with one's own possessions is one
> thing; to be generous with posterity's is quite
> another. This, I think, is the point that must be
> gotten across to those who would, from a
> commendable love of distributive justice, institute
> a ruinous system of the commons, either in the form
> of a world food bank or that of unrestricted
> immigration (Hardin, 1974b:238).

He does not see the possibility of extending notions of distributive justice to include future generations (which is the task Rawls attempts).

Nor does he touch on the difficult problem of how a posterity that does not yet exist can have possessions. This issue of our obligation to future generations will be discussed in detail in chapter three which will consider Hardin's claim that we are obligated to leave an intact environment for posterity.

"Carrying Capacity as an Ethical Concept" (Hardin, 1976a), like "Living on a Lifeboat" argues against food aid for overpopulated countries but the major portion of the article is a polemic against traditional ethics. There is little explicitly said about survival. It takes precedence over freedom in a crowded world (Hardin, 1976a:246) and it must include "the goods we regard as civilized: effortless transportation, some luxury foods, a variety of sports, clean space-heating, more than adequate clothing, and energy-consuming arts—music, visual arts, electronic auxiliaries, etc." (Hardin, 1976a:252) in short, "comfort and dignity" (Hardin, 1976a:255, 1977e:124).

Two questions in The Limits of Altruism also show his concern with survival: ". . . what policy holds out the best hope for the survival of human beings under civilized conditions?" and "Do we yet have the knowledge needed to insure the indefinite survival of any political unit?" (1977a:28,84). But in spite of the subtitle (An ecologist's view of survival) of The Limits of Altruism, survival is explicitly considered only in Chapter 6 entitled "Survival, the Subtle Assay" (Hardin, 1977a:100-115) which addresses the questions "Survival of what? And under what conditions?" (1977a:100). There follows a presentation

of a theory about the evolution of mankind and the large human brain.
Hardin opens the chapter by suggesting that it is necessary "to get the
biological meaning of survival straight before taking up particular
human problems" and observing that

> Since Hiroshima ethicists have said that "the
> modern predicament" centers on the survival issue,
> but they have not bee able to make very clear what
> they mean by such an assertion. Seeking
> enlightenment, they have drawn on biology . . .
> (1977a:102).

But even some biologists do not understand the biological concept of
survival because of the prevalent assumption that "Nature is an
economizer of lives" (Hardin, 1977a:103). This stems from a lack of
separation between the concepts of God and Nature and is probably
grounded more in emotion than in intellect (Hardin, 1977a:103). Nature
wastes lives according to Hardin—millions of millions of sperm cells
and hundreds of thousands of ova are wasted for each man and woman and
about 50% of conceived embryos abort normally (1977a:103-104). "If
Nature is not economical of these early lives, why should we be?" This
implies that "Obviously the survival of the individual is not the summum
bonum . . . in Nature's eyes" (Hardin, 1977a:104). When this came to be
understood in the 19th century the emphasis was shifted to "the survival
of the species" and natural selection was said to select "for the good
of the species." But Hardin says "This version . . . is, in fact, quite
wrong" (1977a:104). An individual does not sacrifice his life to
"ensure the survival of the species" and Hardin illustrates this with a
discussion of trees. He asks "Why a tree?" (1977a:105) and the point of
the following discussion is that the liverwort is the best designed
plant in terms of efficiency at using sunlight and thus

> every plant taller than a liverwort is a monument
> to waste. Such a monument cannot be explained by
> selection for the good of the species. It can only
> be explained by a competitive process in which
> individuals struggle with each other for a place in
> the sun (Hardin, 1977a:105-106).

> What selection favors is, in fact, neither the
> concrete individual nor the relatively simple
> abstraction we call the population or the species;
> what it favors is a subtler abstraction for which
> we have no better term than the germ line (Hardin,
> 1977a:106-107).

He notes that the heart of this problem is the inability of our language

to deal with concepts about time. Individuals, populations and perhaps

even species are visible now

> But, a germ line? This abstraction has no terminus
> in time, and germ lines lose their integrity as
> they mix together with the passage of time. Yet it
> is only germ lines that are the "objects" of
> selection's "attentions" (Hardin, 1977a:107).

This leads to two assertions about the survival problem:

> Selection is not, by its nature, for the good of
> the species. The survival of the species is an
> almost accidental by-product of the survival of
> germ lines (Hardin, 1977a:107, in italics in
> original).

In addition to the above passage, there is one brief passage on "the

survival of the fittest" and that is all the chapter contains on

survival (1977a:111).

According to Hardin the biological meaning of survival to which

ethicists must look and which they must understand is the survival of

the germ line. Hardin does not define "germ line". The "germ line" is

the "ancestral tree" of the "germ" or reproductive cells. Germ cells,

in contrast to "somatic" or body cells, can "divide an unlimited number

of times . . . ." And although individuals have a limited life span,

". . . the germ cells are characterized by potential immortality; these are the cells that concern us when we consider the propagation of genetic changes from one generation to the next." We "are direct descendants of an unbroken ancestral reproductive chain" (Novitski:60, 579). It is this chain which Hardin wishes to preserve. It is germ line survival, not survival of the individual or the species towards which the forces of nature (natural selection) drive. This concept is very difficult and abstract because the germ line is nearly infinite and has a very complex relationship with time. Thus biology suggests that the survival of the germ line is the highest good. The discussion of survival serves as a basis for Hardin's view of the place of altruism in human evolution and in human society. This issue will be discussed when Hardin's view of man is considered.

Scenario, Metaphor, and Concept

The scenario of the tragedy of the commons, the metaphor of the lifeboat and the concept of carrying capacity are expressions of the same basic ideas and are intended to impress the reader with the seriousness of the population problem and the harshness of the measures its solution requires.

A scenario: "The Tragedy of the Commons"

Hardin's article is a re-presentation of the major ideas in William Foster Lloyd's Two Lectures on the Checks to Population. Hardin and Lloyd agree in their analysis of the cause, the effects and the solution to overpopulation. If both are correct, we are forced to conclude that little of significance has happened in regard to the population problem

since Lloyd wrote in 1833 (or perhaps since Malthus in 1798).
Certainly, technology has developed rapidly during this period, but as
Hardin (1968a:250-251), again appropriating the insight of others
concerning the nuclear arms race, correctly states, the population
problem is one of a class of problems which by their nature cannot be
solved by any technological improvement or invention. The basic
assumption is that overpopulation is a fact, but the issue is more
deeply rooted "in human values and ideas of morality" (Hardin,
1968a:251).

At this point in the development of Hardin's thought, the
biological aspects are not emphasized. As Malthus noted, population
increases geometrically, (Hardin prefers "exponentially"), and in a
finite world this means each individual's share of the goods decreases
(Hardin, 1968a:251).

Lloyd speaks of this problem in terms of "equality" (8, 10, 11,
14-15), primarily of wealth and the goods (quality of life) which it
provides. Lloyd sees inequality as the primary motive for advancement
and equality as holding the danger of returning society to a primitive
state:

> A state of perfect equality, by its effect in
> lowering the standard of desire, and almost
> reducing it to the satisfaction of the natural
> necessities, would bring back society to ignorance
> and barbarism (15) /13/.

Justice as equality leads to ruin on Lloyd's and Hardin's views. The
solution to overpopulation does not rest on a redistribution of the
world's goods, but lies in (1) private property because it promotes
individual responsibility for the costs of the benefits which the

individual receives, and (2) "mutual coercion mutually agreed upon" (Hardin, 1968a:260-262). The root of the problem is the disparity in the distributions of the costs which are spread evenly over the entire population including those not-yet-born and benefits which accrue to the individual when certain actions are performed, such as having children (Lloyd:8, 9; Hardin, 1968a:254-255, 257-258). This disparity between individual good and social good is the driving force behind the tragedy of the commons.

> The tragedy of the commons develops in this way. Picture a pasture open to all. It is to be expected that each herdsman will try to keep as many cattle as possible on the commons. Such an arrangement may work reasonably satisfactorily for centuries because tribal wars, poaching, and disease keep the numbers of both man and beast well below the carrying capacity of the land. Finally, however, comes the day of reckoning, that is, the day when the long-desired goal of social stability becomes a reality. At this point, the inherent logic of the commons remorselessly generates tragedy.
> As a rational being, each herdsman seeks to maximize his gain.

And since he derives all the benefits from adding one more animal and the cost is spread evenly over all the herdsmen, the only "sensible" conclusion for each herdsman is that he should add one more animal to the common grazing land.

> Therein is the tragedy. Each man is locked into a system that compels him to increase his herd without limit—in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all (Hardin, 1968a:254; 11).

Both Lloyd and Hardin assume that man makes decisions about his use or
abuse of the commons rationally and self-interestedly. Lloyd says his
discussion of a group of laborers pooling their produce and withdrawing
it individually at will

> . . . merely serves to illustrate those parts of a
> cause and of its consequences, which enter into
> human motives, and to show how the future is struck
> out of the reckoning, when the constitution of
> society is such as to diffuse the effects of
> individual acts throughout the community at large,
> instead of appropriating them to the individuals,
> by whom they are respectively committed (Lloyd:9)
> /14/.

Lloyd sees this as a problem of the separation in time of benefits
(present) and ills (future) as well as a matter of the distribution of
benefits (primarily to the individual) and ills (primarily to society as
a whole, i.e., a small amount to each individual. And since man is
"prudent" (Lloyd:9), "seeks to maximize his gain" (Hardin, 1968a:254),
and rational, we continue to move toward tragedy. This is possible
because "natural selection favors the forces of psychological denial":
"The individual benefits as an individual from his ability to deny the
truth even though society as a whole, of which he is a part, suffers"
(Hardin, 1968a:254-255). The paradoxical nature of this denial is even
more apparent in Lloyd's statement:

> . . . and thus the obligation to prudence being
> placed upon the society collectively, instead of
> being distributed to the individual members, the
> effect is, that, though the reasoning faculty is in
> full force, and each man can clearly foresee the
> consequences of his actions, yet the conduct is the
> same as if that faculty had no existence (9). /15/

There are two underlying issues here: (1) the nature of humankind (one
aspect of which is the character of "rationality") and (2) the character
of the relationship between the individual and society.

The tragedy of the commons suggests that individuals pursue their own self-interest to the disregard of the collective good and provides evidence against the view that there is an "invisible hand" or the current "tendency to assume that decisions reached individually will, in fact, be the best decisions for an entire society" (Hardin, 1968a:253). Nor can harmony between the interests of the individual and society be achieved by appealing to the "conscience" of each individual or by calling for them to be "responsible" (Hardin, 1968a:258-260). Since those who refrain from breeding because of conscience will eventually be eliminated from the human population. Hardin says this is true if either conscience or the desire for children is hereditary even "in the most general sense" (1968a:259). Appeals to conscience create a "double bind" situation: if the individual accepts the appeal he risks being played for a fool (i.e., a conscienceless person will take the share of those who refrain from using the common resource) or facing social condemnation if he refuses. The appeal to conscience also uses guilt and anxiety to force people to do "what is best" and Hardin doubts the wisdom of "encourag[ing] the use of a technique the tendency (if not the intention) of which is psychologically pathogenic" (1968a:260; Schoeck:359).

Appeals to responsibility "in the absence of substantial sanctions" are merely disguised appeals to conscience. The only type of responsibility that is acceptable "is the product of <u>definite social arrangements</u>" (Hardin, 1968a:260; emphasis added). That is to say, it includes a means of enforcement: it involves coercion--"mutual coercion mutually agreed upon by the majority of the people affected." We

already accept such coercive arrangements as taxes and banks which limit

our freedom and allow us "to escape the horror of the commons" (Hardin,

1968a:261).

Lloyd has a clear picture of the role of social structures in the

population problem:

> . . . the simple fact of a country being
> overpopulous . . . is not, of itself, sufficient
> evidence that the fault lies in the people
> themselves, or a proof of the absence of a
> prudential disposition. The fault may rest not
> with them as individuals, but with the constitution
> of the society, of which they form part (10).

Such a system allows the conscienceless to take advantage of the

"general forbearance" (Lloyd:12). Lloyd does not see education as

making any major contribution to solving these problems (13) while

Hardin sees it playing a crucial role (1968a:263). Social structures

must be changed to place the costs upon the individual who produces them

(Lloyd:13; Hardin, 1968a:260). Both also agree that population must be

limited and the limit set by deciding what level of quality of life is

acceptable for human beings (Lloyd:14) /16/. Lloyd, unlike Hardin,

concludes with what appears to be a call for minimal distributive

justice: "But, since, such a monopoly [on labor] is not easily

maintainable, we are led to look for an equivalent in the diffusion of a

sufficient degree of property throughout the whole fabric of society"

(Lloyd:15).

As we have seen, Hardin's analysis of the population problem and

its solutions is very similar to Lloyd's. And at this point in the

development of Hardin's thought, the biological principles are largely

implicit, though there is a rejection of the moral principles which they

later replace. It is unclear whether Hardin sees the "commons" as a biological or a social reality (or both). In this essay he also makes important assumptions about the nature of mankind and of the relationship between the individual and society. All of these problems will be considered later, but now it will be helpful to summarize the argument and ideas in "The Tragedy of the Commons".

There are problems with no technical solutions, and overpopulation is one of them. Our goal cannot be to maximize populations, but should be to maximize the good available to each person, and since the earth is finite, we cannot maximize both good and people. Therefore, population must be controlled and population growth must be brought to zero. There is no invisible hand that will do this because of the factors and processes that are involved in the tragedy of the commons. In an unregulated commons, each individual pursues his own self-interest to the detriment of society as a whole. The tragedy results from individuals taking resources from a commons and from their putting wastes (pollution) back into the commons. Pollution is a result of population and the population problem is the root of the environmental crisis. We need temperance in the form of administrative law, but who will watch the watchers who are making the laws? In any case, it is clear that we cannot tolerate freedom to breed in spite of the United Nations Declaration of Human Rights which says that each family has the right to determine its own size. Appeals to conscience will not work because the conscienceless will outbreed the supporters of zero population growth. Further, appeals to conscience create a double bind and are ultimately psychologically pathogenic. The solution to the

population problem is mutual coercion. We accept it in other matters and must accept it in population control if we are to survive at an acceptable standard of living. We must act now because every delay allows the problem to get worse. We must recognize the various commons and the necessity of controlling their use and realize that this means giving up some of our individual freedoms, especially the freedom to breed, in order to preserve other more precious freedoms.

A metaphor: the lifeboat

Although Hardin gives no clues to the origin of the lifeboat metaphor, perhaps it was suggested by the following passage from Lloyd: "To a plank in the sea, which cannot support all, all have not an equal right; the lucky individuals, who can first obtain possession, being justified in appropriating it to themselves, to the exclusion of the remainder" (15). Hardin opens "Living on a Lifeboat" with a discussion of metaphor as the only way "to approach an unsolved problem" (1974b:221). The metaphor of the spaceship, which Hardin himself had used (1972a, 1972c and 1972e), is not appropriate because earth has no captain (1974b:222) and thus Hardin offers the metaphor of the lifeboat (1974b:223) /17/. He clearly links this with the tragedy of the commons: "Lifeboat ethics is merely a special application of the logic of the commons" (1978a:245).

The metaphor sees the nations of the world as lifeboats. The overcrowded poor leave their lifeboats in hope of getting into a rich lifeboat or, at least, sharing in the wealth. The "central problem" is, then, what are the passengers of the rich lifeboats to do? The

lifeboat has a limited carrying capacity just as "The land of every nation has a limited carrying capacity" (Hardin, 1974b:223). The total capacity of the lifeboat is 60 and there are presently 50 in the boat with a safety factor of 10 since "A new plant disease or a bad change in the weather may decimate our population if we don't preserve some excess capacity as a safety factor" (Hardin, 1974b:223). What should the people in the boat do about the 100 swimmers "asking for admission to the boat, or for handouts"? Hardin lists three options: (1) We can apply the Christian, or Marxist, ideal and take all 100 into the boat which will result in the death of everyone: "Complete justice, complete catastrophe." (2) We can admit 10 more and remove the safety factor and "we will sooner or later pay dearly." Or, (3) admit no one and preserve the safety factor and the possibility of survival for the 50 in the boat. We can acknowledge that this is unjust and those overwhelmed with guilt are free to yield their place to a swimmer less troubled with such problems.

> Such a selfless action might satisfy the conscience of those who are addicted to guilt but it would not change the ethics of the lifeboat. . . . The net result of conscience-stricken people relinquishing their unjustly held positions is the elimination of their kind of conscience from the lifeboat. The lifeboat, as it were, purifies itself of guilt. The ethics of the lifeboat persist, unchanged by such momentary aberrations (Hardin, 1974b:224). /18/

This passage, and others in the remainder of the article, restate points made earlier in "The Tragedy of the Commons" as Hardin works to "enrich the image" with ideas and data "from the real world" (1974b:224). The quotation claims that conscience is self-eliminating

and Hardin further feels that any drive towards sharing leads to tragedy (1974b:225). A desire for "pure justice" is self-defeating since it would require giving our lifeboat back to the American Indians and would totally disrupt civilization (1974b:239-240).

Hardin combines the argument of differential reproduction (non-breeders replaced by breeders) with the desire to share food with third world countries and arrives at the "rachet effect" whereby a starving population is repeatedly rescued by food aid until it becomes so large that rescue is impossible. Thus the food aid which was intended to help prevent starvation results in the starvation of larger numbers of people (Hardin, 1974b:224-225, 229ff). And as he stated in "The Tragedy of the Commons" since nothing short of total agreement will suffice and that is not forthcoming, some form of coercion is necessary to control population (1974b:226). Hardin also touches on the themes of "responsibility" (1974b:225, 228, and 232), pollution as a result of overpopulation (1974b:226), and "self-interest" or "selfishness" (1974b:237, 239).

"Living on a Lifeboat" introduces some new themes. Hardin's polemic against "need" as the criterion for action directly attacks both Christian and Marxist ethics (Hardin, 1974b:223-224, 225) /19/.

In this article Hardin considers for the first time the problem of wealth and "rich versus poor" nations (1974b:223, 229, 240), and he sees the real issue here as that of transferring the wealth from the rich to the poor by sharing food. The proposed world food bank is a means of doing this as is allowing immigration from poor to rich countries (Hardin, 1974b:235ff). Hardin warns that the traditional

idea of "sharing" is not only counterproductive, but suicidal (1974b:225). True charity is concerned not merely with making the giver feel better, but with enabling the receiver to care for himself (Hardin, 1974b:233-234). Withholding food aid is not a matter of "blame and punishment" but rather of wisdom and competence (Hardin, 1974b:229).

Hardin introduces the concept of "emergency" to further clarify the issue of food aid. This discussion is similar to that of "accident" in Exploring New Ethics for Survival (Hardin, 1972e) and makes the point that as accidents are statistically predictable and can be prepared for in advance (Hardin, 1972e:80-81), so can predictable "emergencies" such as temporary food shortages (Hardin, 1974b:228). The problem is not only a shortage of food, but of other "goods" which make life meaningful, especially the goods deriving from a quality environment (Hardin, 1974b:234). Hardin's concern for quality of life and for future generations becomes more explicit here than it was in "The Tragedy of the Commons" (1974b:234, 236, 238, 240).

In summary, "Living on a Lifeboat" continues to develop or repeat themes and ideas that occurred in "The Tragedy of the Commons," introduces new themes, and makes explicit ideas which were implicit in his earlier work. The metaphor of the lifeboat, however, met with a negative emotional response and this prompted Hardin to re-present his thought in terms of the concept of "carrying capacity".

A concept: carrying capacity

The "failure" of the lifeboat metaphor prompted Hardin to elaborate "the fundamental idea of the carrying capacity" (1978a:244) upon which the theory of the commons problem is based (Hardin, 1977e: 115). The concept of carrying capacity is central in Hardin's thought (1977a:53). The solution of overexploitation of the commons cannot be found without "a clear understanding" of this concept and "a willingness to fashion laws" which take it into consideration (Hardin, 1977e:112). Hardin echoes the lifeboat theme when he writes, "Biology clearly tells us that survival requires a respect for carrying capacity, and points to the utility of territorial behavior in protecting the environment and insuring the survival of populations" (Hardin, 1977e:124). In spite of the significance he attaches to this concept, relatively little space in his writing explicitly addresses it.

Hardin discusses carrying capacity in three works, none of which deals at length with "carrying capacity " as such. In chapter four of The Limits of Altruism (1977a) 9 of 22 pages or about 40% directly address carrying capacity. Less than 2 pages or about 10% of the 16 page article "Carrying Capacity as an Ethical Concept" (1976a) discuss carrying capacity (excluding a 2 page poem about the effects of ignoring carrying capacity). The chapter on carrying capacity in Managing the Commons (Hardin, 1977e) is a reprint from Science of an example of the tragedy of the commons that occurred in the Sahel to which Hardin has added 4 pages on carrying capacity and 2 pages of comments (4 of almost 13 pages or 32%).

Hardin defines carrying capacity as:

> the maximum number of a species that can be
> supported indefinitely by a particular habitat,
> without degradation of the environment and without
> diminishing carrying capacity in the future
> (Hardin, 1977e).

This is offered as a biological definition, but the concern it shows

for the future and for maintaining environmental quality may not be

purely biological concerns (see chapter 2). Hardin says that the

concept of carrying capacity is a vehicle for his central concern--our

obligation to future generations--and with this in mind he proposes

"'Thou shalt not exceed the carrying capacity of any environment' as a

legitimate member of a new Decalogue" (1976a:259). But, this is

> . . . not [to] say that the carrying capacity is
> something that is _intrinsically_ sacred (whatever
> _that_ may mean) but that the rhetorical device
> "carrying capacity" is a shorthand way of dealing
> time and posterity into the game (1976a:259) /20/.

In taking carrying capacity as a central ethical idea, the time

dimension is of major importance and Hardin sees it as a source of

disagreement between the biologists and the "common culture" (Gibson

Winter's term) which relies upon economics where "The theory of

discounting, using commercially realistic rates of interest virtually

writes off the future" (Hardin, 1977e:113). This includes the issue

of short versus long term gains, which was mentioned in "The Tragedy

of the Commons", and the problem of our obligation to future

generations. For Hardin the latter is so important that carrying

capacity as an ethical principle displaces such traditional ethical

values as the sanctity of life and justice (1976a:133-134,

1977a:98-99).

Hardin explains the concept of carrying capacity by presenting examples of overpopulation in animal populations. The reindeer population on St. Matthews Island was unchecked by predators or disease and the herd exceeded the carrying capacity of the island, starved in large numbers, and destroyed the food on which they depended. He notes that this is an exceptional case, --"Population crashes in nature are rare. Most of the time a population fluctuates within rather narrow limits."-- but uses it to point out that individuals in a population which has exceeded its carrying capacity are in poorer health and have lower weights than individuals in a population at a level more compatible with the carrying capacity (1977a:49-51). Further, a population at or below the carrying capacity "could survive indefinitely--even through hard winters--in good health." He then considers an incident of deer overpopulation in Wisconsin and the public outrage (coinciding with the release of the movie "Bambi") because hunters were allowed to harvest thousands of deer. Overpopulation can be determined, as this example illustrates, without counting the deer. There are two signs of overpopulation: "the deer themselves (do they show signs of malnutrition?) and their environment (does it show signs of the degradation that follows from exceeding its carrying capacity?)" (Hardin, 1977a:53).

In game management, as in the lifeboat metaphor and by implication in human populations, we must choose whether to "accept and plan for timely deaths" or to cause "many more deaths, which [will be] untimely and more painful" (Hardin, 1977a:51). Unfortunately, emotion prevents a rational look at hunting (and at human

overpopulation). Hardin calls for a "battle for rationality" and "a struggle to get people to see the centrality of the concept of carrying capacity" (1977a:53). Sympathy can easily lead to forms of intervention that are counterproductive. Hardin supports this claim by bringing in the discussion of the ratchet effect from the lifeboat article. He also brings in one of his favorite themes, selfishness: "In truth, the argument of the hunters was self-serving. The important policy question is this: was it also a good argument? . . . An argument that is self-serving may still be true" (1977a:55-56).

When applying the concept of carrying capacity to human populations, it must be broadened and, thus, Hardin acknowledges that animal models do not apply directly and fully to the human situation (1977a:91, 53). Human beings can increase the carrying capacity of the environment and this knowledge has led to the rejection of Malthus' views (Hardin, 1977a:57; Hardin, 1977e, 115). If the idea of a changing carrying capacity is accepted, difficulties still remain.

> As regards populations of non-human animals and plants, we are just now beginning to grapple with the implications of carrying capacity. When it comes to humanity itself, it is doubtful if we yet have the courage to systematically examine all possibilities . . . (Hardin, 1977e, 115-116).

Even though man has used technology to expand carrying capacity in animal husbandry, aquaculture, and agriculture, carrying capacity cannot be increased without limit (Hardin, 1977e:115). As it is increased, and the population in a given area increases, the quality of life decreases.

> The question is, which do we want: the maximum
> number of people at the minimum standard of
> living—or a smaller number at a comfortable, or
> even gracious, standard of living? We are our own
> caretakers: the choice is ours (Hardin,
> 1977a:58-59).

As the length of time overpopulation exists increases, the damage to

the environment increases and becomes less reversible (Hardin,

1977a:93). History warns us of the danger: the possible death of our

civilization. "No civilization has ever recovered after ruining its

environment. The civilizations. . . were replaced by other

civilizations from the outside. If we ruin the whole world where is

the 'outside' to renew our civilization" (1977a:59-60)? Hardin

foresees a future after a population crash as bleak as that which

would follow a nuclear war and cites the Ik tribe (see Turnbull) as an

example of what happens to a human population exceeding or living very

close to the carrying capacity (1977a:130-131). This fate can be

avoided if each nation becomes "self-reliant" and lives within its

carrying capacity. The forces which drive mankind to exceed the

carrying capacity—freedom, egoism and germ line survival—must be

controlled. Solving these problems also includes seeing the

difference between "a temporary crunch" and "a permanent crisis"

(Hardin, 1977a:63). Each country must control its own population and

choose its own standard of living without hoping for rescue from

others. Any would-be rescuers must realize that "help" only makes

the situation worse in the long run and contributes to more deaths.

The rational goal for human populations is the distribution of people

according to carrying capacity.

Hardin's views on carrying capacity can be summarized by considering his article "Carrying Capacity as an Ethical Concept" (1976a). It is primarily a critique of traditional ethics and a further elaboration of the food issue discussed in "Living on a Lifeboat". Here Hardin shows that the issue is not only food, but also energy. Food aid must be matched with energy aid to be beneficial (1976a:252, 255ff). Food aid alone leads to the ratchet effect and in the long run harms more people than it helps. Food and energy (3 times as much and 10 times as much, respectively, used in rich as in poor countries) separate the rich from the poor (Hardin, 1976a:252). Hardin elaborates the concepts of "crisis" and "crunch": the former is a temporary situation where food aid tides the people over until they can supply themselves; the latter increase the number of survivors and does so repeatedly until it is impossible for them to supply their own food or to be sustained by outside help, thus resulting in increasing numbers of starving people (Hardin, 1976a:246ff).

Several other themes which run through Hardin's thought are discussed in this article. He repeats his claim that conscience is ineffective unless every single individual abides by its dictates (1976a:245). The concept of need is not helpful (Hardin, 1976a:246, 247). Selfishness "is part of the motivation of every action" (Hardin, 1976a:248, 249; 1977m:124) and actions should be judged on consequences and not motives. Rights entail responsibilities (Hardin, 1976a:246, 247) and charity can be very irresponsible (Hardin, 1976a:256-257). Lastly, this article contains the strongest expression of Hardin's concern for posterity (1976a:247-248, 256-257).

Carrying capacity can be viewed as a line of demarcation between a commons that can survive and one that is bound for tragedy (1968a:254), between "crisis" famine and "crunch" famine, and between traditional morality and the new situational morality. It calls us to consider long range gains as more important than short term gains. A biological ethic which considers carrying capacity looks to the future and is concerned for future generations.

Summary of the development of Hardin's Thought

Hardin's thought has gone through three stages or presentations: (1) "The Tragedy of the Commons" emphasized the related conflicts between individual good and social good and between short term gain and long term gain in the use of common resources and saw the world as a commons. (2) The lifeboat metaphor presented the same basic ideas more graphically, placed stronger emphasis upon the elements of limits and separation (rich versus poor), and was more explicit about Hardin's concern for quality of life of present and future persons. It saw the world as a lifeboat. Both the commons and a lifeboat are social arrangements: the one in regard to resource use and the other in regard to emergency situations. The emotional response against the latter metaphor, however, pushed Hardin to clarify his view, and make it more palatable. (3) The basic idea of carrying capacity mentioned in his original article, but not emphasized even though it is the central biological concept in his thought, became the focus in hope of returning the conversation to a more rational and productive arena. It also made clear Hardin's desire to "deal posterity into the hand."

Let us not be misled by the remark that "carrying capacity" is a "rhetorical device". Throughout his thought Hardin shows an interest in language and its use to prevent, as well as aid, rational thought (for example, 1956, 1957, 1966, 1967b, 1968c, 1971a, 1976c, 1978b and various articles in 1978a). That this concept is biological and not merely rhetorical is also suggested by Hardin's use of biology as a criterion of judgment at several points (1968a:253, 257-258, 261). Hardin's movement from social metaphors to this biological principle reveals the biological foundation of his thought and exposes his presupposition that ultimately reality is biological. The development of Hardin's thought contains no major change of direction, but is a matter of becoming more explicit about the basic foundation of his ideas.

There are several points and themes which occur repeatedly throughout Hardin's writing. The problem of the commons has no technical solution but requires value and moral change which includes dropping many traditional values and replacing them with a situational ethic based upon biology. The solution to the commons problem (and overpopulation) and its manifestation in famine, is not food aid. Biological principles and a concern for the quality of life show that food alone is not enough: it must be accompanied with energy aid and this is for all practical purposes impossible. Appeals to conscience will not solve these problems. The solution might be to replace commons with private property. It will require administrative law, which is more flexible (situational) than statute law /21/, and a concept of responsibility which has teeth. Most importantly, our time horizons must be enlarged to include posterity.

The increasing emphasis on the importance of considering posterity in bioethical decisions, environmental policies, and social policies is a major aspect of the development of Hardin's thought. The presentation moved from the commons, a scenario about social arrangements (and the failure of current social institutions due to the selfishness of mankind); to the lifeboat, a metaphor about a tragic emergency situation whose outcome is radically uncertain (since there is no possibility of rescue form "outside" the earth); and to carrying capacity, a biological principle which Hardin suggests should be elevated to the level of "sanctity". Thus Hardin has moved back to his basic principle: he derives his moral values from biology, grounds them in biology, and expresses them in biological terms. The next section will clarify the results of the development of Hardin's thought for his view of the nature of man.

Hardin's Anthropology

Value assumptions in three areas must be considered to evaluate Hardin's view of humankind. First, what is the nature of individual humans? Are they selfish, envious, egoistic, self-interested, and rational (and what does he mean by these terms)? Second, what is the role of society or social institutions in the problems and solutions Hardin discusses and what is the relationship between individuals and social institutions? And third, are we as a species evolutionarily limited to tribalism? Hardin's clearest and most developed reflections on these issues occur in The Limits of Altruism (1977a) where Hardin formulates these questions in the language of ethics:

First, is altruism possible for the individual? Second, can altruism serve as an organizing principle for society, or is it possible for social institutions to be altruistic? And third, to how large a group can altruism be applied, i.e., what are the limits of altruism?

The Individual

The themes of altruism, selfishness or individualism, and rationality can be used to show Hardin's view of man's nature. The most developed formulation of his thought occurs in his latest major work which addresses altruism (Hardin, 1977a). The conclusion of the work is that altruism is possible for individual men but can only be applied to a limited group and necessarily excludes some persons from one's moral community. In the process of reaching this conclusion, Hardin makes remarks that can be used to construct an anthropology.

He begins by showing that both pure egoism and pure altruism are "waterproof hypotheses", i.e., they cannot be refuted or disproven /22/. Following mathematical practice, he assumes that which he wishes to disprove, namely that pure egoism can explain all human actions, and having set the stage, begins his discussion of altruism (Hardin, 1977a:3).

"Pure altruism, by definition does not benefit the actor; in its extreme form it may even harm him" (Hardin, 1977a:5). Allowing that pure altruism may exist, Hardin says that it cannot biologically persist (1977a:5) and thus is not significant. The following clarifies that basic assumption which lies behind Hardin's approach to this issue: "Our main interest is in the human species, but the

groundwork for understanding altruism <u>must</u> <u>be</u> <u>laid</u> <u>in</u> <u>general</u> <u>biology</u>"

(1977a:5, emphasis added). Hardin is attempting to understand a moral

quality, or an attribute of human nature, in terms of biology.

This approach leads him to the question of interspecies altruism

which he concludes does not exist. Current moral philosophy and

theology have considerably outgrown the once popular and naive notion

that other species were placed on earth to be altruistic towards

mankind, yet as a culture we have not entirely parted with this view

which has, as Hardin correctly sees, an element of sadism on the part

of the human recipients of the benefits of the animal and plant

kingdoms. Hardin presents the core of his argument in an early

paragraph:

> The evidence for Darwin's natural selection is now
> overwhelming. At the biological level the idea is
> as close as we can get to a truth that is
> self-evident. Variants that survive in greater
> numbers become predominant. How could it be
> otherwise? How could adaptations that resulted in
> fewer surviving offspring become dominant forms?
> Egoism is easy to understand; altruism is a puzzle
> (1977a:6).

An earlier statement further elaborates on the power of natural

selection and its applicability:

> Natural selection is not merely a technical
> concept narrowly applicable to biology alone; it
> is a concept of the widest application, and a
> thorough discussion of it elucidates deep moral
> principles in a way that is scarcely possible
> otherwise (Hardin, 1973a:15).

Note the movement in both quotations from biology to morals. The use

of biology as a criterion of judgment for altruism and "moral

principles" parallels that which occurred in "The Tragedy of the

Commons" in regard to conscience and, like it, raises the issues of the respective roles of culture and biology in shaping human society and in transmitting information. Interspecies altruism is not a biological possibility, but is intraspecific altruism possible?

Intraspecific altruism is analyzed in the table reproduced below.

Table 1. Effect of Intraspecific Actions on Reproductive Success (Hardin, 1977a:7).

		Antagonist Effect of protagonist's actions on the reproductive success of the antagonist		
		Gain	Loss	Neutral
Protagonist Effect of protagonist's actions on his own reproductive success	Gain	1 Cooperative	2 Selfish or Sadistic	3 Egoistic
	Loss	4 Altruistic or Masochistic	5 Spiteful or Sado-masochistic	6 Masochistic
	Neutral	7 Altruistic or Benevolent	8 Sadistic	9 Pointless

Each party in the relationship can gain, lose, or be unaffected and there are nine possible outcomes of any exchange characterized by the "popular names" which Hardin has placed in the boxes. These effects are evaluated in terms of the biological criterion of "reproductive success". The "protagonist" is the actor and the "antagonist" is a passive recipient. But since Hardin intends no value implications in using these terms, I will substitute the less value laden terms "actor" and "recipient" (Hardin, 1977a:6-7). If both actor and recipient gain from the actor's action, the result is "cooperative" (both are reproductively more successful than if the action had not occurred); if both lose, it is "spiteful or sado-masochistic" (both leave fewer offspring than if the action had not occurred); and if

neither gains nor loses, the action is "pointless" (the energy expended led to no net gain in reproductive success). The rest of the possibilities become evident from examining the table: the unshaded boxes (1, 2, 4 and 5) are "possible persistent relations" and the shaded boxes (3, 6, 7, 8 and 9) are "less common, nonpersistent, or 'marginal' actions (Hardin, 1977a:7). Discussing the terms "masochistic", "sadistic" and "sado-masochistic" Hardin emphasizes "that within a species something that looks like altruism exists" (box 4) and that there is a biological explanation for it. He claims that "altruism", "masochism" and "nobly sacrificial" refer

> to the same objectively determinable facts: as a physicist would say, they have the same dimensions. Which term one uses is determined by one's intentions toward the reader—by the way one wants to structure his perception of reality (1977a:9) /23/.

Hardin's acknowledgment of the importance of intentions in choosing words makes one wonder why he does not see the intention behind the act as a possible reference implied in the choice of a description for the "same objectively determinable facts". His granting the importance of intentions in language choice is uncharacteristic of his position in general.

Hardin then proceeds with his program of approaching the question first from the standpoint of general biology and asks "does altruistic behavior exist among nonhuman animals?" (1977a:10). He cites examples where animals do not care for offspring which are not genetically their own /24/ and continues:

> All this is easily explained on a strictly
> Darwinian basis. One of the most serious
> misunderstandings of Darwin's theory is the belief
> that natural selection works for the good of the
> species. Not so: natural selection benefits
> individual germ lines, a process that may or may
> not benefit the species (Hardin, 1977a:10-11).

Thus, Hardin claims to have biologically ruled out any concept of an

individual sacrificing himself or herself for the species. Further,

> adult behavior that favors the survival of
> children in general -- any children -- could be
> regarded as altruistic; it is very rare. Behavior
> that favors one's own children only, if it is to
> be called altruism at all, must be called by a
> special name: kin altruism (Hardin, 1977a:11).

This is not "pure altruism" because "The child that a parent makes

sacrifices for is, in part, the parent himself (Hardin, 1977a:11) /25/.

In Hardin's strictly biological context, this "Genetically based

fractional altruism is easier to understand than pure altruism"

(Hardin, 1977a:11).

Kin altruism, a concept that comes from sociobiology, states that

natural selection will not support genetically determined altruism

unless the death of the sacrificer preserves the same genes for

altruism in the survivor, as it does when identical twin sacrifices

for identical twin. But when first cousins are involved, one cousin

would have to save the lives of eight others to genetically "break

even" (Hardin, 1977a, see 12-13). The biologist Robert Trivers has

developed a concept of "reciprocal altruism" for non-kin relationships

of mutual helping, but Hardin sees this as "coupled egoism" and "quid

pro quo," not altruism (Hardin, 1977a:12-14). Money makes "coupled

egoism" possible for unrelated humans. There may also be

psychological gains from altruistic behavior which are not easily compared with material benefits and it is logically possible to call such behavior either altruistic or egoistic depending on one's presuppositions (Hardin, 1977a:14-15).

Hardin feels that, judging from the data of anthropology, pure altruism is impossible; human nature does not work that way (1977a:19). On this basis he is critical of Richard Titmuss's The Gift Relationship which is concerned with a voluntary blood donation system and presents a view of one who longs to call the type of behavior in question "altruistic" but who is aware of the gap between practice and ideals. He advocates free, uncoerced and unrewarded giving, pure altruism, and suggests that by removing the personal element, i.e., giving only to strangers, blood donation can be a truly disinterested act (Hardin, 1977a:20) /26/. Hardin can find no examples where Titmuss's goal is possible: not in poor societies, rich societies, or prison camps. And he correctly identifies the root problem: the view of human nature (Hardin, 1977a:22). According to Hardin, Titmuss's naive and fashionable view results from unrealistic views learned as a child. A society based on pure altruism is not possible (Hardin, 1977a:22), even though pure altruism is possible " . . . on a small scale, over the short term, in certain circumstances, and within small, intimate groups" (Hardin, 1977a:26). For an individual, then, altruism is possible, but in limited contexts.

Another important feature of Hardin's anthropology is his acceptance of the common assumption that man is a rational being.

Rationality, however, can be overruled by the power of psychological denial (Hardin, 1968:255; 1969c:46; Hardin, 1977f:45-52). His view of rationality is presented in "The Rational Foundation of Conservation" (Hardin, 1974a). "Rationalism is fundamentally a social ideal: its goal is to make communication between people possible" (Hardin, 1974a:14). It allows for the resolution of conflicts without the use of force, but it is also limited and even the most rational among us cannot provide a reason for every action. For Hardin, rationality is inseparable from self-interest:

> Rationality demands always a quid pro quo --
> "something for something." And equity demands an
> equality of the two . . . . But what if the quo
> is paid by Ego while the quid goes to Alter --
> where's the equity in that (1974a:15)?

It is the rational pursuit of self-interest which leads to the overexploitation of the commons (Hardin, 1968:254). And one of the limits of rational thought appears when conservation, i.e., "saving something for the future--which often means foregoing the use of it in the present" is considered (Hardin, 1974a:14). Given the economic notion of "discounting the future", the rational thing to do is not to conserve (Hardin, 1974a:14-15). It is simply not reasonable to conserve for posterity in spite of our hearts' (moral) intuitions "because our reference frame has been the conventional one of both ethics and economics as they have developed in the western world" (Hardin, 1974a:15-16). This "I-Thou, Here and Now" approach will not work, nor will the idealistic "Everyone-Forever" and Hardin suggests the middle way -- "Comrades -- Today and Tomorrow" (1974a:17). He does little more than point a direction for further thought in an area

where his moral intuitions confront him with a concern for posterity

and a desire to conserve for them which are non-rational in the common

and current understanding of rationality (See also 1977a:74-77).

Later, Hardin openly acknowledges this limit to rationality: "I am

beginning to suspect that rationality -- as we conceive it -- may be

insufficient to secure the end we desire, namely taking care of the

interests of posterity" (1977a:75-76).

Linked with this concept of rationality is the concept of

individualism in its negative aspect of selfishness which makes it

particularly difficult to address the problem of obligation to future

generations (Hardin, 1977a:70, 1974a:16-17). "As a matter of

principle we should always assume that selfishness is part of the

motivation of every action. But what of it?" Our primary concern

should be with consequences, not motives (Hardin, 1978a:249).

> Surely there's something to be said for
> selfishness.
> Altruism versus selfishness: It is all too
> easy to polarize the argument, to maintain the
> univalence of facts. But the facts are
> ambivalent, as wise men have recognized for
> millenia. A Talmudic saying puts the matter
> rather well:
> "If I am not for myself, who will be for me?
> "If I am for myself only, what am I?
> "If not now -- when?" (Hardin, 1977e:124).

This passage points out the difficulty in interpreting Hardin's

thought; there are passages in the mass of polemical material which

make it possible to see his position as balanced. If, however, one

does not find these passages or chooses not to emphasize them, his

thought can be seen in a very negative light. The most positive

interpretation of Hardin on this point is that although he allows for

the forces of individualism, he sees the need to move away from this
tendency in our culture, away from the emphasis on individual freedom
for example, especially in regard to matters of the commons, in order
to act upon our moral intuition of a need to conserve world resources
for future generations. This is a move from short-term individual
self-interest to long-term group interest (limited altruism).

Society

Hardin's view of society (and culture) appears indirectly in his
discussions about the respective roles of biology and culture in human
life. Hardin deals with this issue in two articles, one specifically
concerned with population control and the other with defending Edward
O. Wilson's Sociobiology.

According to Hardin we are still not living in an age which
accepts Darwin:

> . . . the essential thrust of Darwin's work is
> still almost universally ignored. This thrust is
> the ubiquity and inescapability of natural
> selection, an idea that should be as much built
> into everyone's thought patterns as is the concept
> of universal gravitation (1972f:350).

The idea of evolution is easier for us to accept, and was for Darwin's
contemporaries, than "the idea of an inescapable selection process"
because "evolution" is an equivocal term, a synonym for "development"
or "progress" and a technical biological term (Hardin, 1972f:351;
Flew, 1967). But the biological meaning of "evolution" does not
involve any "program". "In fact, the basic concepts of 'convergence'
and 'divergence' necessarily imply the non-existence of a program: a
species becomes whatever selective forces dictate it should" (Hardin,
1972f:351). And these forces change whenever the environment changes.

> What happens depends on opportunities and forces,
> not identifiable programs. We must accept our
> powerlessness to predict either history (in the
> ordinary sense) or the special form of history we
> call evolution.
> The rejection of historicism has an important
> ethical corollary: We cannot predict history but
> we can make it, and we can make evolution. An
> even stronger statement can be made: We cannot
> avoid making evolution (Hardin, 1972f:351).

Hardin then discusses the "Baldwin effect" and how, due to it, "most of the arguments between hereditarians and environmentalists about the relative importance of culture and genetic change in determining human evolution becomes rather pointless." The Baldwin effect can be stated as: "Cultural change and genetic change are mutually reinforcing elements of a circular process" (Hardin, 1972f:353). Thus, even a purely cultural decision (if there is one), will "set in motion a veritable avalanche of genetic changes which [we are] powerless to stop" (Hardin, 1972f:352-353). "We are what we become" is "the essence of the 'Baldwin effect'" (Hardin, 1972f:353). And when the future is considered, "What is man going to make of himself . . . . (Hardin, 1972f:353)? Hardin says, "For the foreseeable future the most important man-generated genetic changes will unquestionably be unintentional" (1972f:353).

Having presented this background, he addresses the main theme of the article, population control. We are rapidly reaching the point when institutions will have to be formed to control population because "Voluntary population control selects for its own failure" (Hardin, 1972f:353). In support of this view he quotes Darwin's grandson:

> Some people do have a wish for children before
> they are conceived . . . . There will be a
> tendency for such people to have rather more
> children than the rest, and these children will
> inherit the wish to an enhanced extent, and these
> will contribute a still greater proportion of the
> population. Thus the direct wish for children is
> likely to become stronger in more and more of the
> race and in the end it could attain the quality of
> an instinct . . . . (Hardin, 1972f:353).

Both Hardin and Charles Galton Darwin are willing to grant that this may take a long time, but neither establishes a link between a wish for children, or a child, and the total number of children "people" have. Structurally this is the same argument Hardin uses throughout his writing to show that conscience is self-eliminating (1968, 1974b). It is, Hardin continues, because of such individual differences as the wish for children, that selective pressures arise and lead to the ultimate displacing of one group by another and the origin of the difference is irrelevant.

> In a voluntary system this result is inevitable,
> regardless of whether the breeding differences
> between human beings are wholly cultural or wholly
> genetic, or any intermediate mixture of the two.
> The idea of selection is broader than biology; but
> most non-biologists are selectively blind to it
> (Hardin, 1972f:354; 1968; 1975a).

Assuming a desire for two children, women using the pill will produce one-third as many children as women using the rhythm method, and thus the population of rhythm users will increase and eventually displace the pill users. Complete displacement would take a long time and allow "other historical influences to enter in and cause unforeseen changes of perhaps quite a different sort" (Hardin, 1972f:354-355). Further, biological selection operates such that:

> If the degree of reproductive isolation of the two
> populations is nearly complete, the selection that
> occurs will select not only for high fertility but
> also for whatever other traits distinguish the
> fertile group. Even a slightly deleterious trait
> can increase in frequency in the total population
> (Hardin, 1972f:355).

Hardin then addresses the claim that humankind has risen above natural selection and that culture now plays the role that biology played in the past. This is incorrect because of the Baldwin effect and because of the "counter-intuitive effect" that occurs "when the fall in average reproductivity of human families is accompanied by an increase in reproductive heterogeneity . . . there is an actual increase in the 'opportunity for selection' . . ."(Hardin, 1972f:355). This is "counter-intuitive" because one would expect selection to slow down as birth rates slowed down. And the more variety of genetic populations, the more likely that one group will have a gene favorable for the particular environment, and will then be favored by selection.

Returning to his birth control example, Hardin looked for reproductive differences among religious groups and could find nothing conclusive. But in considering the third world and the United States, the reproductive rate is three to one (Hardin, 1972f:356). This means that

> whatever genetic characteristics there are that
> distinguish the poor but rapidly breeding
> populations of the world from the rich will
> increase in frequency with the passage of time,
> relative to the genetic characteristics of the
> rich and slowly breeding populations (Hardin,
> 1972f:356).

Fear of being "ethnocentric" prevents thought about this problem but Hardin proposes a way to think about it and break the taboo.

Between rich nations and poor nations and between rich and poor within
each nation there are genetic differences: "How complete is the
genetic isolation of the poor people from the rich? I suspect it is
greater than most Americans would like to believe." Social mobility
actually contributes to this difference. Besides the taboo against
considering such issues, "a narrowly economic frame of reference" has
hampered our ability to deal with the problem of poverty. "We have
tended to think of poverty exclusively as a lack of wealth . . . .
This is surely a dangerous simplification of the facts of human
existence." There is "a culture of poverty" (Oscar Lewis) one
characteristic of which is an emphasis on the present and a lack of
consideration for the future. Hardin remarks that "Such an
orientation is no doubt both cause and effect of poverty" (Hardin,
1972f:357).

Both genetically and culturally poverty is not entirely negative:
"It takes positive attributes to survive in poverty" (Hardin,
1972f:358). Certain traits are better suited to a life of poverty and
certain others to a life of wealth. But, "It is pointless to ask
which form of fitness is 'intrinsically' better. The question is:
What kind of a world do we want to create? . . . do we want to create
men and women who are maximally adapted to the rigors of poverty? Or
. . . that are better suited to the life we call 'civilized'" (Hardin,
1972f:358)? Since "the essential unity of man and other animals must
be our invariable working hypothesis in this Darwinian world" (Hardin,
1972f:358), we know that we cannot select for mutually exclusive
traits and we know that if we change the environment of the poor to

that of the rich, they will not be as well adapted as the rich are, i.e., biologically they will be carrying a "genetic load" (Hardin, 1972f:359). Those individuals "who are poorly adapted to the life of poverty" can leave in two ways, either by dying (or not having children) or by rising socially to a richer group. Both processes leave the remaining poor better adapted to poverty (Hardin, 1972f:359). And in countries where poverty has existed for centuries, the poor "must surely be genetically adapted to a life of poverty" (Hardin, 1972f:359). Instant wealth would then create a genetic load for these people, which "if . . . we permitted natural selection to take its course . . . would be rapidly reduced" (Hardin, 1972f:359), i.e., through the death of the persons not adapted to the new environment. But, natural selection is not allowed to occur in the "welfare state" for "humanitarian" reasons and this leaves us (the rich) with the problems of feeding the breeders and controlling their population (Hardin, 1972f:360).

> The longer we take to eliminate poverty, the greater the number of people there will be, in both relative and absolute terms, who are well adapted to the life of absolute poverty and ipso facto poorly adapted to a more civilized life (Hardin, 1972f:360).

Any such change will encounter the Baldwin effect: "cultural change first, followed by a slower genetic, evolutionary change. The transition will surely be a dangerous one" (Hardin, 1972f:360). If the change is too slow, the poor will inherit (overrun) the earth, but if it is too fast, they may find themselves in a world they do not fit and "seek to pull down the structure of civilization, for their

comfort's sake" (Hardin, 1972f:360). Then Hardin says, "These are deep waters -- deep scientifically, deep ethically. We need more knowledge." But we must do something even though "it is very difficult to see what positive action we might take, given the political realities (1972f:360-361). We must at least avoid increasing the growth of poor populations, and at best, stop their growth completely "for their sake, for our sake, and for the sake of the great-grandchildren of all mankind" (Hardin, 1972f:361).

This will require checking social policies for their "selective consequences" before approving them and acknowledging the truths of natural selection that Darwin spelled out for us. "If we are to survive in dignity, this selective blindness cannot be tolerated much longer." Only when we acknowledge the forces of selection will it be true "that we have moved, at last, into the Age of Darwin" (Hardin, 1972f:361).

The discussion of culture and biology continues in Hardin's "Sociobiology -- Aesop with Teeth" which is a defense of Wilson's Sociobiology. Hardin suggests that the reaction caused by that book is the result of the violation of a taboo: Wilson is in the tradition of Aesop, who according to legend was killed for forcing the truth upon an unwilling society. Both are tellers of fables, which according to Freud are "a way of getting repressed thought admitted to the conscious mind." Fables use a tale of animal behavior which gives "hints -- and sometimes more than hints -- of the human condition" (Hardin, 1977b:304).

The problem is not so much reporting observations on animal behavior as it is using them to speculate "about the causes of human behavior":

> It is no longer fashionable to hurl prophets from cliffs, but many of the defenders of the conventional wisdom are perfectly willing to destroy a man's reputation with polemics. Pejorative labels substitute for the objective examination of evidence (Hardin, 1977b:304).

There is a taboo against the pursuit of knowledge about human behavior which goes against the intellectual status quo (Hardin, 1977b:304). The "New Puritans" are trying to prevent awareness of such questions as "Are the races equal? Are the sexes equal? Is there a hereditary component to human behavior?" The first two are "scarcely raised" by sociobiology which is primarily concerned with the latter (Hardin, 1977b:305).

The basic issue is the relative strengths and roles of culture and biology in shaping human behavior, the old nature versus nurture controversy. Hardin doubts that any biologist fits the polemical definition that opponents of sociobiology propose. "Determinism, like racism, sexism, and social Darwinism, is less a definable formal intellectual position than it is a pejorative used to tar an opponent" (Hardin, 1977b:306). Neither complete determinism nor complete indeterminism is true. Human nature "has something to do with social organizations and social problems" and social problems result partly from friction between our nature and society (Hardin, 1977b:305) /27/. Hardin says, however, that "this is not to say that genes rigidly determine the social order . . ." (1977b:306). Clearly both heredity

and environment interact and a change in either will change the final
outcome. Further, this issue includes some subtleties that most
people overlook. Hardin feels that "influence" is a more accurate
term than "determination" since the former "implies a weak rather than
a strong relationship of behavior to social structure, and of heredity
with behavior" (1977b:306). But even weak factors are subject to
natural selection. And the issue becomes the amount of influence of
heredity and, assuming it can be controlled, the psychological,
social, political and economic costs of controlling its influence
(Hardin, 1977b:307). The discussion of the Baldwin effect suggested
that there is a circular causal relation between heredity and
environment (Hardin, 1977b:307).

Those who see culture as the only force attack genetics on two
points: "(1) it is an unnecessary hypothesis, and (2) the genetic
mechanism works too slowly to account for the rapid cultural changes
that occur when people are transferred from one culture to another."
Biologists can agree "and yet dispute the conclusion that there cannot
be statistically relevant genetic differences between the people of
two cultures (Hardin, 1977b:307). The decisive experiment cannot now
be performed since ethical concerns in human experimentation have
become strong and twins cannot be separated at birth, but lack of
evidence does not substantiate the culturists' claim that culture has
no genetic component /28/. Tests have been made on other animals and
have shown that "there is always variation; the variation always has
some genetic component; there is a genetic component to behavior; and
different environments can select for different behaviors, hence

(ultimately) for genetic reasons (Hardin, 1977b:307-308). Thus, Hardin argues that for humans also cultural selection acts on genetic differences and ultimately, genetic differences are more important than cultural differences.

The relationship between environment and heredity is complex but heredity cannot be ignored, as anyone who tries to train "a dachshund to 'point' game" will quickly learn.

> It is a long way from simple behavior reactions to human culture, but the logical distance is a continuum. Genetically identifiable units are involved in the behavioral traits of all other animals. To suppose that human behavior is uninfluenced by heredity is to say that man is not part of nature (Hardin, 1977b:308).

Further, historical accidents cause social differences in animal populations and "how much more important the accidents of human history are hardly needs arguing" (Hardin, 1977b:306). The biologist can agree with the anthropologist that some differences *may* be exclusively cultural at the beginning, "but culture, once created, is a sieve by which all future individuals will be tested (Hardin, 1977b:308-309). Natural selection can operate on even a slight genetic difference and change the gene frequency in later generations. "What *we are*, *we become*" (Hardin, 1977b:309). Due to the Baldwin effect,

> The traits a culture honors will, in time, be supported by hereditary tendencies that facilitate the acquisition of those traits [provided that] those who are honored . . . leave behind more children (on the average) than do those who are not so honored (Hardin, 1977b:309).

As an example of honor that does not meet this condition, Hardin

discusses clerical celibacy. Note that this argument is structurally
the same as that he uses against conscience in "The Tragedy of the
Commons."

> Assuming that Christians regard the estate of
> priesthood as an honorable one (as they generally
> do); and that there are statistical, genetic
> differences between those who willingly take a vow
> of chastity and those who do not; and that
> priests, though they may sometimes violate their
> vow, still have fewer children than laymen — if
> all this is true there is a self-destructive
> element in the system that honors priestly
> qualities by exacting a vow of chastity from those
> who become priests. The system is counter-
> selective with respect to its ideals (1977b:309).

Having thus disposed of the attack that sociobiology is
deterministic, Hardin proceeds to the claim that it is a form of
social Darwinism. He notes that the common definition of the term
taken from J. D. Rockefeller's rose analogy is biologically incorrect,
and even taking it in its intent, the successful businessman must
leave more offspring than his less successful competitors for natural
selection to occur. Hardin admits that "very seldom do we have sound
statistical knowledge of the biological selection associated with
social selection, with social honoring." More importantly, "there is
nothing 'natural' about the criterion for selection in a culture (if
one makes the useful distinction between nature and culture) . . . .
In principle, every cultural rule must have some selective effect,
however slight." Addressing this problem means moving into a
borderline area: "This is the frontier between knowledge and
ignorance that our society seems unwilling to approach" (Hardin,
1977b:310).

Hardin concludes this article by summarizing Darwinism, noting that its social implications are inescapable, and defining its modern formulation, sociobiology:

> . . . we get what we select for. This is almost
> tautological: it must be true. How could the
> world be otherwise? The question is, what do we
> want to select for? The choice is ours . . . we
> are now our own selectors (1977b:310-311).

> The application of Darwinian reasoning to social
> problems is a necessity . . . . What is true and
> defensible in the application of Darwinian
> reasoning to social problems deserves a new name:
> "sociobiology" will do (1977b:311).

He then cites Wilson's definition of sociobiology:

> Sociobiology is defined as the systematic study of
> the biological basis of all social behavior . . . .
> Taxonomy and ecology . . . have been reshaped
> entirely during the past forty years by
> integration into neo-Darwinist evolutionary theory
> -- the "Modern Synthesis," as it is often called
> -- in which each phenomenon is weighed for its
> adaptive significance and then related to the
> basic principles of population genetics. It may
> not be too much to say that sociology and the
> other social sciences, as well as the humanities,
> are the last branches of biology waiting to be
> included in the Modern Synthesis. One of the
> functions of sociobiology, then, is to reformulate
> the foundations of the social sciences in a way
> that draws these subjects into the Modern
> Synthesis (Hardin, 1977b:311, emphasis added).

The majority of Wilson's book, Hardin notes, is accepted and destined to become a classic (the part, about 90%, dealing with animals). Only the first and last chapters which discuss mankind are at issue (Hardin, 1977b:303). Hardin ends the article with a parting shot at sociologists, humanists and anthropologists who attack Wilson and in so doing provide evidence for the importance of biology and sociobiology in human affairs, since they are showing "a most vigorous territorial behavior" (1977b:311).

There are several points to be considered in these two articles. First, any attempt to better understand human behavior or to explore the origins of differences between groups of people involves violating a taboo. But Hardin claims that the population crisis is severe enough to force the violation of these taboos in order to survive as a species and in order to take conscious control of our evolution by evaluation of proposed social policies with a concern for the selection process they will set in motion. Are we selecting for the type of environment and the type of person we desire?

Second, the central argument is the same in each of these articles and in "The Tragedy of the Commons." Hardin argues that any trait that does not lead to increased reproduction of those persons having the trait will gradually be selected out of the population. Thus there will come a time when those who control their reproduction will be eliminated, those who remain celibate for social or religious reasons will no longer be a part of the population, and those with conscience will have disappeared, regardless of whether the trait is cultural or genetic.

Third, even though there is a discussion of biology and culture, and a consideration of social policy, Hardin still does not provide a clear picture of society. There is a view of a dialectic between culture and biology, but in the end the genetic "influence" always gets the upper hand, since even a purely cultural difference must in the end become a genetic difference. This issue is confused by the constant use of animal models to understand the biological aspect of human behavior because animals do not have "societies" and "cultures".

Thus the model chosen lacks precisely those qualities it is supposed to illuminate in human populations (See Sahlins). And in the end, as the quotation from Wilson shows, the critique that sociobiology, and Hardin, are reductionistic, is inescapable.

Tribalism

What are the limits of altruism? Hardin answers that altruism can only be practiced within the tribe (1977a:116-135). Following his general method, he starts the concluding chapter of The Limits of Altruism with biological considerations. The implicit goal of this chapter is to show the relevance and inescapability of biology in shaping human moral life (just as Bridgman attempted to show the relevance of the method of physics to human social life).

After noting the significance of "non-genetic selection" he asks for a "plausible reason for the genetic selection of the large human brain" (Hardin, 1977a:117). Since any increase in intelligence is a social gain, i.e., inventions and thought pass quickly into the commons, the selection of the large human brain "was based on the success of the individual in his role as a tribal member" (Hardin, 1977a:177, emphasis added). And the importance of selection occurring at the tribal level is that

> Tribal fitness rests on a bipolar virtue: cooperation with tribal brothers coupled with antagonism toward all others. Altruism is selected for, but it is strictly tribal altruism (Hardin, 1977a:118).

And,

> What did the bipolar virtue of altruism-aggression select for? Above all else it must have selected for success in communicating within the altruistic group (Hardin, 1977a:118).

According to this hypothesis, the development of language became a crucial force which reinforced the tribal boundaries and was reinforced by them. "This is the autocatalytic situation that can explain the fantastically rapid evolution of the human brain" (Hardin, 1977a:120).

Having thus laid the groundwork for the claim that "brotherhood implies otherhood," Hardin considers the concept of the brotherhood of man. He notes that this is not a "biblical phrase" and that the Bible is concerned with the physically present neighbor and defines "brothers" as those inside the faith (Hardin, 1977a:121) /29/. The idea of the universal brotherhood of man arose during the Renaissance and "it cannot claim the legitimacy of an ancient commitment" (Hardin, 1977a:121). /30/ According to Nelson's study of usury, which Hardin cites with approval, it was Calvin's redefinition of brotherhood that "in effect destroyed the logical and emotional heart of the concept" because, if every man is my brother, no man is: there must be limits to brotherhood (Hardin, 1977a:123). /31/

The idea of universal brotherhood has served as a basis for "telescopic philanthropy":

> But why the preference for intervening in the
> lives of distant people when so much needs
> correcting nearer home? The answer is connected
> with responsibility . . . . altruism is
> irresponsible . . . . Whenever our gain from
> intervening in the lives of others is unrelated to
> the good or bad we do to them, our actions are
> then, strictly speaking, not responsible (Hardin,
> 1977a:124). /32/

Telescopic philanthropy is irresponsible because it allows us to avoid

confronting our mistakes. Thus, "we can enjoy believing that we are behaving altruistically without being forced to probe deeper into our motivation" (Hardin, 1977a:127). /33/ He cites Reinhold Niebuhr in support of this view and as an example of an agreement between biology and theology: "Love for equals is difficult. We love what is weak and suffers. It appeals to our strength without challenging it" (Hardin, 1977a:127).

Hardin provides two examples to support his view. The real benefits of foreign aid in the form of grain, he claims, go to the farmers, railroads, and grain companies which then develop vested interests in continuing the aid regardless of its effect on the recipients (1977a:125). Hardin then raises the central question:

> Is the idea of international altruism
> fundamentally sound? What do we do when we take
> upon our own shoulders the problems of another
> country? Even if we are sure we can solve the
> material problem that evokes our sympathy we
> should still hesitate to intervene until we have
> asked a second more fundamental question, namely:
> What does our intervention select for (1977a:126)?

The implication is that it selects for exactly the opposite of what we should hope to achieve, self-reliance for those we are aiding. China is an example of a country which got no Western aid and became self-reliant. India is an example of the fruitlessness of aid (Hardin, 1976a:257).

Hardin suggests that those irresponsible enough to practice international altruism form a tribe since "in this way they can satisfy the social urge, which is as innate and powerful as egoism." Furthermore, "in a prosperous society altruism may even have considerable survival value for the altruist" (Hardin, 1977a:127).

Closely related to the idea of universal brotherhood is the ideal

of "One World." Hardin recounts his disillusionment with this ideal

that grew out of the world wars: "Personally, I would put the matter

more strongly: the goal is in the strictest sense, impossible of

achievement . . . . impossible in principle" (1977a:128) because of

"the nature of competition" (Hardin, 1977a:129). Even in one world

competition would still exist -- Hardin's Iron Law of the Overwhelming

Minority, after Ricardo's Iron Law of Wages (Hardin, 1977a:129) -- and

"That should not surprise us: we who are alive today are the

descendents of an unbroken line of competitive ancestors" (Hardin,

1977a:132). /34/ In one world, "what ego gives up necessarily . . .

goes into the commons . . .[and] cannot favor the survival of the

sharing impulses that put it there -- unless limits are placed on

sharing. To place limits on sharing is to create a tribe -- which

means a rejection of One World" (Hardin, 1977a:132). /35/

> Competition is severe and total whenever members
> of the same species are brought together into One
> World, if that world includes no enemies.
> Violation of the carrying capacity is inevitable
> for a very simple reason: there is no way that
> free, egoistically centered individuals, guided by
> the germ line survival principle, can avoid
> overwhelming the carrying capacity of their
> environment (Hardin, 1977a:129).

This quotation emphasizes the importance of the biological to the

exclusion of all other aspects of human life, and Hardin continues in

this vein by noting that man has no predators, except for a few

diseases. We have already answered the polemical question "Should we

play God?" by eliminating our predators and must continue to act upon

our evolution by finding social controls to limit our population

(Hardin, 1977a:130). Hardin presents Turnbull's account of the Ik tribe as an example of what happens to a human population when the carrying capacity is reached or exceeded and social control is lacking.

Hardin and Turnbull agree that "The sudden decrease in carrying capacity coupled with the destruction of their social organization speedily produced a group of people -- one can hardly call it a society -- that was solely governed by egoism" (Hardin, 1977a:130). Further, "The Iks are an incarnation of an aggregation of human animals", a living illustration of what Hobbes describes as the natural condition of man against man. Our negative reaction to the Ik is attributed by Hardin in part to the realization that we could all be reduced to this state by nuclear war (1977a:131) which will "be more destructive of human artifacts than it will be of humanity and which would dramatically lower the carrying capacity of the earth (1977a:131). /36/ The implication is that overpopulation, like nuclear war, will bring out the worst in man and force humankind to live an animal-like existence.

Therefore, Hardin concludes, international altruism and one world are both impossible (1977a:132). Altruism is limited to a much smaller province and

> The real problem is to define the figurative
> provinces, together with the means of defending
> them, in such a way as not to lead to mutual
> destruction. The ambivalence of tribalism is a
> destiny we must learn to live with. Because the
> commons cannot reward virtue, altruism cannot
> persist if all men are defined as brother. To
> nourish altruism a class of brothers must be
> defined always as considerably less than the class
> of all men and women . . . . Our problem -- our

> literally vital problem -- is to keep the
> expression of antipathy within physical bounds
> that will permit the survival of the species
> (though not necessarily of all its members).
> Perhaps this concern for the welfare of the
> species is the greatest altruism we are capable of
> (Hardin, 1977a:133).

After this argument that tribalism is an inescapable part of

human life, a passage occurs which supports those who claim Hardin is

really a defender of the status quo:

> A world made up of many antagonistic but
> coexisting tribes, with each individual
> identifying himself with several tribes of
> different degrees of inclusiveness, sounds very
> much like the world we now live in. And so it is:
> but it is essential that we see that it would be
> unwise to try to escape this condition. Those who
> believe that One World is achievable are inclined
> not to give really serious attention to the
> problem of managing antagonism. Such inattention
> is increasingly perilous.
>   Learning to live with error and malfunction is
> essential to survival (1977a:133-134).

There is no specific definition of "tribe" here, but the idea that an

individual could be a member of more than one tribe rules out a

traditional definition. In other works Hardin has defined tribes and

tribalism in more detail. At one point he offers a more traditional

definition which conflicts with the above view:

> An essential property of tribalism is that it
> defines one's primary loyalty: to the tribe. A
> tribe may be defined in terms of race, religion,
> political ideology, or what not. This is a
> secondary matter. Whatever the defining criteria,
> the individual is loyal to, and seeks security in,
> his tribe. Ethics is split into "in group" ethics
> and "out group" ethics (Hardin, 1976d:28).

In a very similar passage, he says a tribe could be "an occupational

group" and that "any group of people that perceives itself as a

distinct group, and which is so perceived by the outside world, may be called a tribe" (Hardin, 1978a:190). Even granting the time span between these quotations, there is a lack of clarity about the nature of a tribe: how can an individual belong to more than one group that "defines one's primary loyalty"? Further, the claim that the criteria is of "secondary importance" implies that value issues are not important and that Hardin would be as accepting of the right to life tribe as he is of the abortion tribe, which is clearly not the case.

There are problems with tribalism too, and Hardin was more concerned with these in early works. In a discussion of the specific problem of the effects of cultural forces on contraceptive use he remarks that "there is the general practical and moral problem of survival in a world afflicted with tribalism -- or of finding an acceptable way to eliminate tribal loyalties and competitive, tribally oriented behavior" (1972f:356). In another place he asks, "and how can we minimize alienation in a mass society? What is the best response to tribalism? How can we create a sense of community" (Hardin, 1972e:152). This is the opposite of his position in The Limits of Altruism and there are few hints about the processes involved in this change. In 1973 he recognized the divisive aspect of tribalism and its disruption of policies which favored the national good and remarked that "tribalism preempts objectivity. Taboo takes over". No Darwin has yet arisen to solve this problem in education and political science (1973a:17). But it is still not clear how tribalism which was a source of competition is now to be seen as a solution to the problem of competition. This change may coincide with Hardin's disillusionment with the ideal of one world.

But even in 1959, Hardin called "the dream of One World" a "mirage" and said that the biologist must "strongly repudiate the dream" because "to eliminate all international competition by abolishing nations would be but to intensify the competition between other groups within the single society . . ." (1959a:318-319). Competition is unavoidable, it is a matter of dividing into appropriate groups in order to meet the assumed goal, "the continued survival of mankind" (Hardin, 1959a:319). Given this assumption, one world is not desirable because it would lead to a homogenous gene pool, and survival is best served by separate independent breeding groups.

> With a greater variety of harmonious genotypes in existence the species is better adapted to face a varying and unpredictable future. Not all of its breeding populations may survive a change; but the chance that at least some will is greater than it would be for a single, large population. And those races that survive a change can then repopulate regions left vacant by those that have succumbed (Hardin, 1959a:320).

The lifeboat analogy is another presentation of the idea in this passage, but the aspect of "repopulating the vacant regions" is no longer stated. But to what extent should we go to preserve distinct breeding populations? Is a tribal morality adequate?

The "brothers versus others" morality of tribes gives tribe members a competitive advantage over outsiders. (Hardin cites the Mafia as an example.) It is easy to get into tribalism, but hard to get out of it: "The attempt to escape tribalism is called 'integration'; to encourage tribalism is 'separatism' (Hardin, 1978a:190). Hardin acknowledges that his analysis "is heavily biased

in the direction of the biological aspects of the problem" (1978a:190)
and that separatism in breeding will lead to the exclusion of one (or
more) of the breeding groups unless some sort of differentiation
lessens the competition (1978a:191). Without differentiation (Hardin
mentions only two types, geographical and occupational), some
"mechanism of positive control of the tribal rates of breeding" must
be achieved to prevent the destruction or extinction of the minority
(the slow breeders). Tribalism is an aspect of our modern pluralistic
society and the problems of achieving any type of "unity" are very
great (Hardin, 1978a:192-193).

Hardin concludes his book by presenting three "dialectics": (1)
accept error to achieve reliable "design of a living system" /37/, (2)
do not attempt to save all individuals and strive to preserve the germ
line "which makes possible the survival of the species", and (3)
renounce the goal of universal brotherhood for tribalism "thus making
possible the survival of altruism (coupled though it be with limited
antagonism)" (1977a:134-135).

Hardin summarizes his analysis in the book's closing paragraph:

> The dialectic in all three instances should remind
> us of that in the theological concept of grace --
> a blessing that cannot be won by force but which
> can descend as a gift on those who live their
> lives in the right spirit. The human condition is
> now such that our population is deprived of
> providential control by other species, which means
> that survival under emotionally satisfactory
> conditions is possible only if we set limits to
> the practice of altruism. Though we may have
> attained this insight only with travail, the
> present is no different from the past; neither can
> the future be. These truths we must accept
> (1977a:135).

As can be seen, there has been some development in Hardin's thought in regard to tribalism. The earlier articles tended to see it as an evil to be overcome, but at the same time were suspicious of the ideal of "One World" (given the rather literal interpretation Hardin uses). And from this, he gradually came to see tribalism as an aspect of modern society and as a part of the solution to the commons problem (1974a:17). Yet he does not provide a rigorous and satisfactory definition of "tribe". In some places, he seems willing to call any group a tribe, while in others he opts for the more traditional view of a tribe as the primary source of identity and meaning for the individual. There is also, perhaps, a bit of the myth of the noble savage in the very use of the term "tribalism" which implies a return to a harmonious and value homogeneous past, which Hardin acknowledges cannot be. He really presents us with a code word which is seen as representative of the human past and present, and as necessary if there is to be a future for the human species. But there are many problems with his analysis.

Are we then to accept tribalism as a gift of grace? If the goal, as stated in the last quotation is "survival under emotionally satisfactory conditions" how is this desire a by product of the biological forces which drive towards germ line survival? Is the biological language Hardin uses the proper language (and context) to use when talking of human purposes? Or would the language of ethics and values be more appropriate? What are emotionally satisfactory conditions? Where is the ground of survival as a moral value if it is to be more than a "biological imperative"? /38/ Does Hardin take the

idea of "One World" too literally, i.e. as if it meant the end of all barriers between peoples, biological, psychological, political, geographic, and temporal? If he takes it this literally, is he attacking a position which no one holds as he accused those who attack biological determinists of doing? His remark about "repopulating vacant regions" has profound implications when combined with the lifeboat ethic he later expounded.

And, most importantly, why does Hardin appeal to theological language at the end of his book (1977a:135)? Is he one of those who has replaced religion with science to rationalize beliefs from other unspecified sources (see 1977a:116)? What is the blessing that descends as a gift in the three dialectics? And does the right spirit accept the limits of altruism or fight to extend them? Is the gift accepting limits and the status quo and hoping for the best? The move towards theology suggests that in the final analysis Hardin has not really presented an argument so much as a sermon, a moral homily. There is an argument of clarification which claims that those ethicists who would appeal to biology to support or reject values have their data wrong, but it is unclear if Hardin is basing his own values in the same fashion. He wants carrying capacity to be "sacred" but is this a confusion between an ultimate value and a biological limit (like gravity is a physical limit) which can only be ignored to our peril? I am inclined to think that biology is not supplying us with a value, but rather with data that must be considered in making our value choices and Hardin, for all the problems with his thought, is to be thanked for forcing these issues to our attention. We cannot

ignore biological limits in our quest for moral standards; there are certain things about the world and about human embodiment that cannot be changed. But neither can we assume that a knowledge of biology by itself will solve our moral dilemmas. These issues and others are the topic of chapter two which will deal with the critical literature in biology, philosophy and religious studies that cites Hardin's work. And it will be seen that although there is a vast body of literature citing Hardin, there is little critical analysis of his thought.

NOTES

1. Of the more than 300 articles I read which cited "The Tragedy of the Commons" less than 10% were critical of Hardin's position (even allowing one critical statement as sufficient reason to call an article "critical"!), while nearly every article responding to "Living on a Lifeboat" was an attack (see Hardin, 1978a:242ff).

2. Bridgman rejects altruism for the same reason Frankena (1973:19) rejects egoism. But, both theories require some notion of "pre-established harmony" or at least a "willingness to cooperate" (Blatz, 1973). The egoist must assume enough harmony that others will not prevent him from achieving his goals, and the altruist must assume enough that others will care for him as he cares for them. This may be an empirical comment upon the nature of human reality -- the first task that the individual must master whether he is egoistic or altruistic, is to develop a sense of trust (Erickson, 1968:93ff), a sense that the world is basically a good place and that people can live and work together. When everyday life is examined, this seem to be part of the common sense notion of reality.

The other issue raised here is the link between psychological denial (mankind's ability to ignore reality) and religion, the source of which is Freud's The Future of an Illusion most likely, at least so far as it has passed into what Winter calls "the common culture" (Winter, 1966).

3. "Society" is a particularly difficult concept to grasp. Berger and Luckmann in The Social Construction of Reality have been the most helpful to me in this regard. See also Winter's discussion of G. H. Mead (1966:3-34).

4. The principle of universalizability may not be as widely applicable as is generally assumed and may involve a hierarchy of moral duties (See Meilaender:1980). This may be the heart of Hardin's argument against conscience and celibate clergy, i.e. that such morally approved traits, although socially approved, are not universalizable.

5. Schoeck is cited once in The Limits of Altruism (1977a:19, n.23), twice in Managing the Commons (Hardin, 1977d:5, n.5; 1977g:70, n.14), and once in Stalking the Wild Taboo (1978a:249, n.11).

6. It is important to distinguish between the common definition of "myth" as "false belief" and a more technical definition of "myth" which sees myth as an essential and inescapable expression of humanity's encounter with reality. Aspects of reality, such as question of personal identity, communal identity, and the purpose and meaning of life, cannot be talked about in scientific or "rational" language because they reach deeper into human life than intellect. They capture the whole person (See Cassirer, 1944, 1955; Perrin, 1974:21-34, 1977:9-13; and Ricoeur).

7. But, there is the example of the Tassaday tribe (Nance, 1975) which suggests that goodness, like evil, is part of a spectrum which is available to human nature and human cultures and societies. The shift that Schoeck notes may have been reinforced in our time by Freud's interpretation of society and by the rise of individualism. It may be that as the individual became more important, questions about purpose and meaning for an individual confronted with the realities of social life and the harshness of nature, led to the projection upon society (and nature) of the evil formerly attributed to the individual.

8. Schoeck's analysis has been supported by the experience of Father Kevin Maxwell, S. J. who has lived for eight years in Zambia and speaks two native languages. Envy is still as potent a force in preventing the development of the underdeveloped countries as it was when Schoeck made his analysis (Maxwell, personal communication, 1980).

9. Schoeck has a very positive view of religion, especially Christianity, in contrast to Bridgman's negative view. Hardin tends to agree with the latter. See Schoeck:132ff, 257, 264, 285.

10. Schoeck continues, "By contrast, anyone who advocates a society which allows no significant differentials of reward . . . is evidently prepared to see the economy collapse rather than reconcile himself to the inevitable fact that any society will always contain some potentially envious members.
"In our modern societies it is still possible in cases of pathological greed and avarice to speak of acquisitiveness as a social sin. But as a general concept it no longer makes sense. The man who works overtime to afford something that he or his family covet deprives no one else of anything . . . . As soon as there is real economic growth, and the technology to produce any item in as many copies as there is a demand for it, covetousness and acquisitiveness, as terms of social criticism, lack any real meaning" (229-230). There are some problems with this view. The man working overtime deprives his family of his presence. Should things be produced because the are desired, or the desire can be created through advertising? Further, our use of resources will deprive future generations of some things, although it is strictly true, that they are presently "no one."

11. Schoeck's analysis is essentially Freudian, but is envy the nucleus of guilt and aggression? Schoeck has expressed a balance, which the usual interpretations of Freud miss, by acknowledging the positive aspects of society. See Freud, 1961; Callahan, 1973 especially Chapter 2).

12. There is one passage where Hardin issues a call for social justice (1972e:127). This is the only acknowledgment of the place of justice that I have found in Hardin's writing, and this lack may be due in part to Schoeck's influence. In regard to the particular remark in the text above, is "lack of a better system" sufficient excuse to "ignore this injustice" or any injustice?

13. See Hardin's similar remarks (1978a:232) and also Schoeck (234ff, 257-273).

14. Lloyd continues: "Where the present and the future are not opposed, of course there can be no question. I am here, therefore, referring only to cases, such as those which I have been considering, in which the endurance of a present pain or inconvenience will be the cause of a future benefit, or the gratification of a present desire will lead to eventual evil." He continues to outline the tragedy of the commons and the issue of present individual good to the future social harm and states that this is the rational choice. The time dimension of these decisions is never fully explored in Hardin, although obligation to future generations is an important concern of his. This question of time also occurs in Bridgman (193ff) and Schoeck (46, 250) both of whom influenced Hardin.

15. This type of problem is discussed in a large literature on the "prisoner's dilemma". Pruitt and Kimmel present the best introduction to this literature. If two prisoners are asked separately to confess to a crime they jointly committed, and if both confess they will have long jail sentences, if one confesses but not the other, the confessor will get a shorter sentence, and if neither confesses they will both get off. Rationally, it is best for them if neither confesses and they both get off. But, self-interest, and a lack of trust lead to a situation where everyone loses. This dilemma of individual versus collective good is a major part of the tragedy of the commons which is cited frequently in the prisoner's dilemma literature.

16. Lloyd says ". . . since the earth can never maintain all who can offer themselves for maintenance, it is better that its produce should be divided into shares of a definite magnitude, sufficient each for the comfortable maintenance of a family, whence the number of families to be maintained would be determined from the number of such shares . . ." (14).

17. See also White's critique of the spaceship metaphor (63-64) where he notes that "The metaphor is, in fact, ecologically terrifying. A spaceship is completely a human artifact, designed to sustain human life and for no other purpose. . . . This indifference to the possibility of autonomy in other creatures has much facilitated our style of technology and thus has been a major force in polluting our globe." A lifeboat too is a human artifact, and the same critique applies.

18. Again, this idea has roots in Lloyd: "Still, the same principle of population, which furnishes a reason for the institution of property, prescribes a limit to its concentration. To a plank in the sea, which cannot support all, all have not an equal right; the lucky individuals, who can first obtain possession, being justified in appropriating it to themselves, to the exclusion of the remainder (Lloyd:15). And on page 14, he presents a lifeboat like principle

that "many little commons" are protection against the "spread of misery equally amongst all."

19. Although Hardin does not provide an example, Paul Ramsey in Basic Christian Ethics advances the view that the need of the neighbor is the criterion of ethical obligation (1950). Hardin is probably drawing on Schoeck's (1966) analysis which argues that Marxism and the impulse to share can result from an inadequate understanding of envy.

20. He also refers to "carrying capacity" and a "algorithm" (1977a:259). Does this passage demote the concept to a mere rhetorical device? Tillich's view of the claim that something is only a symbol (1957:45) makes it clear that Hardin's self-chosen label does not remove the importance of "carrying capacity." Hardin also has a strong interest in language and presumably is using it carefully here (see 1956, 1957, 1966, 1967). Even if Hardin demotes carrying capacity, it remains significant that he uses biological language to state value claims. Is he using biological language as a vehicle for a hidden value agenda with an unspecified grounding? Or is he using a biological principle to ground moral values?

21. Of approximately thirty law articles I read which cited Hardin's "The Tragedy of the Commons," not one picked up on this point! Thus, the common view of law as a careful, detailed, critical and thorough discipline is not entirely true (or these lawyers did not desire to consider the possible contribution of administrative law to solving environmental problems).

22. This is a question of value presuppositions. The operative term here is "pure" and Hardin may be correct in asserting that self-interest is inescapable and should be accepted as part of human decision making, if like envy, it is kept at a minimum level (See Schoeck). In the final analysis, I suspect that the egoism-altruism issue is "both and" rather than "either or" and is the ethical facet of the dialectic between individuation and participation.

23. Bridgman is the physicist and the method is operational analysis. The claim here is that these value terms can be used in a scientific heuristic (Lonergan), i.e. the act can be described in three possible space-time-value relationships. But the attempt to persuade another by use of language does not fall in the scientific heuristic, but in the common sense heuristic. Questions of value are questions of the relationship of "things" to me while scientific questions concern the relationship of one object to another object. Hardin suggests that language can be used to facilitate or prevent thought, and in the interests of the former, advocates replacing the term "altruism" with "PLAG behavior" which stands for "protagonist-loss, antagonist-gain behavior" (1977a:9).

24. Do animal models apply to human behavior? Even in the animal world there is the counter example of the mocking bird which lays its eggs in the nests of other species of birds which then raise the

mocking bird's offspring. Some human animals do choose to raise children who are not genetically their own. The phrase "genetically their own" is somewhat undercut by Hardin's argument in "Parenthood: Right or Privilege?" (1970) where he shows that even genetically there is no claim to ownership (see note 14).

25. Elsewhere Hardin argues that there is no genetic link between individuals as we commonly think of it. "Biologically, all that I give 'my' child is a set of chromosomes. Are they my chromosomes? Hardly, sequestered in the germinal area long before my birth, 'my' gonadal chromosomes have lived a life of their own, beyond my control. Mutation has altered them. In reproduction, 'my' germ plasm is assembled in a new combination and mixed with another assortment with a similar history. 'My' child's germ plasm is not mine; it is really only part of the community's store. I was merely the temporary custodian of part of it" (1970). This discussion is presented to support the idea that parents do not "own" their children. He concludes this article by noting that to control population, parenthood must be seen as a privilege not as a right, for "if parents see themselves as trustees of the germ plasm and guardians of the rights of future generations, then there is hope for mankind." This fits with his later emphasis on germ line survival, but as a parent, that is not enough for me. My connection with my child involves more than biology. It involves the intention to rear her and care for her, not for some abstract "germ line" or any abstract agglomeration of individuals labeled "future generations." In a world where, even in this country, some children do not even get minimal care from their biological parents, what ethical sense does viewing parenthood as "trusteeship over germ plasm" make?

26. This emphasis on non-personal giving may reflect the crisis of intimacy which makes it easier to give to one we will never see (again) than to those who are close to us, and I do not think "altruism" should be exclusively identified with this type of action. International altruism, Hardin's "telescopic philanthropy" also involves the element of distance between the giver and the recipient. For a consideration of the breakdown of intimacy and the difficulty of giving to those who are close, see Winter's Love and Conflict (1958) and Schoeck (269ff).

27. Again, a common sense appropriation of the Freudian view seems to lack an appreciation of the dynamic relationship between the individual and society, and to emphasize the negative aspects of society. A more balanced and constructive use of Freud is found in Callahan (1973).

28. There is increasing evidence on this issue from a study of adult twins who were separated at birth (Holden).

29. This is a rather limited view of the Biblical materials. Both the Old and New Testaments have passages which show a concern for the outsider and the stranger which is broader than the circle of faith.

For example Leviticus 19:33-34 clearly applies "in group" ethics to stranger and reminds the Israelites that they were once strangers. This theme is echoed in Matthew's concern for the "poor ones" and the "little ones" which may have been a self-designation of the Matthean community (Werner Kelber, 1/27/76). Likewise, the miracles in Matthew chapters 8 and 9 present Jesus as the healer of the outsiders and the unclean (Kelber, 2/10/76). Luke's social concern, as exemplified in the parable of the Good Samaritan in 10:29ff is also broader than the "in group." Ethical obligations apply to the physically present neighbor whether he is a brother or not. Luke and Paul both see all people as children of God, and thus as brothers. Luke's universalism is shown in his tracing of Jesus' geneology back to Adam, the father of mankind (Lk 3:38) and Paul's is shown in his argument in Romans 4 (Kelber, 3/9/76, 3/15/76). There are passages in the Bible which are more open to the outsider than those Hardin considers which require the same ethical treatment of outsiders as of brothers. The Bible is a complex collection of a variety of theological and ethical positions.

30. Very few views can "claim the legitimacy of an ancient commitment." Certainly the sacredness of the carrying capacity cannot. If the age of a commitment is a measure of its value, Hardin's idea fares as badly as the idea of universal brotherhood.

31. But what exactly does Hardin mean by "brother"? Even within a group there are varying degrees of ethical obligation between persons and when considering intergroup relations, there is a wide range between enemy and brother that would allow recognition of mutual humanity, respect of mutual "rights" to basic necessities of life, avoidance of degradation of the other, etc. Further, even enemies can be treated justly.

32. Hardin is referring to Charles Frankel's The Case for Modern Man. (New York: Harper & Row, Publishers, 1955).

33. Why at this point does the question of motivation, which Hardin generally considers to be ethically irrelevant, arise? Perhaps Hardin hopes that such examination will nudge our consciences or result in guilt that would prevent our "international altruism" (in contrast to his statements about the counter-productivity of appeals to conscience). There is one other passage which suggests a positive view of the importance of intentions (see p. 34 above), but his general view is that consequences, not intentions are important.

34. Hardin has considered the theme of competition in several works: 1959a, Chapter 11; 1960; 1977a:129-132, 1978a, Part 4.

35. This raises the problem of self versus group (individuation versus participation) to a higher level, namely our group versus mankind. It involves a dialectic or a paradox between separation and participation and is a matter of tension and balance rather than of possibility and impossibility.

36. There are several issues here which are tangential to the major concerns and will be dealt with briefly. First, there was no change in the carrying capacity; the pattern of movement allowed to the population was changed when the government created a game preserve which prevented the normal nomadic movements of the tribe. Although the effect is the same, it is important to be clear about the causes and processes involved and that the human decisions that lead to the present situation where not made by the Ik tribe. Secondly, although the Ik were given farm land in a valley, they chose not to live there. For Turnbull, and no doubt others, this is inexplicable. The title of his book and a consideration of identity make it obvious why they made this choice; the mountain people would cease to exist if they moved to the valley. Either way they die: a psychological and mythological death through loss of identity, or a physical death. They have chosen to preserve the mountain people. Thirdly, can a tribe exist without society, at least in the sense of social controls? Turnbull and Hardin agree that this is not a society, but the former presents data which supports the counterclaim that they do have a society. They have a system of indebtedness (Turnbull:172, 181, 182, 243, 244) and rules to guide the movement from childhood to adulthood (Turnbull:136-140). Turnbull may have been a good reporter of the Ik, but he is a poor interpreter of Ik culture and values.

In regard to nuclear war, the purpose of the neutron bomb is precisely to destroy the humans and leave the artifacts, and if it is developed, the issue shifts from that of the quality of life for the survivors and the difficulties of rebuilding a technological civilization towards that of whether anyone will survive even at a minimum level.

37. This sounds very similar to Skinner (1971:143, 191, 173; 1953:430-436).

38. The term is from Allen Chase (The Biological Imperatives: Health, Politics, and Human Survival. Baltimore, Maryland: Penguin Books Inc., 1971).

CHAPTER II

HARDIN'S ETHICS AND THE CRITICAL RESPONSE TO HIS POSITION

Having considered the importance of Bridgman and Schoeck for

Hardin's thought and the development of his thought, let us focus

first on his ethical concepts and then examine the reactions to his

position. As with his position generally, Bridgman and Schoeck have

contributed to the development of Hardin's ethical thought.

Hardin's Ethics

Ethical Concepts in Bridgman's Thought

Bridgman provided Hardin with most of the themes he has dealt

with during his career and with his method. Bridgman expresses some

of his ethical presuppositions while discussing his goal, which is to

analyze past social concepts in order to discard those that are not

applicable to modern times. He noted that

> . . . most current social discussions in this
> country assume without question that human life
> has a certain intrinsic worth, or that democracy
> is to be assumed in discussing permissible social
> change, or that the rate and way in which a
> population propagates itself is as uncontrollable
> as the "law" of gravitation (Bridgman:41; see
> Hardin, 1977a:116).

And since society refuses to control procreation it should assume some

responsibility for those born (Bridgman:234). Closely related to

population, admittedly not a major concern of Bridgman's but perhaps

the source of Hardin's concern with this issue, is the use of "survival value" as a criterion of evaluation (Bridgman:46,52). Where Hardin is implicit -- "mutual coercion mutually agreed upon" -- Bridgman is explicit -- if survival is the goal, it needs force to secure it (Bridgman:201, 287). Further, "there is no argument with superior physical force" (Bridgman:164). This is a materialist position as is Bridgman's notion that any appeal to "mysticism" (i.e., religion) will not work (168). both ideas arise directly from his method, operational analysis. Bridgman, however, argues that the individual's goal is not survival but self good (214) even though the individual has a drive for both self and species survival and the latter includes a concern for non-human species (215). This means that we must change the basic assumption of society that the goal is the perpetuation of the group and the race. He contends that this is not a concern of the individual, who if he cannot achieve a comfortable life for himself, will let the society and the race die out. Race survival could be an emotional need of the majority of humans, but Bridgman thinks this is not likely (214, 284-285). Changing this social goal involves changing social policies and is not simple: Any social policy is limited because "all experience is a sequence" and change requires mechanisms -- intermediate steps from here to there. Most social planners leave out these intermediate steps (173). The human brain, Bridgman notes, was a powerful factor in the survival of the species (177), a point later developed by Hardin (1977a:107-115).

The analysis of language, a concern of both Bridgman and Hardin, includes for the former a realization of the situational nature of reality and the contextual nature of the meaning of words (55). But Bridgman sees a distinction, which is absent in Hardin's thought, between situationalism and consequentialism.

> The operations defining the concept of "right" must be operations performable at the time the meaning is assigned. One should not feel it necessary to justify to one's fellows an unsuccessful action merely because it has turned out badly, but should be able to feel that their judgment will be made on the basis of what was available at the time of the decision, not on the basis of what has happened afterward (Bridgman:107).

This quotation also identifies Bridgman's method, operational analysis, which evaluates a concept by asking "can we perform the operations the concept requires?" (28ff, 126). Operational analysis is pragmatic, empirical and scientific: rationality is not the goal but only the means. This method denies the possibility of transcendence (156), as does logical positivism with which Bridgman was familiar (79). It is an attempt to apply the method of a hard empirical science, physics, to human social relations, just as Hardin tries to apply the methods and principles of biology to human society and morality.

Bridgman's concern with language, and his denial of transcendence, including "mysticism" and "religion" (89-90), lead him to question many of the traditional moral concepts such as rights, responsibility, duty, ought, freedom, and justice (8, 113ff, 116, 133, 234, 249, 250). These are terms which Hardin later questions and

rejects. Guilt, which Schoeck considers in some depth, and the desire
to confess and receive forgiveness are merely outmoded religious
concepts carried over from the past and should be cast away by the
intelligent individual. Hardin suggests that those who feel guilt
jump out of the lifeboat (1974b:224). Bridgman's ideal is a rugged
individual who stands alone and self-sufficient and rids himself of
the limits set by society and his own past (204ff). His analysis of
religion in general and of particular moral terms is, however, neither
profound nor accurate: "responsibility" is a "magic formula" (249).
His view of morality as the consensus of opinion and as culturally
relative is also seriously flawed. For Bridgman, all that is required
to make an action moral is that the agent "really feel this way" (129,
127ff; Hardin, 1971g:260). People try to be moral in order to get
others' approval by thinking and doing as they do (Bridgman:203). /1/

In addition to the weak analysis of morality that operational
analysis provides, further difficulties are suggested with this
method, or Bridgman's application of it, by the questions it generates.
Bridgman asks:

> What is the race except a particular biological
> complex composed of individuals?
>
> What would happen if the race perished? Would the
> race suffer while it was perishing or could it
> know it after it was dead (246)?

Bridgman applies the methods of physics to philosophy but this
empirical method cannot handle metaphysical questions such as that of
race consciousness or self-consciousness. The issue of species
self-consciousness, or the individual's ability to conceive of

"mankind", is complex and difficult, but Bridgman's approach to such questions is simple and plays the verbal games which he sees as the basic problem with society.

Like Hardin, Bridgman concludes that rationality is limited and laments that "the mental inertia of the human animal is at times almost inconceivable . . ." (100, 199). He calls for "proper skepticism" in regard to the traditional intellectual tools of mankind and for respect of the limits of our mental processes and concepts (262-263, 11). And like Hardin, he realizes the power of denial (Bridgman:184). Neither author, however, develops this recognition of human finitude.

The issue of obligations to future generations, a major concern for Hardin, was also addressed by Bridgman. Although he dismisses it as "mystical", he suggests that a concern with ancestors and posterity "enables the individual to think of himself in a matrix of pleasant associations" (247). He contends that our intellectual tools do not handle past and future well, thus a concern with them is "mystical" and not necessary for the intelligent individual (107). The following passage, which occurs in a discussion beginning with the words "There will always be a me.", is very similar to Rawls' attempt to ground obligations to future generations and justice with the veil of ignorance (Rawls:136-138), but Bridgman's method forces him to dismiss these speculations as meaningless.

> For of course if there is going to be an I and no
> meaning in specifying which I it is, then every
> future I is of present interest to me, because it
> carries the potentiality that I may therefore some
> day become it. Any unsocial action of mine in the
> present may therefore some day come home to roost,

> and plain prudence demands that I now spend as
> much of my life as is compatible with my present
> urges in improving the lot of future generations.
> There is no limit to my present interest in future
> generations; all men, of all races and all
> conditions become my interest. In fact there
> seems no logical reason (although I would like to
> find one) why I should stop with human being, but
> why not all future sentient beings a matter of
> concern to me in order to secure that their lot be
> as tolerable as possible? For the future "I" will
> always want comfortable surroundings just as the
> present "I" does. If these consequences are
> really accepted, what more potent ethical drive
> can be imagined? It would transform in a moment
> the entire complexion of civilization and make it
> a Utopia in one stroke. But I can't make sense
> out of it, and most of what I have just been
> saying has no operational meaning (193-194).

Bridgman suggests that one who could convince others to respect the

future would become a reformer, and that perhaps past reformers got

started this way (194).

Summarizing Bridgman's position on ethical matters, he rejects

traditional values and assumptions along with religion in general. He

discusses survival as a value, notes that it requires force, and

expresses doubts that it is a proper or realistic social goal. This

doubt arises from his view that the individual's self-interest and

desire for his own comfort rule out any social policy which does not

place the individual's quality of life before social or species

survival. Bridgman has an appreciation of the situational nature of

moral decisions that is not consequentialist although his moral theory

as a whole is weak. While tending to overemphasize the individual, in

the end he calls for the intelligent individual to help shape a

society in which all individuals can live happily. His rejection of

traditional morality and religion is a logical result of his method,

which rules out metaphysics and transcendence because they cannot be "operationally defined", i.e. verified and tested scientifically, or alternatively, because they have no measurable consequences. He expresses some concern for future generations, yet his method does not allow recognition of this as legitimate. The population problem and the necessity for either social control of breeding or social responsibility for feeding those born is discussed. Some interest was shown in the analysis of language. All of these things found their way into Hardin's thought and the problems of overpopulation, our obligation to future generations, survival as a value, and the use of language became major themes. Most importantly, Hardin uses Bridgman's method with some adjustments for shifting from physics to biology (Hardin, 1980:23).

Ethical Concepts in Schoeck's Thought

Schoeck provides Hardin with a general concern with taboo, an analysis of guilt and a view of justice, but Hardin does not fully appropriate Schoeck's insights into the latter two concepts.

The relationship between envy and justice is the most important ethical theme in Schoeck, and although justice is not the focus, he makes strong claims about it which require careful interpretation. During the long human childhood, "phylogenetic aggressive drives" are shaped and developed "to produce the typical phenomenon of the capacity for envy" and Schoeck suggests that "this reaction formation, as Freud calls it, leads in the first instance to a clamour for 'justice', for equal treatment for all: 'If one can't be the

favourite oneself, at all events nobody else shall be the favourite'."

Group spirit derives from envy and "social justice means that we deny

ourselves many things so that others may have to do without them as

well . . . . This demand for equality is the root of social

conscience and the sense of duty" (Schoeck:65). /2/

Schoeck's attack is expressly leveled at justice as equality:

the demand for which is most often, but not always, the voice of envy

using pretentious terms to "justify" its demands. A clear distinction

must be made between "equality", "equity" and "justice":

> But on the whole, equality is seldom desired,
> infrequently demanded, and almost never found in
> the social relationships of human beings. Equity,
> on the other hand, is everywhere and always
> insisted upon. And equity is frequently, if not
> invariably, achieved. "Justness," as the term
> will be here used, refers to the achievement or
> maintenance of equity, which is always relative
> rather than absolute, and not to that which is
> simply legal (Schoeck:236, citing Lapiere).

Thus, suggests Schoeck, equality of opportunity is not possible in an

achievement-oriented society and we had best face openly the envy that

this produces. Further, equality cannot be forced: some individuals

will always rise above others through personal effort or from

advantages which cannot be socially controlled and thus have more,

unequal, opportunities (Schoeck:245). /3/ "[A]n increasingly fervent

egalitarianism, [and] the misunderstanding and exaggeration of the

idea of 'equality'" have made it difficult to separate envy's invalid

demands for justice from valid demands. This is an aspect of the

duality of envy: it leads to false claims for justice and yet is the

basis of social control. Rosher, a political economist, emphasizes

the first aspect of envy and notes that, while it is one of the few sins that has no pleasurable feeling attached, "in these democratic days, [it] is particularly prevalent" and it infects many of the attitudes which claim to be based upon justice (Schoeck:376, n2). On the other hand, many authors see the human ability to envy as to basis of the "sense of equity" which is "so vitally important to a political order" (Schoeck:231). Hardin seems to take all this to mean that all claims for justice are rooted in envy and can thus be dismissed, especially when survival is threatened.

For Schoeck it means that we have to undertake the difficult task of separating valid and invalid claims to justice. The New Testament provides some guidance when it

> . . . preaches an unenvying mental attitude. On occasion it almost seems to throw out a challenge to the "sense of justice," which is unmasked as envy, as in the parables of the prodigal son (Luke 15:25-32) and the labourers in the vineyard (Matt. 20:1-16) (Schoeck:264).

This quotation contains a theme in Schoeck which is not picked up by Hardin, namely a positive view of Christianity (Schoeck:132, 133). Schoeck extends Weber's thought to suggest that the development of Western civilization was made possible by the control of envy which Christianity made possible (Schoeck:257).

Schoeck says little on altruism: "For the only impediment to the ideal, harmonious, altruistic community is that particular complex of emotions and drives of which envy is the nucleus" (293). Envy makes social life possible and prevents the ideal social life. Envy makes a sense of justice possible and leads to false claims for justice. The

negative pole of the dialectic is the result of too much envy and the
balance between this excessive level and that necessary for social
control is delicate.

Where Bridgman dismissed guilt, Schoeck sees two aspects of guilt
which parallel the two sides of envy: legitimate guilt which results
from a specific failure to aid another by saving his life and false
guilt, which is

> the insincere, pretentious cosmic sense of
> responsibility professed, or so they think, by
> those who feel unhappy and guilty because
> somewhere on this globe there are people living in
> cultures and environments incapable of any kind of
> comparison with the Western way of life (Schoeck:
> 268-269).

He sees no difference between these anonymous persons and those of
past centuries because in both cases they 'do not co-exist with me in
an economy where my activities could in any way help them". He is
convinced that these people are not in any greater need than anyone
else and that their reception of one who offered person or money to
aid them might not be positive. Nonetheless, "all those who are
unable to escape from their ordinary lives should not have guilty
feelings about what they, as scapegoats for cultural history, imagine
they have failed to do in a distant, primitive land" (Schoeck:268;
Hardin, 1974b:239-240). False guilt is not a theological or ethical
question but one of social and depth psychology. Acting on one's
convictions in this regard, is understandable, but, in Schoeck's view,
regrettable. Only a hypocrite can sit in a comfortable office in a
developed country and encourage other Westerners to be like Albert
Schweitzer, thus heaping guilt upon those who cannot do this and

causing them to see no value in their own life and achievements
(Schoeck:269). Schoeck continues:

> The stereotyped <u>love</u> <u>for</u> <u>those</u> <u>who</u> <u>are</u> <u>distant</u>,
> today a favourite practice, may in some cases be a
> substitute for failure to love one's neighbour . .
> . [which results from] inability to establish
> uncomplicated, natural and relaxed contact with
> their neighbour (269).

Hardin refers to this distant love as "telescopic philanthropy" and

expands Schoeck's argument from self-sacrificing personal aid to the

broader issue of national foreign aid (1977a:124-125).

Schoeck also sees envy as a counter force to obligations to

future generations: "Tradition asserts, with a fatal effect upon

deliberate innovations, that what was good enough for the father is

good enough for the son. Here we have the conflict between

generations" (44). In developing countries, envy effectively banishes

the dimension of the future from consideration (Schoeck:46-50). /4/

Hardin draws heavily upon Schoeck's position for his analysis of

guilt (conscience) and of justice, but he does not preserve its

balance. This is understandable in so far as Schoeck's focus is upon

envy and, in regard to justice, the role of envy in presenting unjust

claims in the name of justice. Schoeck does, however, acknowledge

that there are legitimate claims for justice which must be identified

and which require action. By dropping this half of Schoeck's view,

Hardin avoids the difficult ethical issue of judging the validity of

each claim for justice on its own merits and paves the way for

ignoring all claims to justice in the face of his emphasis on the

threat to survival.

Both also reject equality as a desirable goal (Hardin, 1959a:194; 1974b:232; 1977a:80-81), and the guilt that some feel because fate, or hard work, has made them more fortunate than others. Hardin translates this issue into "conscience". Both argue that there is no point in feeling guilty or suffering pangs of conscience about what we cannot change, and about what we were not responsible for creating, namely the gap between the West and the undeveloped world. The theological and ethical aspects are not explored by either man.

In summary, both Bridgman and Schoeck are individualistic and call upon "the individual" to rise above society, but they do this in different ways. For Bridgman, the intelligent individual can begin to reshape society so it can function in a world without religion, which mankind has outgrown, and this is done by seeing through the archaic religious and moral terms which society continues to use to attempt to motivate the individual towards the social good. For Schoeck, the enemy is not religion, but modern liberal humanism with its egalitarian dream of an envy-free society. This dream rests on an excess of envy and he calls for the individual to expose this envy and destroy the false idea that the envied one is at fault. In both cases, the individual is called to stand alone against incorrect or outmoded social concepts and turn his individual reality and the social reality into a more productive direction. Hardin's thought is also individualistic, but on the whole implies that America has risen above the mass of nations and even if not deserving of the gifts it has, should not feel guilty for having them or for keeping them for itself. There are real limits to the good that can be done by sharing

which is most often merely a salve for the falsely guilty conscience of the giver.

These are the major ethical themes in Hardin's thought which are foreshadowed in the work of Bridgman and of Schoeck. However, they do not completely characterize Hardin's ethical position.

Hardin's Ethical Thought

It is very clear where Hardin's concern lies:

> Some there are who so love the world of Nature
> (that is, Nature sine Man) that they regard the
> preservation of a world without humankind as a
> legitimate objective of human beings . . . . Let
> me only say that I am not one of this class of
> nature-lovers: my view is definitely
> anthropocentric (1976a:259). /5/

He moderates this position slightly in a later article when, although acknowledging his anthropocentrism, he contends that empathy with the animals (without reference to human exploitative interests), in a overcrowded environment leads to the same environmental actions as the anthropocentric position does (Hardin, 1977e:114). Behind his view lies "an important premise . . . the assumption that the continued survival of mankind is desirable" (Hardin, 1975a:319). This means that One World is not desirable, but tribal, isolated breeding groups are because " . . . those races that survive a change can then repopulate regions left vacant by those that have succumbed" (Hardin, 1959a:319-320). Hardin's concern is clearly with humankind and its future generations and it is primarily for a lack of dealing with this latter issue, along with its insensitivity to "the situation", that he faults traditional ethics (1976a:122-124; 1977a:70; Hardin, 1977e:114).

Traditional ethics' inability to deal with future generations is in part due to its close alliance with economics and its "discounting of the future" (Hardin, 1977a:74-75; 1976a:133; 1977e:113). His most sustained analysis of this issue occurs in chapter 4 of The Limits of Altruism entitled "Who Cares for Posterity?" (1977a:70-84). In the context of his concern "to put a wholly rational foundation under conservation policy", he notes that philosophy in its 2000 years has formulated no "intellectual apparatus for dealing with the needs of posterity" (Hardin, 1977a:70; 1974a). And, "Hans Jonas points out that ethical literature is almost wholly individualistic: it is addressed to private conduct rather than to public policy" (Hardin, 1977a:70; Jonas, 1972). A prime example of this approach is Buber's ethic which Hardin characterizes as "I-Thou, Here and Now" (1977a:71).

> That ethics and economics are identical may come as a surprise to those who think of ethics as a "higher" mode of thinking. But is not Martin Buber's "I-Thou" ethics merely a sweet harmonization of "quid pro quo"? From Kant to Buber we are admonished to consider the other as an end always, never to be used as a means -- in blunter language, to give other the quid lest he give us the shaft (Hardin, 1974a:16).

Modern ethics, according to Hardin, is nothing more than prudence, a mere ethics of self-defense. /6/ And this type of ethics has no room for the future:

> The standard ethical dialogue is between people who stand face to face with each other, seeking a reasonable basis for reciprocal altruism. Posterity has no chance to show its face in the here and now (Hardin, 1977a:71).

Rawls mentions this problem but says that it "seems to admit of no definite answer" (Hardin, 1977a:71). Hardin contends that the

following statement is typical of Rawls' discussion: "Men have a natural duty to uphold and to further just institutions." Appealing to his chosen methodology for ethics, Hardin says "This pronouncement is less than revolutionary; it is hardly operational." Thus despairing of aid from philosophers, he turns to economic thought, but it cannot handle the time dimension either because cost-benefit analysis becomes very difficult if the costs and benefits are separated in time (Hardin, 1977a:71).

The Aswan dam is an example of trading short term gains for immense and long term ecological damage. Hardin suggests that even if the long term consequences had been considered, the optimism towards technology would have pushed the project ahead anyway. "Curiously, economists have more confidence in science and technology than scientists do." The other side of the problem is "that of weighing present costs against future benefits (Hardin, 1977a:74). Although there is an economic theory which addresses this, it is inadequate: "The economic theory of discounting is a completely rational theory. For short periods of time it gives answers that seem intuitively right. For longer periods, we are not so sure" (Hardin, 1977a:75). To illustrate this theory Hardin reports his planting of a redwood tree which cost $1.00. Since it takes 2000 years for a redwood to mature, according to the economic theory of discounting, present interest rates would have to be no higher than 0.479% per year for this to be economically rational. That neither Hardin nor his descendants will be likely to benefit from his planting suggests an important problem:

> The most I can hope for is that an anonymous
> posterity will benefit by my act. Almost the only
> benefit I get is the thought that posterity will
> benefit -- a curious sort of quo indeed. Why
> bother?
> I am beginning to suspect that rationality --
> as we now conceive it -- may be insufficient to
> secure the end we desire, namely taking care of
> the interests of posterity (Hardin, 1977a:75-76).

This is a clear statement of Hardin's concern for posterity and, in addition to his written advocacy of posterity, shows that he is taking concrete actions to further that concern. It is an actual value for him and not merely an ideal norm (Brightman:75). The above quotation makes the points that we must act on our obligation to future generations and that our current concept of rationality does not provide adequate grounds for doing so, i.e. the moral ought is not supported by rationality under its current definitions. This does not fit with other statements of Hardin's where he identifies rationality and morality and suggests that a lapse of rationality is a "moral lapse" (1974a:14). Acting on our concern for future generations involves a movement from individualism towards the community. Individuals need to "shade their ego-centered decisions by some consideration of the community as a whole" and

> The most significant decisions are those that
> require individuals to give up some benefit they
> might enjoy here and now for the sake of a greater
> benefit to be enjoyed later, not by them but by
> their descendants, many generations later (Hardin,
> 1959a:18).

Traditional ethics simply has not, and will not deal with this problem of posterity.

Nor are traditional ethics situational.

> The foundation of situational ethics is this: <u>The morality of an act is determined by the state of the system at the time the act is performed</u>. Ecology, a system-based view of the world, demands situational ethics (Hardin, 1977e:114).

Situational ethics also shifts the importance from intentions or motivations to consequences.

> Consequences ("ends") can be more objectively determined than motivations ("means"). Situation ethics wisely uses consequences as the measure of morality. "If the end does not justify the means, what does?" asks Joseph Fletcher. The obsession of older ethical systems with means and motives is no doubt in part a consequence of envy, which has a thousand disguises (Hardin, 1976a:249). /7/

Following this consideration of motives, Hardin returns to a favorite theme, selfishness. It is part of the motivation for every human action and, since consequences are far more important than motives (or means), even though we must take selfishness into account, having done so we can judge actions by their consequences without regard to whether they are selfish or unselfish (Hardin, 1976a:249). He supports his first point biologically: natural selection promotes selfishness, but altruism is difficult for evolutionary theory to explain (Hardin, 1974c:38). Selfishness should simply be accepted as part of the human condition and not attacked and rejected as traditional ethics tends to do.

Just as traditional ethics' view of selfishness is incorrect, so too is its view of the "sanctity of life". "The 'sanctity of life' is purely a premature simplification. The intention is praiseworthy, but as an analytic conception it just won't do" (Hardin, 1974c:86). This

leads directly to the issue of survival and quality of life. Hardin's emphasis is upon man, not nature, and upon preserving the style of life to which Americans are accustomed. He points out that people who are willing to settle for a lower standard of living will outcompete those who prefer a higher standard and "we must have the courage to say No to those who would diminish the quality of life that more people can live" (Hardin, 1972a:173). This leads to difficult questions:

> 'Are redwood trees more important than people?'
> It is hard to answer such a loaded question
> without appearing to be hard-hearted. But we must
> insist that redwood trees -- and many other
> amenities -- are needed for people (Hardin,
> 1972a:172-173).

Further, as population increases, thus increasing the number of people who use resources which cannot be subdivided, more unfairness will have to be tolerated to preserve the resources. To emphasize this point, Hardin cites a proposal that the Mona Lisa be shared equally, each person getting a small square. Clearly, even though not everyone who wants to enjoy it can do so, it is better to leave it intact than to share it "fairly" (Hardin, 1972a:174). Using this as an analogy for earth's resources in an overpopulated world shows that the situation has changed and traditional ethical notions such as fairness, justice, anti-selfishness, and sanctity of life will have to go.

Two other traditional ethical concepts of which Hardin is critical are "rights" and the rejection of competition. He does not accept the concept of universal human rights.

> In practice, any nation that adopts this position
> defines its own version of human rights as the
> universal one. Universal human rights is an
> absolutist concept; basing international policy on
> this concept leads to ethical imperialism (Hardin,
> 1977a:68-69).

Competition, like selfishness, is part of the human condition and

should be accepted.

> Our problem is not to avoid the unavoidable --
> competition -- but to choose our weapons. In
> seeking the means that are most commensurate with
> human comfort, pleasure and dignity we cannot
> necessarily trust first impressions or traditional
> moral standards. We will need the deepest
> insights of psychology and anthropology to enable
> us to choose well (Hardin, 1959a:255).

This quotation provides some content to his concept of "quality of

life" as well.

Hardin has some choice words about ethicists too. Applying a

criterion he derived from psychology, he suggests new books be

evaluated by asking "Is the author really trying to solve problems, or

is he one of that large band who connive to create problems?" Those

in the large band, he suggests, can fairly be called "ethical

anarchists" (Hardin, 1977a:18). Citing Freud, he notes that

"different people grow up at different speeds. Some seem hardly to

mature at all; some of the cleverist of these write books on ethics"

(Hardin, 1977a:24). /8/

Theology receives Hardin's criticism because its explanations are

"waterproof hypotheses" which "explain too much". "The choice between

Genesis and Darwinism is not a choice between two scientific theories

but between one scientific theory (Darwinism) and the rejection of

rationality". History provides better explanations than "theologic

myths" because "the standards of rational history are much closer to those of science" and history thus provides a better foundation "for the act of affiliation than . . . the intellectually ad libitum accounts of theology" (Hardin, 1973a:18-19). In part this is an issue of aesthetics.

> The rational man sees more beauty in that which submits itself to the gauntlet of falsifiability than he does in the undisciplined theologic meanderings that claim immunity to the demands of objective -- that is to say, transpersonal -- examination (Hardin, 1973a:18). /9/

Even when presenting scientific truth, the facts alone are not enough:

> The beauty of the evolutionary viewpoint must be made evident. It is not enough for teaching biologists to be good scientists in the narrow sense. They must also be artists, as Darwin was (Hardin, 1973a:19).

But in an earlier passage, in spite of his negative view of theology as explanation, he is more positive towards religion.

> The essentially religious feeling of subserviency to a power greater than ourselves came hard to us clever people. But by our intelligence we are now beginning to make out the limits to our cleverness, the impotence principles that say what can and cannot be. In an operational sense, we are experiencing a return to a religious orientation toward the world (Hardin, 1959a:329).

Hardin is then aware of the religious sense of finitude even though he rejects theology as non-rational and prefers a scientific, operational method. There is an identification of rationality and morality accompanied by a rejection of traditional morality and a realization that rationality as currently conceptualized cannot achieve the end Hardin desires, namely to provide a foundation for an obligation to future generations, and which he personally identifies as a moral imperative.

Hardin's Ethical Program

Hardin has touched upon a broad range of deep ethical problems whose individual aspects have no easy solutions. His program of ecological ethics for addressing these problems has two major aspects. First, it is situational and second, "it is the essence of ecological ethics that it pays attention to posterity". And he clearly links this to survival: "In an overpopulated world humanity cannot long endure under a regime governed by posterity-blind ethics" (Hardin, 1976a:122-123).

But how are we to ground a moral obligation to posterity? Hardin acknowledges that rationality cannot provide a foundation for conservation and uses the case of the dawn redwood to suggest a possible solution. Thought to be extinct, this tree was discovered to have been preserved in temple courtyards in China even though the nearby forests had been destroyed for use as fuel and building material.

> What is so special about being in a temple courtyard? Just this: it makes the object sacred. The word sacred is not easy to define, but whatever we mean by it we mean something that stands outside the bounds of rationality, as ordinarily understood.
>
> That which is sacred or taboo is generally protected by legends that tend to make the taboo operational . . . . Are such stories consciously concocted because the idea of posterity is too remote to be effective? Or is it just a coincidence that objects so protected do survive for posterity's enjoyment? Whatever the case, being treated as sacred can protect an object against destruction by impoverished people who might otherwise discount the future in a simplistically rational way (Hardin, 1977a:76, 77).

Although in the temple courtyards the intent may not have been to preserve the dawn redwood for future generations, the trees were preserved because they were in a sacred place. Hardin wonders if this power of the sacred, or of taboo, could be consciously used to protect resources for the future. Wondering if the West can be as severe, Hardin cites two further examples from Russia where people starved rather than steal grain from that set aside for next year's planting or from a storage facility for preserving genetic variety. But these examples do not "show that starving people are just naturally noble and take the long view", rather the opposite occurs. Altruism disappears and is replaced by a crude egoism which "will sacrifice every promise of tomorrow for the merest scrap of food today".

> Under severe survival conditions morality disappears . . . .
>
> It is futile to ask starving people to act against their own self-interest as they see it, which is an exclusively short-term self-interest. In a desperate community long-term interests can be protected only by institutional means: soldiers and policemen (Hardin, 1977a:79).

In contrast to the example from China where religion was a strong force, where religion is absent the future can be protected by more obvious forms of coercion. This means giving some individuals special privileges now to insure that they will protect resources for the future from non-privileged members of their society and it requires accepting the unfairness this entails. In such a society, institutions can behave altruistically even though individuals cannot be expected to do so. Moral exhortation will be increasingly

ineffective as the society gets poorer and thus institutions must be designed to expect people to act egoistically (Hardin, 1977a:79-80). "It is not superior morality that is most likely to serve posterity but an institutional design that makes wise use of special privilege (Hardin, 1977a:81; 1972a:174-175). This does not apply to the United States, but to poor overpopulated countries for whom "distributional justice is a luxury that cannot be afforded."

> We will serve posterity's interests better if we give up the goal of diminishing special privilege in poor countries. We should seek instead to persuade the privileged to create altruistic institutions that can make things better for posterity, thus diminishing the need for special privilege in the future (Hardin, 1977a:81-82).

Hardin's situational ethic leads to an international policy which dispenses with traditional ethical values because he believes that in the present situation, overpopulation threatens the survival of the human species. Special privilege breaks the cycle of poverty which leads to overpopulation and the lowering of life's quality.

Another possible way to ground an obligation to posterity is to renew our sense of history: "People will not look forward to posterity who never look backward to their ancestors". Hardin finds this idea of Burke's psychologically accurate but politically and biologically objectionable. "In some psychological sense posterity and ancestors fuse together in the service of an abstraction called 'family'" (Hardin, 1977a:82; 1974a:15). /10/

These reflections result in three steps for increasing our concern for posterity: (1) institutionalize special privilege, (2) teach history and (3) discourage mobility in the labor force to

increase the sense of place and thus increase awareness of posterity and time. /11/ These types of changes are required in childhood, but Hardin admits that his childhood did not contain these features and cannot explain his belief that posterity should be considered or his goal of creating an environment that will make the necessary identifications for today's children. Also, "it seems that only unconscious beliefs have much power to cause actions that run contrary to the dictates of simple rationality" (Hardin, 1977a:83). /12/ Hardin is also puzzled that his concern for posterity seems to be "sort of second-order altruism" (1977a:83). This concern can also be expressed as desire to maintain "social continuity" and requires learning enough about the "physiology and pathology of political organizations" to prevent the collapse of civilization for if that should occur mankind might lack "the will to rebuild it" and thus "effective concern for posterity would virtually disappear. . . ." Hardin, 1977a:84).

Hardin closes his consideration of our obligation to future generations with a series of rhetorical questions which make the following points. We do not "have the knowledge needed to insure the indefinite survival /13/ of any political unit" or to prevent the collapse of civilization. And in the absence of this knowledge the goal of One World is unrealistic and undesirable. "We should instead preserve enough of the economic and social barriers between groupings of humanity so that the cancer of collapse can be localized" (Hardin, 1977a:84). We must not altruistically create a commons to save distant people and we must avoid "an overriding concern for the needs

of the present generation [which] can lead to a total sacrifice of the interests of posterity" (Hardin, 1977a:84).

There are several interesting passages in Hardin which provide some counterpoints to the themes discussed above. Hardin resorts to biology at certain crucial points in his arguments, such as his advocating the sacredness of carrying capacity, but he sets at least one limit to the application of biological principles and methods to shaping social policies and mankind itself. In regard to a proposal to evolve a pollution-tolerant race of men Hardin asks:

> But what would be the cost of this evolution? How many millions of people would have to be sacrificed during the process of forming this new race: How much misery would be suffered by the smog-unfit along the evolutionary way? How would this cost compare with the cost of a direct, technologic attack on smog? It is hard to believe that it would be less (1973a:17).

This is a side of Hardin not seen in lifeboat ethics. And there is a passage on "mirror-thinking" which if used, would let those in the lifeboat see themselves through the swimmers eyes.

> We reject mirror-thinking: that is, we refuse to accept any suggestion to 'put yourself in his place.' In the moral sphere this is probably an inevitable concomitant of modern warfare. . . . (Our soldiers are human beings whose lives must be conserved; enemy soldiers seem less than human). From this it follows that any conceivable treatment of the enemy is morally right if it saves the lives of our soldiers. This, as a moral stance, is bad enough, but on a purely practical level the failure to resort to mirror-thinking is truly dangerous (Hardin, 1969d:269).

Although there is some suggestion that Hardin might hold the same lifeboat ethic if he were a swimmer (1969b), is there a significant difference between sacrificing those outside the lifeboat that we

might survive and sacrificing or mistreating enemy soldiers so that our soldiers might survive?

And in regard to the biology versus culture discussion, the following passage shows an awareness of the assigned importance of actions in human society.

> Information is a function of communication between organisms. The matter or energy that is transferred from one to another is of trivial importance; it is the meaning of that which is transferred that is of overriding significance (Hardin, 1969d:86).

Contrast this with his expressed view of parenthood as the temporary custodianship of the community's genetic store (Hardin, 1970). And given his general views on biology and culture, the following passage is uncharacteristically strong in the latter's favor:

> For human beings, the total environment comprises not only the physical environment but also the social and psychological environments, both of which may be much more important under present-day conditions (Hardin, 1969d:92).

It should be noted that these passages are from his earlier works, and if Neuhaus is correct, they may be part of his present position which is now unexpressed to the general public in an attempt to convince them of the seriousness of the population problem so they will act before it is too late (Neuhaus, 1971:263).

What have we learned about Hardin's ethical position? It is anthropocentric and not nature-centered and it assumes that the survival of mankind is desirable. Traditional ethics is rejected for emphasizing intentions and not consequences, the present and not the future, and for advocating values that are incompatible with survival.

Hardin is not clear how his concern for posterity developed since he cannot discover any of the factors which would promote it in his background. He suggests that concern for posterity can be fostered through education, an increased sense of place (decreased mobility), and through designing altruistic institutions to defend posterity against the short-sighted interests of present individuals. He also thinks there may be a link between conservation and sacredness that could be used to protect posterity's interests. And to this end, he advocates elevating the biological principle of carrying capacity to the status of the Decalogue. He sees ethicists as problem creators rather than problem solvers and is similarly inclined to reject theology as a hindrance to rationality. Yet, he has some awareness of religion at the pragmatic level and of esthetics. At the end of his consideration of posterity, however, he seems to be concerned not with species survival, but with the survival of technological civilization and the quality of life that it provides both for some present individuals and presumably for all of posterity.

The Critical Literature

Hardin has reached an amazingly large audience as will become apparent as the literature is reviewed. Nonetheless, there is a lack of critical literature on Hardin's thought. Even though there are some excellent critical articles on specific aspects of Hardin'sthought there are few which address his position as a whole or delve into the basic framework of his thought. The emphasis in this review will be upon the reaction to Hardin in the religious,

philosophical, and biological literature, but major articles from other disciplines will also be discussed. On the whole, the response to Hardin in the religious literature has been negative and based on an emotional response to his works and an incomplete reading of them. It has also taken a general approach to the issues he raises rather than focusing on specific details in contrast to the philosophical literature which tends to deal with specific points. There are also important articles on Hardin in the social sciences, law and economics. This review of the secondary literature on Hardin will show (1) the need for further critical analysis of his thought especially for an examination of his value presuppositions, and (2) the significance of Hardin's work for a wide range of disciplines which have used and criticized it. He has not raised simple problems, but problems which require interdisciplinary thought.

Two articles which cite Hardin's work place it in a broad context. Meyers' "An Introduction to Environmental Thought: Some Sources and Some Criticisms" discusses three traditions which have contributed to environmental thought and Rolston's "Is There an Ecological Ethic" explores the relationship between biology and ethics.

The first of the three traditions Meyers identifies is exemplified by Aldo Leopold and Rachel Carson and sees man as one member of the community of nature and appeals to our American heritage, or interconnectedness with nature, and what Leopold called "sportsmanship" which included self-reliance, hardihood and thrift (Meyers:426, 430, 432). Self-reliance is a form of individualism which respects nature and tries to achieve harmony with it rather than

trying to control it with machines and technology. In contrast to Hardin's view that private ownership protects the land (1968:255,256), Leopold rejects any form of ownership of land as a solution to environmental problems. Instead, he calls for an appreciation of nature much like that found in Deism and American transcendentalism (Meyers:429ff). Self-reliance also involves personal responsibility for one's actions , i.e., there is no public to bear the costs of actions which benefit only the individual (Meyers:433). Hardin draws on this tradition to a degree by emphasizing responsibility and self-reliance, but he transfers his concern to the level of national responsibility and national self-reliance.

Hardin's position fits most fully in the ecological tradition, Meyers' second tradition. For Meyers, however, ecology is a science which provides information but not the values necessary to decide how to act on that information (442). He criticizes Commoner, and by implication Hardin, because they provide us with data but also with assumed values with which we may not agree and which are not separated from the scientific data, though they should be. "The ecologist-philosopher's premises, once distilled, rest on ethical and aesthetic belief, not scientific facts" (Meyers:445).

Neo-classical economics offers a third view of the ecological crisis and its possible solutions. This position shares a basic premise about the nature of humankind with Hardin: both see "man as a rational being who seeks to maximize his own welfare" (Meyers:448). Both also see the problem of how to deal rationally with externalities or "external diseconomies" as a major issue. How can we charge for

the use or abuse of air? How can we get everyone to pay his fair
share? This has been called the free-rider problem, the tragedy of
the commons and the prisoner's dilemma. /14/ Can we even put a price
on clean air?

The issue of obligations to future generations, Meyers feels, is
a red herring thrown into the debate between economists and
naturalists to support a "back to nature, preserve nature" policy
(450). Meyers characterizes the naturalist position as seeing man as
a valuer who holds absolute transcendental values, while the economist
position is pluralist and concerned to allow freedom for the
individual to choose between many values. For the economist, the good
is "what the individual prefers" (Meyers:451-452). Meyers is more
sympathetic with the economists and sees the issue as one of
governmental definition of property rights (453). He has faith in a
flexible democracy and pluralism which does not rely on hard and fast
principles and has a willingness and openness to change in the face of
future environmental problems.

Hardin's position reflects aspects of both the ecologist and the
naturalist positions as Meyers presents them, even thought his
anthropocentrism and his rejection of absolute values in the
traditional sense (carrying capacity as an absolute value is
problematical) clearly remove him from the naturalists. Nor does his
appeal to future generations arise from a desire to preserve nature as
he clearly states (Hardin, 1976a:259). But a detailed consideration
of the relationship between Hardin's ecological thought and economic
theory is beyond the scope of this paper. It is important, however,

to notice that Hardin's views are not purely the result of biology, but are also conditioned by what Winter (1966) refers to as "the common culture". Hardin's own position provides evidence of the importance of culture in shaping values.

Buttell and Flinn also link ecology and economics. They accept Hardin's Cardinal Rule of Policy and say that "For many Americans, environmental conflicts have been primarily symbolic or ideological conflicts involving little direct threat to personal economic interests" (478-479). This issue can also be characterized in traditional language as biology (nature) versus culture (nurture). Hardin has been characterized as witty and tough-minded but also as one who "tends to overgeneralize from the biological to the cultural" (Jones, 1978:214). Woodruff sees culture as dominant: "Survival in nature depends primarily on accepting the social mores of the group to which one belongs" and sees the solution as balancing individual rights "within a framework of social duties and obligations" (770,772).

Tarlock develops similar points in his reply to Meyers. He asks how environmental values are to be weighed against other values such as economic values (455) and contends that aesthetics and nature mysticism have led to "the marginal legitimacy of much of contemporary environmental thinking with respect to preservation and aesthetics" (457). He develops this critique further: "One would be tempted to conclude that having recognized the values wilderness represents, wilderness itself need not be preserved to maintain these values. Is it more important to have Thoreau's _Walden_ or Walden Pond"

(Tarlock:458)? He implies that wilderness as symbol and the values it represents exist independently of any physical wilderness. He notes of Meyers' article that "it is also a rejection of the need for a radical new ethic of resource use as opposed to the more gradual and selective recognition of new values" (Tarlock:471). And importantly, Tarlock notes that it is difficult to get norms from ecology because of the lack of predictability of ecosystems (463). /15/

Rolston focuses upon the possible uses of ecology in developing ethics (1975). Although questioning the extrapolation from the commons to the world, he suggests "while complex in its ramifications and deserving of detailed analysis, the essential ethic is simple . . . . ." (Rolston, 1975:96). Hardin's ethic is Hobbesian and in the end "is only a classical ethic applied in the matrix of ecological limitations" (Rolston, 1975:97). It is an ethic "about the environment" which is secondarily ecological and amounts to traditional ethics apprised of ecological limitations.

> This realization of limits, dramatically shift ethical application though it may, can hardly be said to reform our ethical roots, for the reason that its scope remains (when optimistic) a maximizing of human values or (when pessimistic) human survival . . . . There is no endorsement of any natural rightness, only the acceptance of the natural given. It is ecological secondarily, but primarily anthropological (Rolston, 1975:98). /16/

The other possible approach to an "ecological ethic" is an ethic shaped by biology, "a resurgent naturalistic ethics" (Rolston, 1975:93). It is primarily ecological and holds harmony with ecological principles as an end in itself: "it is within man's relatedness to this environment that all man's values are grounded and

supported" (Rolston, 1975:99). It is an attempt "to advance the
ethical frontier from the merely interpersonal to the region of man in
transaction with his environment" (Rolston, 1975:99). Rolston
continues, "what is ethically puzzling, and exciting, in the marriage
and mutual transformation of ecological description and evaluation is
that here an "ought" is not so much derived from an "is" as discovered
simultaneously with it" (1975:101).

A primarily ecological ethic does not rest on an appeal to human
interests but on a merging of the interests of man and the ecosystem
which includes "a confluence of egoism and altruism, or a
transformation of egoism into 'ecoism'" (Rolston, 1975:103-104). This
is aided by a new definition of the self: ". . . the 'self' has been
so extended as to be ecosystemically redefined" and the realization
"that self-interest and benevolence are not necessarily incompatible"
(Rolston, 1975:105). This is not simply to accept the "natural" as
the ethical but to realize man's role in using "nature" and in
"humanizing" it (Rolston, 1975:108,106). It means finding a home
again in nature and reconciling with Earth. "Linking his right to
nature's processes, he will have, at length, an authentic naturalistic
ethic" based on love, not fear (Rolston, 1975:108, 109).

Hardin has elements of both types of ethics and does not fit
entirely within Rolston's first group. Although his ethic is
primarily anthropological he acknowledges that the interests of man
and nature often coincide (Hardin, 1977e:114) and he is personally
sympathetic towards nature (Hayes:63). And even if unsuccessful, it
is clear that Hardin thinks he is doing more than bringing traditional

values to ecology. At crucial points he appeals to biology and biological principles rather than to values. He argues that our morality must be fundamentally shaped and defined by biological principles. He advocates survival as a value yet rejects the sanctity of life as non-biological because its concern is with the individual and not with the germ line. This is a matter of levels: Hardin says, "we seem to think that the species can be saved only if every individual life of every member of the species is saved." But this is not so (Hayes:67). He is doing more than Rolston gives him credit for, but less than Rolston desires. There is little room in the lifeboat for such fine sentiments as the mystical union of man and ecosystem which Rolston advocates. Any merging of the two in Hardin's ethic is based on survival, not love.

Survival

Several authors have difficulty with Hardin's emphasis on the value of survival and refuse to pay the price he claims it demands. Neuhaus sees the problem (incorrectly) as a conflict between concern for the environment and concern for people. Golding and Golding argue that overpopulation is not a threat to survival and the problems labelled "overpopulation" are problems with undesirable human behaviors that are independent of population size. The also present a theory of value which sees survival as a basic value, or a precondition for values, but not as an ultimate value or goal. Several letters to the editor of Science also make critical points about Hardin's position and his reply to them clarifies his view.

Neuhaus' In Defense of People, a rambling critique of the environmental movement as a whole, has some specific remarks about Hardin. Neuhaus rejects Hardin's "mutual coercion mutually agreed upon because it does not consider the minority and because Hardin's "majoritarian politics", which probably could not become a political reality, should not become one (Neuhaus:11). But Neuhaus has misread Hardin on a crucial point. After mentioning Hardin and Paul Ehrlich as "ideological totalitarians", he continues " . . . they possibly do not wish to be absolved of the charge, since they seem to believe that totalitarianism in defense of the environment is no vice and democratic hangups in the pursuit of survival are no virtue" (Neuhaus:112). Hardin is not interested in the environment as such, but in the environment for mankind including future persons. Hardin's totalitarianism is in defense of people.

Further, Neuhaus argues, "the economic and political equity that can make true mutuality possible clearly does not exist" (114). The value issue is clear: "Who has time for programs of social justice if indeed survival itself is at stake?" (Neuhaus:114). He is also aware of what might be called ecological prophecy which requires overemphasizing the current danger in order to alert and motivate the public in time to prevent disaster and later grants that "ideological totalitarians" have a genuine concern for humanity (Neuhaus:216). But he warns that accepting the "frame of reference", i.e., the definition of the problem, which they offer could be a major error especially since it is so easy to avoid the underlying value issues which are difficult to explore.

> If we accept their premise of the <u>inevitability</u> of
> cosmic disaster, then we must choose between a
> revolution in values or standing by the values of
> the biblical-humanist tradition, even if it means
> certain death for humanity, including ourselves.
> Those who choose to stand by these values know
> they will be asked whether they have a right to
> doom mankind for the sake of preserving their own
> purity of conscience. They would no doubt answer
> that survival purchased at the price of betraying
> these values would be unbearably odious, an
> existence in the absence of all meaning, a living
> death (Neuhaus:216-217).

Hardin's reply? "Fine, yield up your place on the lifeboat. But, do

not sink it, as some of us prefer to survive." And Hardin's analysis

of egoism and self-interest suggests that we do not as a species, a

nation, or individuals, live by the values of the biblical-humanist

tradition. Is it a commission of the sin of pride to take the

responsibility for mankind's doom and is this related to the false

guilt which Schoeck discussed?

Neuhaus sees Hardin as one who emphasizes the need for "ruthless"

population limitation to the exclusion of compassion (Neuhaus:302).

But he acknowledges that the Marshall Plan, as Hardin says, was not

altruistic even though it was sold to the public as "a program of high

and generous morality" (Neuhaus:305). There are many minor issues and

criticisms implied by Neuhaus that could be considered, but as a whole

this work can be summarized by its answer to Hardin's question: "Which

is more important redwood trees, or the welfare of little black babies

in the inner city?" (Hardin, 1974a:17). Neuhaus simultaneously

answers "black babies" and rejects the question as out of line.

Neuhaus had correctly identified the value issues, and wrote

before the importance of obligations to future generations was

prominently expressed in Hardin's thought. Even so, the issues of social justice and the environment cannot be separated as clearly as Neuhaus supposes. It is a matter of "both/and", not "either/or". Issues of social justice and ecojustice cannot be nicely separated because they mutually shape each other. Clear statements of the relationship and inseparability of ecojustice and social justice can be found in Owens, Faramelli and the statement of the Board of National Ministries of the American Baptist Churches in the U.S.A.

Golding and Golding in "Ethical and Value Issues in Population Limitation and Distribution in the United States" criticize Hardin's basic value, survival. Although the authors are a philosopher and an urban and regional planner, they published in a law journal and their article was the only critical discussion of Hardin in the thirty-two law articles citing Hardin which I reviewed. The bulk of the article deals with the population problem but the introductory and background material contains some critical remarks about Hardin's thought, especially in regard to survival as a value. The authors' offer an alternative which "avoids the rather serious ethical problems inherent in population limitation proposals" such as Hardin's (1971:496). The first step is to clarify the issues. "It is usually taken for granted that the problem, in essence, is the threat to survival posed by too many people. The question is , survival of what?" It is crucial that we know both "what we are trying to protect" and "exactly what the threat is" (Golding and Golding, 1971:496). Hardin is one for whom "the duty to limit population derives from the duty to promote survival of the species." But the Goldings do not see species

survival as a good in itself or overpopulation as a threat to species survival.

> Barring total war, universal plague, and other
> unforseeable occurrences, the species could well
> continue to survive even if humans breed freely.
> Many, perhaps most, would die off but the species
> could survive (Golding and Golding:497).

Our duty is to promote the good, and it is unclear that survival at the price of the ethical life is good. Like Callahan (1974), they acknowledge that the price of survival may be too high.

Using the work of Nicolai Hartmann, the Goldings discuss survival as a value and present a theory of values. Goods or values are ranked and thus have a "valuational height" and they also have a "valuational strength", the former referring to the place of a value in a rank order list and the latter "we measure . . . by the gravity of a violation against it." Survival is the lowest and strongest value and "radiant virtue" is the highest, but in regard to strength: "We do not regard breach of friendship or incapacity to love as seriously as murder. Life, or survival, therefore, is a stronger value" (Golding and Golding:498).

> The higher value is always the more conditioned,
> the more dependent and in this sense the weaker;
> its fulfilment is conceivable only in so far as it
> is raised upon the fulfilment of the lower values.
> But the more unconditioned, the more elementary,
> and in this sense the stronger value is always the
> lower; it is only a base for the moral life, not a
> fulfilment of its meaning . . . . [T]he greatest
> moral desert attaches to the highest values
> (Golding and Golding:498, citing Hartmann).

> This can be pushed one step farther; the very
> lowest values -- particularly survival -- have
> whatever value they have because they are
> conditions for the higher goods. The value of
> survival is therefore derivative. Although this

> does not mean that we can ever lose sight of its
> importance, it does mean that we should be
> cautious not to accept blindly an appeal to sheer
> survial (sic) in justification of a social policy.
> What is at stake is not the survival of the
> species, but rather the survival, or realization,
> of a way of life (Golding and Golding:498).

In a footnote to this passage they note that appeals to survival are not necessarily helpful in deciding between conflicting higher values and suggest that Hardin is one who pushes "the appeal to survival . . . too far" (Golding and Golding:498). The Goldings identify survival as a low and strong value and question the wisdom of using it as a basis for a social policy. They also see the conflict between survival and traditional values.

> The mere fact that the species will not survive
> unless this or that means is adopted is
> insufficient. If the solution to a problem
> requires a "fundamental extension in morality
> [Hardin's phrase] it is very likely that the new
> synthesis will not embody the good that the
> society implicitly acknowledges, particularly if
> it involves according survival a higher rather
> than a derivative status (Golding and
> Golding:499).

On their analysis, overpopulation is generally assumed to be the cause of various disvalues; environmental deterioration, crime, food supply problems, etc., but no causal connection is shown and the term "overpopulation" becomes value laden and "stands for a series of people-connected disvalues". They conclude that the goal ought to be the correction of these disvalues and not the promotion of survival. "The point is simply that much of the discussion of the problem is tied to a people-population fallacy, that is, the attribution of many 'evils' solely to population size that instead should be allocated to

people and their behavior patterns". Thus there is a logical flaw in
Hardin's basic assumption -- an equivocation of the word
"overpopulation". Controlling population does not necessarily end the
disvalues and emphasizing population size " . . . thus conceals the
basic options and gives moral misdirection" (Golding and Golding:503).

The Goldings also disagree with Hardin on several specific points.
They note that an increase in a rich population is far more damaging
to the environment than an increase in a poor population, especially
in terms of the amount of pollution that is generated (505). Using
John Dewey they attack Hardin's situational ethic by pointing out that
"Not every end justifies any means" and that all the consequences of
the means must be considered, not just the desired end (508). Hardin
is aware of multiple consequences -- "You can never do just one thing."
(Hayes:62) -- but does not see the loss of traditional values as an
undesirable consequence like the Goldings do. They also question
Hardin's interpretation of the United Nations Universal Declaration of
Human Rights. Rather than promoting "the freedom to breed" by
allowing the family to determine its own size, as Hardin says, they
suggest that "the motive behind the Declaration was, in fact, to
undercut resistance on moral and religious grounds to family planning
programs (Golding and Golding:511). They contend "that if 'survival'
is a good, there is at least a limited duty to procreate" (Golding and
Golding:512, n46) and point out that forced control of procreation
"can only come as the very last resort, if at all. If the aim of
population limitation is to combat disvalues, it will fail in its
efforts if in the process it undermines fundamental values" (Golding

and Golding:512-513). "Combatting disvalues" is equivalent to the goal of "preserving or increasing the quality of life" but not to the goal of mere survival. Coercion also is not possible without authoritarianism which the Goldings reject on ethical grounds. And Hardin's "mutual coercion mutually agreed upon by the majority of people affected" contains no safeguards for the minority (Golding and Golding:513). But on Hardin's view, it is this minority that threatens the life of the human species. Nonetheless, the Goldings have ethical objections to proposed measures of population control and reject the claim that the disvalues cited as evidence for the necessity of coercive measures are the result of population size. They propose redistribution of population which would eliminate the disvalues and promote positive values such as social justice (Golding and Golding:516-522). /17/ Any proposal must also preserve freedom (Golding and Golding:521).

In summary, the Goldings suggest that "the population problem" is not a matter of population size, but of disvalues which would remain even if zero population growth were achieved. It would be better to attack these disvalues directly and this could be done effectively and ethically by population redistribution. They, however, limit their discussion to the United States and do not consider the global problem. But, in one sense, Hardin's lifeboat ethic is also attempting to keep the problem localized, to prevent it from becoming global by confining each population to its own resource base. Hardin rejects redistribution through immigration as a solution to the world population problem (1974a:235-241, 1981a).

Several points of criticism are raised in the letters to the editor of Science in response to Hardin's editorial "The Survival of Nations and Civilization" (Hardin, 1971b) /18/. Paolino felt Hardin's assumption that we are the trustees of civilization represented "a provincial weltanschauung". Canon was shocked and puzzled and felt that such territorialism would promote militarism and the use of the bomb. He also asked "which nations are in a breeding race?" and questioned Hardin's nationalism and his anthropocentrism: "National survival seems a less than worthy objective. It is the survival of the living world -- man, wolves, whales, sparrows, minnows, insects, mosses, trees, and grass -- that concerns me" (1077). Sax agrees with Hardin and cites a number of supportive sources. Audesirk argues that Rees missed Hardin's point: "one mouth, one meal" is a suitable goal if population is low enough. "We must indeed work to promote the human dignity of all mankind, but not if in so doing we eliminate dignity entirely." He, like Hardin, rejects that one world ideology which would create "equality at the expense of dignity" and lead to "universal poverty (Audesirk:1077-1078).

Citing Malthus, Lloyd and J. S. Mill in support of his point, Hardin replies that society cannot, without drastic effects, "feed the necessitous . . . and leave the multiplying free" (citing J. S. Mill). He claims the logic of this has never been disproven and that "Nature" acts on this principle. "So long as population growth is uncontrolled the defense of territory is necessary for the survival of human dignity somewhere" (Hardin, 1971d:1078). He acknowledges the problem of ethnocentrism and invites those made of "nobler stuff" than he to

give their goods to the poor but states that he cannot bring himself
to do this.

> If the poor of the world will not or cannot, "take
> their multiplication under control," I shall try
> to protect my access to the goods of the world,
> undeserving though I may be, and seek to save some
> of the earth's resources for my grandchildren and
> theirs (Hardin, 1971d:1078).

This passage also affirms Hardin's view that we are obligated to the
future generations of all mankind.

Ethics

Bybee, Dyck and Bredemeir are among the few that focus
specifically on the ethical aspects of Hardin's position.

Bybee writing on science education in BioScience, draws upon the
thought of Rawls for his critique of Hardin. Past utilitarian and
competitive ethics has become individualistic and pragmatic with
results like those of Hardin's tragedy of the commons. Bybee applies
Rawl's inequality principle and asks "What is the greatest inequality
that might occur to the least advantaged person ever using the
commons?" (359). Each herdsman then imagines himself in that
position, and uses this concern for the least to guide his actions.
Bybee points out that "the concept of social justice generated from
this position is vastly different from the position stated by Hardin .
. . . I admit that is different from our traditional 'greatest good
for the greatest number' ethical position" (Bybee:359). But he also
acknowledges as does Hardin, that this means giving up some individual
freedom. Bybee summarizes his position with a very traditional
statement: "In short, we must act as we would have others act in the
same situation or do to them only as we would like done to us, now and

in the future" (359). He concludes with a discussion of Rawl's position as "a counter argument to the utilitarian ethics which underlay the commons tragedy" and with the observation that the old values are based on the assumption of infinite resources. It is a task of education to change the view of growth from increase in size to growth as "change and differentiation of a system" (Bybee:359-360). But can education without coercion accomplish Bybee's goal any more than Hardin's?

The social scientist Bredemeir has a concern for justice and offers a reason why it might not be prominent in biologically based thought:

> This is one element that distinguishes social
> science from natural science: it cannot be said
> that the first virtue of cells or electromagnetic
> forces is justice, so the truth claims of
> biologists and physicists do not have to include
> this dimension of significance (133).

There are also several articles in response to Hardin in the biological literature, one by the ethicist Arthur J. Dyck. On his analysis, proposed population policies fall into three groups which are not mutually exclusive: the crisis environmentalists (Hardin for example), the family planners and the developmental distributionists. Crisis environmentalists hold that overpopulation is already a "serious crisis for the human species and the planet earth." According to Dyck, "the key empirical assumption that characterizes crisis environmentalists is that as population increases, pollution, resource depletion, and environmental damage increase." They also assume a conflict between the individual and society that leads to

families wanting more children than the society can tolerate. "The appeal to survival is at the the heart of the moral justification that crisis environmentalists offer for coercive population policies' (Dyck:272-273). As an example of the overlapping of these positions, advocacy of education is a major tenet of the family planners and has a place in Hardin's position too (Hardin, 1977a:82). Dyck identifies the crucial issues between these three policies as value issues and continues:

> At this very point, crisis environmentalists would tend to object. They would argue that population-related problems have put us into an immediate crisis and threaten the most basic moral value, namely the value of life itself and the survival of whole human species. Now I agree that the value of life is fundamental, and I assume that readers and the other population orientations share the desire to strive for the survival of the human species. But is it population growth as such that poses an immediate threat to human survival (255)?

Dyck rejects the crisis environmentalist view because it overemphasizes survival and ignores the rate of resource use as an important factor in generating environmental problems. He rejects the family planning position as morally inadequate and as lacking depth in its view of poverty. He then opts for the developmental distributionist policy which emphasizes social justice. It is not numbers of people alone which lead to pollution but numbers and the rate of resource use, which is directly correlated with the degree of affluence. The solution requires changing current behavior patterns. This is the position of Golding and Golding and they would fit in Dyck's third classification. "Developmental distributionists and

others have argued, therefore, that our current habits and not population growth by itself are at the heart of the environmental problems that can be considered serious" (Dyck:275).

Hardin is certainly aware of differential rates of resource use (1974b:226; 1976e:214; 1976f:128; 1976a:245), but he only mentions it in passing (even in 1975c where he admits the American lifestyle must change) and does not deal with it in depth, perhaps because doing so would blunt the "crisis" sense of urgency he wishes to convey. And he chooses not to mention it at points where it would considerably change the thrust of his statements, such as (1974a:234) his reference to the lowered quality of life for future generations for each person born in a poor country. Then again, the issue in the lifeboat article was not resource use as such, but whether sharing our resources would benefit the recipients in the long run. The issues are separate but related.

The Commons Scenario

Most of the articles which cite Hardin make no comment about his thought. They accept it and use it in support of a variety of points the most common of which are that there are problems with no technical solution and that there is a conflict between individual (or corporate) freedom and the common good. Some of the authors raise critical points and a few develop them but the primary focus is not usually on Hardin or on providing a thorough critique of his thought. Nonetheless, these tidbits, together with the few major articles, provide the beginnings of a critical response to Hardin's position.

Leigh draws an analogy between Hardin's tragedy of the commons and the selection of alleles in genetics. Both situations deal with the conflict between individual and group good. He argues that selection occurs not between individuals within a species, but between species. "Selection acts on present circumstances, not future promise", Leigh reminds us (4542). After a discussion of genetics he concludes: "Species differ in the extent to which selection favors those individuals and alleles best for the species. Selection favors those species where genes 'bad for the species' are least likely to spread" (Leigh:4545). He sees two possible solutions to the tragedy of the commons in so far as it involves a conflict between individual and group interests: territoriality, dividing the commons into defensible territories (Hardin's tribalism and lifeboats) and punishment of selfish individuals (Hardin's mutual coercion mutually agreed upon) (Leigh:4545). Thus although he does not directly address the tragedy of the commons, he applies one of its major ideas within the context of genetics and concludes that a balance between individual good and group good can be achieved (and is biologically achieved in genetics). His proposed solutions are no different than Hardin's and could be taken as further biological support for Hardin's view.

Woodruff, writing in The Medical Journal of Australia, sees the distinguishing characteristic of man as "his preoccupation -- virtually peculiar to him alone -- with caring for the disadvantaged individual" and this characteristic leads to a special problem "the conflict of interest of the one and the many." And this problem has

been described "admirably in a persuasive and challenging paper" namely Hardin's "The Tragedy of the Commons" (Woodruff:769, 772).

A psychologist picks up this theme and criticizes Hardin as part of a larger critique of individualism. In criticizing his own discipline for lacking awareness of its cultural and historical context, Sampson says "egoism and altruism are in opposition only in an individualistic setting; their opposition is not written in granite, genetics, or our fundamental human psychology" (770). Thus, "the tragedy of the commons is a tragedy for persons who pursue self-contained individualism as their ideal. Such persons require strong, autocratic governance to control their appetites" (Sampson: 779). /19/

Messick's 1973 article on unionization, the draft of which Hardin read (Messick:145, n2), may be the source of Hardin's sense of the inadequacy of rationality. Messick cites the tragedy of the commons as one example of a type of problem where "consensual rationality provides poorer outcomes than consensual irrationality" (152).

> The "tragedy" of the commons as outlined by Hardin assumes that the herder's decisions are state-independent—they do not allow for current herd size or the current quality of the pasturage—and myopic—the herders are blind to the long term consequences of growth. With a more reasonable model of rationality, Hardin's tragedy might be averted (Messick:153).

The economist Kenneth Boulding contends that the tragedy of the commons is an example of certain types of pathological interactions but that on the whole both ecological systems and social systems are not as conflict ridden as the analogy suggests:

> Struggle is only part of the total interactive
> process, in biological systems a very
> insignificant part, but even in social systems a
> much smaller part than most historians and
> dialecticians think. By far the larger part even
> of social interaction is interactive rather than
> conflictual, and 'struggle' is a completely
> inadequate paradigm to describe the complexities
> of the system (608).

"The Tragedy of the Commons" has even inspired laboratory

research in sociology and psychology. Watzke and Dana did an

experiment to test the tragedy of the commons in the laboratory and

came up with a guardedly optimistic conclusion: cooperative behavior

occurred when it was rewarded and "those starting from a disadvantage

(sic) position cooperated strongly in achieving better end positions

than those beginning with no disadvantage." Thus those who inherit a

damaged environment will have the motivation, which we lack, to

correct environmental problems (Watzke and Dana:370).

Godwin and Shepard argue using game theory

> that many population-related issues have been
> incorrectly classified as commons dilemmas rather
> than as Pareto-efficient situations in which some
> policy alternatives benefit at least some people
> without necessarily increasing costs to others
> (231).

They take Hardin's tragedy of the commons as an historical example

used as an analogy for the population problem and cite Ciracy-Wantrup

and Bishop as to the historical errors in the analogy. They further

contend that Hardin makes "a serious analytical error" when he does

not acknowledge that there is a class of resource user that cannot

increase the demand upon the commons, i.e., cannot add another animal

or child (Godwin and Shepard:232). Recognizing this distinction leads

to the suggestion that, in the case of population, "the non-fecund may be willing to pay to change the behavior of the fecund" (Godwin and Shepard:232). Changes in the payoff to individuals in the two groups may be made to move the situation from one of conflict to cooperation. They conclude "that many population and environmental dilemmas can be solved through policy actions similar to the provision of public education, postal service, national defense, and a host of other issues for which 'solutions' have been found" (Godwin and Shepard:236). Thus, Hardin's description of the commons problem is inaccurate and, if the situation were properly understood, policies could be devised which would promote cooperation and minimize conflict.

This would require changes in institutions which set policy. Baer sees this as an issue of "the healing of persons and institutions" which will precede the healing of nature (488). In contrast to Tarlock who suggests the idea of wilderness is sufficient without preserving the wilderness itself, Baer argues that we need nature itself by drawing upon insights from Whitehead and De Rougemont to suggest that modern man is practicing "a celibacy of the intellect" (Whitehead):

> It may be that rather than deeply loving particular places and things, modern man has fallen in love with the idea of places and things, ... In this sense he does not love nature at all but only the ideal of nature. Western man must learn to love nature in its existential immediacy, if there is ever to be a deep or enduring change in the way he treats the environment (Baer:481).

The sociologists Catton and Dunlap cite "The Tragedy of the Commons" as an example of a work which led to a new awareness of the

ecological and environmental limits among sociologists. They label

the old view "the Human Exceptionalism Paradigm" and describe its

tenents as:

> 1. Humans are unique among the earth's creatures,
> for they have culture. 2. Culture can vary
> almost infinitely and can change much more rapidly
> than biological traits. 3. Thus, many human
> differences are socially induced rather than
> inborn, they can be socially altered, and
> inconvenient differences can be eliminated. 4.
> Thus, also, cultural accumulation means that
> progress can continue without limit, making all
> social problems ultimately soluble (42-43).

The new view, the "New Environmental Paradigm" sees the world

differently:

> 1. Human beings are but one species among the
> many that are interdependently involved in the
> biotic communities that shape our social life. 2.
> Intricate linkages of cause and effect and
> feedback in the web of nature produce many
> unintended consequences from purposive human
> action. 3. The world is finite, so there are
> potent physical and biological limits constraining
> economic growth, social progress, and other
> societal phenomena (45). /20/

Certainly culture does not grant mankind biological omnipotence, but

neither can it be absorbed without remainder into biology as Hardin at

certain points suggests.

Catton also deals with two other issues of concern and interest

to Hardin, language and time. He says we must rid our language of

such notions as "limitless", "inexhaustible" and "boundless" in

reference to environmental resources and tries to expand our view of

energy use and our appreciation of energy resources with the concept

of "time binding". We are dependent on ancient photosynthesis, i.e.

solar energy stored as fossil fuels for the last 11,000 years.

"Americans are trying to stay afloat with the illusion that a nation could be 'self-sufficient by importing from antiquity at 200,000 times the rate of indigenous current production whereas importing 'foreign' fuels must spell disaster" (Catton:349). His main point is that our word maps (uses of language) perpetuate the illusion that all is well and that these old maps simply do not fit with reality. Points similar to those made by Hardin and Bridgman.

Georgescu-Roegen makes a similar point from his perspective as an economist concerned with ecology. He states "the myth is that a stationary world, a zero-growth population, will put an end to the ecological conflict of mankind" (349). /21/

Miles contends that the United States does not have a Malthusian population problem but should be concerned with the "quality and safety of our physical and social surroundings." The population problems and the problem of the herdsman in Hardin's scenario are two different problems. Further, coercion will never work in a democratic society such as ours. We must come to a new awareness of what our self-interest really is and he suggests that safety for all groups in society (and I would add, the world) is necessary for survival (Miles: 3, 4, 21-23).

Eddy, writing in an engineering journal, remarks that Hardin's tragedy of the commons analogy "runs roughshod over historical complexities. The whole enclosure movement involved deep-seated economic pressures. He then applies Hardin's insights to engineering and concludes that more emphasis is needed upon long range interests, more technology is needed to solve our problems (the opposite of Hardin's view), and he lists failures of technologists (Eddy:55-56).

Another major critique attacks Hardin's thought on empirical and historical grounds. Ciriacy-Wantrup and Bishop dispute his analysis in "The Tragedy of the Commons" which sees the commons as a cause of problems for which the only possible solutions are private ownership or government regulation. Like Golding and Golding, they set out to clarify concepts, in this case the idea of "common property resources". Hardin's position is not supported by "mankind's experience with commonly owned resources" and the concepts involved " . . . have been misinterpreted in economic literature [and by implication in Hardin's thought] in such a way as to discredit a concept that is a valuable tool in the economic analysis and solution of difficult problems of natural resources policy (Ciriacy-Wantrup and Bishop:714). The authors present their case by reviewing the historical data on mankind's experience with commonly owned resources and by considering the policy implications of the correct understanding of the "tragedy of the commons".

In using the term "commons" it is important to distinguish between the concept, the institution and the resource. "Common property is not 'everybody's' property", but only the property of those who are members of the group. Nor does "common" mean "unowned". For example fisheries are incorrectly called "common resources" when they are actually "fugitive resources". /22/ This distinction is important because the fugitive resource is mobile whereas the common property resource is not and different institutional arrangements are involved in regulating these different types of resources. There is a lack of adequate understanding of this distinction in the literature (Ciriacy-Wantrup and Bishop:715ff).

Historically, commons started in hunting and gathering societies and although they lacked formal structures, "still, these informal institutions confer the same rights, i.e., equality of the right to use for the members of the group and exclusion of others, as the more modern formal institutions" (Ciriacy-Wantrup and Bishop:717; emphasis added). These institutions managed the "resources on a sustained-yield basis. Population was not controlled by Malthusian scarcity." Surpluses were not accumulated because there was no market where they could be sold and because the tribal sharing ethic discouraged an individual possessing more than he needed for himself. The commons system worked: "Such societies were capable of existing over long periods in equilibrium with their resources unless disturbed by unusual environmental changes or interference from the outside" (Ciriacy-Wantrup and Bishop:718).

The question "Can common ownership of resources perform well in a market economy?" arose when primitive commons systems came into contact with western culture and the market economy. But Ciriacy-Wantrup and Bishop caution that the resource depletion which follows this contact is sometimes caused by outsiders. For example, the bison were not depleted by the American Indians, but by the white outsiders. Or resource depletion can result from problems not related to common ownership, such as a desire for consumer goods or the necessity of cash to pay taxes (Ciriacy-Wantrup and Bishop:718). Some European grazing lands and forests run as commons have survived this confrontation and continue into the present and these have been studied longer than the commons in primitive societies. In England,

contrary to Hardin's scenario, common grazing lands were not enclosed because of overgrazing but because of "increased profitability for the feudal lord of grazing sheep for commercial wool production" and because of "the breaking up of the open field system in response to agricultural progress". The current existence of 1.5 million acres of commons in England and Wales (Ciriacy-Wantrup and Bishop:719) /23/ suggests that Hardin's "tragedy of the commons" has a more limited applicability and a less substantial factual basis than is generally acknowledged. Hardin's analogy then presents an inaccurate picture of the commons problem.

Ciracy-Wantrup and Bishop further suggest that Hardin has identified the wrong tragedy:

> In addition the same factors mentioned above in connection with the enclosures in Great Britain operated [in European common forest lands]. Here also the result was a weakening of the village system and dispossession of the peasantry. The peasant was transformed from a co-equal owner on the commons with secure tenure to a landless worker on the feudal estate. This is the true "tragedy of the commons" (720).

This is a problem of social justice, not of resource depletion or of failure of the commons system.

In spite of the expectation of the "theory of common property resources", the authors point out, common forests in Europe are some of the best managed forests. And "the substitution of private ownership for common ownership is not in itself a socially desirable change" (Ciriacy-Wantrup and Bishop:720-721). They conclude that the existence of these common forests lands shows that commons are a viable management strategy in market economies. They cite several

examples to support their analysis and conclude with this statement: "But some optimism for the future is warranted in view of the durability of the common property concept and the viability and social performance of the institutions that make it functional" (Ciriacy-Wantrup and Bishop:727).

To summarize, since overgrazing was not the cause of the enclosure of the commons in England, Hardin's analogy is historically incorrect. Even today functioning commons exist, disproving Hardin's claim that socialism (increased governmental control) or privatism are the only viable institutional models (Hardin, 1977a:29-45). One might argue that Hardin applies his analogy only to scarcity situations, but Ciriacy-Wantrup and Bishop's point is that the commons system can and does prevent scarcity through proper management. Historically, the tragedy was not the destruction of the commons, but the miscarriage of social justice that turned land-owning free peasants into serfs to the benefit of the feudal lords. Aside from the issue of applying an analogy such as the commons to the world as a whole, both Hardin (explicitly) and Ciriacy-Wantrup and Bishop (implicitly) see a strong link between the commons and the issue of tribalism. Accepting their criticism of Hardin, and restating the question, it becomes "Has the tribe gotten so large that the traditional social controls on individual behavior no longer work?" In fairness to Hardin, however, he is not presenting an historical account but an analogy in the original article although it has been taken as an historical account (Futrell:286-287).

In another article Ciriacy-Wantrup presents similar ideas and rejects Hardin's view in so far as it implies that the commons nature of resources in itself leads to tragedy:

> Common property of natural resources in itself is no more a tragedy in terms of environmenal (sic) depletion than private property. It all depends on what social institutions . . . are guiding resource use . . . . During the colonial period of the 18th and 19th centuries the spread of private property rights in resources did not prevent serious depletion of forests, range, and agricultural land in many parts of the world (Ciriacy-Wantrup:43).

Thus, not only is Hardin's analogy historically inaccurate, it also focuses upon the wrong issue: the problem is not commons, but the social institutions which control the use and abuse of the commons. The problem on this view, is not then primarily a biological problem of population versus resources, or carrying capacity, but one of human social constructs. A problem with the human view and structuring of reality is causing a problem with the environment.

The Lifeboat Metaphor

Roger Reville characterizes the lifeboat ethic as "saying that nations which do not compel human fertility control (by what means is never stated) are endangering the survival of our species — hence they should be starved out of the human race by denying them food aid". He calls this an "obscene doctrine" (1974). Hayes notes that this is a "recurring epithet" for the lifeboat article and its "ethic" (63). C. Carroll echoes this and adds that the rich countries are dependent for much of their comfort upon imports from poor countries. Another sees Hardin's position as overly simple, isolationist, and out of

character with Hardin's grasp of the complexity of the problem
(Geiger). He feels there needs to be a balancing in the metaphor
which emphasizes global interdependence and cooperation to avoid
Hardin's elitism which is "what one might expect from a nation which
is at the top of the heap" (Geiger).

Heim notes (as Hardin himself acknowledges) that carrying
capacity can be increased and suggests that poor countries are not
swimmers but persons in leaky lifeboats which we can help with no
threat to our own lifeboat. He also points out the link between food
and energy (Heim:146) which Hardin also elaborated (1976a:250ff).
Heim sees the metaphor as isolationist and not in our interests since
we need goods from the "swimmers" (146). One reply to Hardin,
apparently by a nutrition expert, argues that the way to slow
population growth to a balanced rate is to provide "food, optimal in
nutritional value, adequate in amount, and appealing to the taste."
In order to prevent the swimmers from sinking our lifeboat to get
food, he proposes the ultimate technological fix (and exposes his
naivete): technologically synthesizing this food from "petroleum,
coal, or wood" (McPherson:147)!

Hardin's reply to these criticisms clarifies his position. He is
not troubled by the charge of obscenity which represents, he argues, a
conflict between an idea and a person's standards: "Now there are
those who regard rational discussion of survival as an obscenity.
Should we repress open and rational discussion, or should we tackle
the very real problems of survival in an overcrowded world"
(1975c:148)? Lifeboat ethics applies to all; rich and poor: "The

rules are universal" (Hardin, 1975c:148). Each nation must be responsible for itself, but this is not isolationist since trade for needed goods is not only allowed, but necessary. The alternative, "replacing trade by one way transfers of wealth produces parasitism." He sees only three alternatives for a poor country with nothing to trade because it has exceeded its carrying capacity and destroyed its resource base: "to continue to live in misery at a high population level; to reduce its population and live better; or to become a parasite on rich countries controlled by guilt-addicts (1975c:148). The expense of modern war and the studies of starving people make the threat of force unlikely in Hardin's view. Terrorism is a possibility, but also unlikely as it requires wealth, which Hardin claims will usually be used to benefit the wealthy not the starving poor and ". . . if the feeling of injustice is an acceptable excuse for terrorism what hope can there ever be for the world?" Since "the total problem can best be seen as an energy problem", synthesizing food from petroleum will not provide a solution. He makes an implicit acknowledgment of the differing rates of consumption, by pointing out that the high American life style cannot continue much longer (Hardin, 1975c). The tragedy of the commons, he notes, does not apply to information which can be shared freely with no loss to the sharer. And in closing, he argues that those who produce more babies must shoulder the responsibility for keeping them alive.

Religious scholars responded emotionally to Hardin's lifeboat metaphor. Burgess and Benjamin, although they raise important issues, do not consider Hardin's position as a whole. On the other hand,

Finnin claims a greater understanding of Hardin and on that basis

supports Hardin's position, but he also fails to address the

underlying value questions.

Burgess, an ordained minister and former U. S. Foreign Service

Officer, is critical of Hardin, but his essay is not carefully

reasoned and implicitly agrees with Hardin on some crucial issues.

> It is my basic contention that Hardin is neither
> sufficiently realistic and hard-headed about the
> perils facing our nation in an increasingly hungry
> world: nor is he sufficiently convinced that we
> have the will or the capacity to overcome the
> hunger problem (Burgess:266).

He provides content for this claim by presenting three criticisms of

Hardin's thought. First, the food lifeboat is only one of many and

the United States is trying to get into the mineral and oil lifeboats.

There is danger in not feeding starving nations because Hardin's

assumption "that the leaders of any starving nation will passively

allow large numbers of their citizens to perish" is incorrect.

Burgess foresees blackmail, terrorism, and military action, including

the use of nuclear arms, as means that governments will use to acquire

food for their starving populations. Second, Hardin ignores the role

of American multinational corporations and other of "the many

interrelated causes of hunger than the problem of overpopulation."

Third, Hardin does not consider "the relationship between the

consumption patterns of rich countries and those of poor countries,

particularly in regard to food grains and mineral resources." Burgess

then sets forth a version of the demographic transition theory:

population will be controlled in overpopulated countries when the

quality of life improves, especially in regard to public health and medical care which increases infant survival and removes the need for old age insurance in the form of extra children. Burgess laments too the increased insensitivity to the issue of world hunger since 1974 (266-269).

He proposes the following program:

> Instead of pointing to the shortcomings and inconsistencies of Hardin's gospel of benign neglect of the hungry and despairing about the public's ignorance and moral deficiencies, we must view the hunger issue as, figuratively speaking, a window on the whole world enabling us to see the battlefield where the struggle for justice and human survival is now being fought. . . . we must grapple inevitably with the thorny question of a more just allocation of the world's renewable and non-renewable natural resources; [and] the need for fundamental changes of life styles by the citizens of more affluent countries . . . (Burgess:269-270).

We need "a viable ideological alternative to the current gospel of laissez-faire consumerism fathered by Adam Smith, John Calvin, Horatio Alger, and today's Madison Avenue advertising executives." We must face the real limits of the environment and develop "a more inclusive concern about world hunger and related issues of human survival" (Burgess:270). Motivating American concern requires "appealing both to the hearers' individual and national interests and to their own sense of human compassion" (Burgess:271). This calls for "a new theology of sharing which will appeal to both the hungry and the overfed -- to the poor and the rich -- of our troubled world" (Burgess:272).

Hardin is well aware that there are other lifeboats than the food lifeboat. But his lifeboat article deals only with the issue of food and population. Later he clarifies his position somewhat: a nation does not have to be totally self-sufficient. Rather, it has to be self-reliant, which means that it must have something that it can trade or sell in order to get what it needs. Clearly the United States can do this (Hardin, 1978a:63).

On this point, however, it could be argued that there is an important problem with Hardin's view of self-reliance (and with his view of carrying capacity): Does lifeboat ethics withhold food in all cases, even for example if a wealthy country wishes to buy food? What is the difference between food aid and trade except the ability to pay? "Thus to suggest that a policy of intrinsic responsibility applies to assistance exclusively confuses the environmental carrying capacity of a country with its purchasing power" and Hardin is equivocating on the term "carrying capacity", when he shifts from the ecological context to the economic context. Under Hardin's view consistently applied, Japan, Great Britain, West Germany, and the Soviet Union are overpopulated and should not be sent food (Soroos, 1977:660).

In response to the issue of the multiple causes of overpopulation, Hardin might reply that the causes are irrelevant. Biologically, overpopulation results from a high birth rate coupled with a low death rate and is indirectly related to the carrying capacity and the amount of food available. Even granting Burgess' point, the complexity of the causes, social and cultural, and the unlikelihood of affecting a change before mass starvation occurs make

food aid even more dangerous as it allows inordinate population increases. Also, American corporations cannot operate in third world countries without the help of their governments, and the blame for the results of their actions on the people of the third world must be shared by third world policy makers.

Likewise, although Hardin does not address the differing consumption rates of rich and poor nations, he is clear that the tragedy of the commons applies to rich and poor. Aside from the question of who shall regulate the world, few nations are adequately regulating their own natural resources as evidenced by the lack of conservation at the local level. Most importantly, Burgess does not even mention the major issue in Hardin's eyes: the obligation to future generations (Hardin, 1974b:234; Hayes:66, 70).

There are several points where Burgess and Hardin seem to agree. Both see that laissez-faire consumerism is not promoting the desired goal and has not faced the environmental limits. Burgess and Hardin (Hayes:70) are aware of the problem of motivating the public. And although Burgess includes justice, which Hardin does not, he implies that survival is the goal. Overall, Burgess' critique does not deal with the context of Hardin's thought or with the basic issues involved, but gets caught up in the emotional questions "How can we, a food rich country, let these people starve?" And in the face of indifference, "How can we convince our fellows to do something about it?" Burgess' program of increased medical and health services coupled with food aid will cause even more population growth. Nor does he state a mechanism for the redistribution of world food. And

the American experience of foreign aid getting siphoned off long before it reaches those for whom it was intended puts in question Burgess' faith that third world governments will not "allow a large number of their citizens to perish" (Burgess:266).

In sum, Burgess' position is a statement that Hardin's position is morally despicable and we ought then to distribute food and provide better health care to third world countries. It does not address the underlying issues or question the biological basis of Hardin's position and morality. In fact, Burgess accepts the urgency of environmental limits which is a key part of Hardin's assumption. Hardin's position may be morally despicable, but Burgess has not shown it to be so. /24/

Three of the seven points in Benjamin's "A Challenge to the Eco-Doomsters" are very similar to those made by Burgess. First, "Hardin ignores the validity of other population strategies" and is representative of the "crisis-environmentalist" position which holds that "we must, after all, preserve our greatest value -- quality of life". The other two possible positions in Benjamin's schema are the "family planners" who emphasize freedom and the "developmentalists" whose guiding value is distributive justice (311-312). Benjamin supports the demographic transition theory which Hardin rejects (1972b:199-200) and sees the solution to the population problem as a matter of helping the developing countries to pass through the rough times that the European nations have already successfully weathered, namely the transition "from high birth and death rates to low birth and death rates (Benjamin:312). He makes the assumption which Hardin is questioning, namely, that intervention is help:

> Hardin's thesis, unsound on its own terms, defies
> the fact that the best way to lower the birth rate
> is not to let people drift closer to the abyss but
> rather to <u>give</u> them a better life (Benjamin:312,
> emphasis added).

This passage suggests that the third world peoples are victims of a
process in which they have no part and either we rescue them or they
perish; a view reminiscent of the "white-man's burden" of earlier
generations.

Second, "Hardin's metaphor of the 'lifeboat' is not only
misleading but dangerous (Benjamin:312). It "encourages the worst
myth-making tendencies, promoting the isolationism and self-absorption
that have always been our nemesis" (Benjamin:312). And Benjamin
thinks the commons was a better metaphor: "It, like some other images
-- Kenneth Boulding's 'spaceship earth,' Marshall McLuhan's 'global
village' and Teilhard's 'wheat sheaf' -- is <u>holistic</u> <u>and</u> <u>organic</u>
(Benjamin:312, emphasis added). As shown in chapter one, for Hardin
these metaphors express the same basic ideas and further, a spaceship
is no more holistic and organic than a lifeboat. Benjamin's
Teilhardian view sees "profound movements toward connectedness,
reunion and intercommunion" even though there are tribal elements
(312). And Hardin can acknowledge with Benjamin that "ours is not a
self-sufficient vessel" since his emphasis is upon self-reliance
(Benjamin:312; Hardin, 1977a:63).

Benjamin's third point contrasts with his first: "Lifeboat
ethics stresses survival as the summum bonum, to the neglect of other
values" (312). Unless Benjamin is claiming that lifeboat ethics has
two highest values, the relationship between "summum bonum" and

"greatest value" needs further discussion which he does not provide. As we have seen, even though the highest value of lifeboat ethics is survival, there are many passages in Hardin's works which emphasize the quality of life. When the choice is between traditional moral values and survival, Hardin advocates the latter. Benjamin proposes a different emphasis: "Certainly, survival is a important value, but if it is proclaimed in fear and despair, will it not threaten the search for community, mutuality and reconciliation?" (312). He does not answer this crucial question but cites Niebuhr's analysis of group immorality and states his concern "to keep the dialectic between egoism and altruism" (Benjamin:312). Hardin explored this dialectic and concluded that altruism is based on tribalism and is restricted to one's group while egoism is applied to dealing with outsiders (1977a). Hardin presents a lengthly thesis on this issue which Benjamin does not address.

Fourth, "Hardin's views encourage an American tendency toward ethnocentrism in viewing underdeveloped countries" (Benjamin:312). Benjamin thinks we ought not use "condescending references" in regard to the third world countries and that we must be aware of the human tendency "to deny our own guilt for the sufferings of others " (313). Benjamin's suggestion that we "give them a better life" is condescending in a subtle way, yet no less ethnocentric. One way to express the heart of the tragedy of the commons is in the language of suffering: The individual ". . . has a direct relationship to the gains, but an indirect relationship to the suffering. Put it another way: If he's one of the group, then his losses are shared by the

whole group. But by the definition of the rules of a commons, the gains come entirely to him . . ." (Hayes:65, quoting Hardin). One goal of lifeboat ethics is to prevent more suffering by refusing to send food aid and Hardin cautions against opposite dangers to the denial of guilt: there is the pride that asserts we can save the developing countries and the false guilt which tells us we are responsible for events about which we can do nothing. Benjamin agrees with Hardin that the quality of life for all survivors is diminished for every life that is saved, but adds that the American rate of resource use makes every American life more devastating for future generations of all nations than any third world life. I have already noted that Hardin does not address this issue and think he would see it as clearly separate from the question of whether food should be given to overpopulated countries. Even if we can give food to needy countries, with or without cutting down our rate of resource consumption, Hardin argues that doing so will in the long run harm the recipients.

Benjamin's fifth criticism is that "an appeal to determinism and necessity should not encourage fatalism" (313). Hardin would agree and he also says that we do not know the exact limits imposed upon us by nature, but nonetheless can know when the carrying capacity has been exceeded (Hardin, 1977a:52-53; Hayes:66). Further, for human beings, the carrying capacity is determined in part by the quality of life that is chosen (Hardin, 1979a:31; Hayes:67).

Sixth, "Hardin prefers China over India as the model of the Third World" (Benjamin:313). Benjamin considers this point entirely in

terms of politics and misses the issue which Hardin uses India and China to illuminate. Hardin states that capitalism and socialism, although each has its own problems, can both work and are both better than the system of the commons (1977a:36-37). According to Hayes, Hardin's knowledge of China is limited to newspaper reports, but the point for which he uses the example is that India with aid is not doing as well as China without aid (Hayes:68; Hardin, 1977a:62-66; 1976a:257-258). He is not then stating a political preference, as Benjamin suggests, but rather emphasizing that continued aid will prevent the Indians from taking responsibility for themselves as the Chinese have done.

Seventh, "Lifeboat moralists fail to see the connection between affluence and starvation" (Benjamin:313). We live on a luxury yacht and thus "to fixate on population is to touch only one aspect of our environmental crisis" (Benjamin:313). Benjamin closes with a quotation from Albert Schweitzer: "Wherever there is lost the consciousness that every man is an object of concern for us just because he is a man, civilization and morals are shaken, and the advance to fully developed inhumanity is only a question of time (314). Hidden in this thought is the issue of tribalism and the ideal of one world: are there limits to altruism as Hardin argues, or are all humans brothers and sisters? /25/

Although Benjamin identifies several important issues, survival and quality of life versus traditional moral values, American self-interest versus mankind and the third world, the rate differential of resource use, and population as only one aspect of

environmental problems, he does nothing more than set forth his
presuppositions against his understanding of Hardin. Of his seven
critiques, two completely miss Hardin's point (five and six), two
suggest a different goal for the position Hardin represents without
clarifying their relationship (one and three), one prefers the commons
metaphor to the lifeboat without realizing that both express the same
ideas (two), and one accuses Hardin of ethnocentrism (four) which
appears in a subtle form in Benjamin's own position. The only
remaining point of criticism is stated but not developed. Benjamin
agrees with Hardin on several points and is working from an incomplete
reading of Hardin's thought.

Benjamin's critique brought forth a reply which errs in the
opposite direction. Whereas Benjamin is reluctant to acknowledge
agreement with Hardin and is critical of issues which he has read into
Hardin, Finnin is overly accepting of Hardin's thought. He defends
Hardin with "a response that is informed by a deeper consideration of
the ethical framework in which Hardin operates" (Finnin:708) and
replies to each of Benjamin's points.

Finnin argues that Hardin does not "ignore the validity of other
population strategies".

> Throughout his writing Hardin has illuminated a
> multiplicity of factors which interact to render
> environment hostile to habitation, many of them
> human-generated. In his scheme of analysis,
> population pressure is the end product of numerous
> mutually reinforcing variables, not the unique
> bete noir which if eliminated would produce
> environmental and social harmony (Finnin:708).

Hardin, however, is not concerned with strategy (means) so much as

with achieving zero population growth and he knows that this will involve different means for different cultures (Hayes:68). But it is also clear in "The Tragedy of the Commons" that Hardin sees overpopulation as the problem and regardless of what else is done, if population is not controlled, ruin is inevitable. "Nobody Ever Dies of Overpopulation" argues that many deaths which we attribute to natural causes are actually the result of overpopulation (Hardin, 1971a:215-216; 1977c:25-26). Certainly Hardin is aware of the multiple chain of events which leads to human deaths during floods, but he contends that the root cause is overpopulation which led to the deforestation of the highlands and the resultant lowland flooding (1977a:94ff; 1979a:30). And he is aware that each nation with its "complexity of factors: social, political, economic, environmental, climatological and cultural" (Finnin:708) must come up with its own solution. /26/ Finnin's closing response to Benjamin's first point is: "Specifically he [Hardin] eschews population growth as in any way a solution to the problem" (Finnin:708). I know of no one who has claimed Hardin did, including Benjamin. A careful reading of Hardin supports Benjamin on this point (Hayes:62, 67).

Against Benjamin's second point Finnin argues that Hardin is not isolationist, but rather, as one of a nation that is self-absorbed, narcissistic and isolationist, Hardin's "analysis of global interdependence" is a good counter to the prevailing currents as is his assumption of the "impossibility of isolation in contemporary geopolitical and ecological structures" (Finnin:708-709). And Hardin does claim he is talking about "mutualism, of quid pro quo trade" not

isolationism (1977c:27). Finnin limits his discussion to the issue of "help" versus "intervention", which is the theme of Hardin's article in the book edited by Finnin and Smith, while Benjamin takes a broader perspective which is supported by Hardin's other writings. There is also some equivocation of the term "isolationism": is the discussion focused upon sociopolitical isolationism (recall Hardin's (1977a) push for tribalism) or upon ecological isolationism? Both themes are present in Hardin's thought and are related. The breakdown of ecological isolation which occurs when a commons is created by sharing food, Hardin argues, threatens the survival of the human species and the best defense against this is to increase and preserve ecological isolation and sociopolitical isolation. Finnin points out too that the lifeboat image is not presented "as an appropriate goal for human societies but as a provisional stage to be traversed" (709). This is probably a correct reading of Hardin, but he never gives us a picture of the goal we will achieve by successfully passing thought the lifeboat phase and his hints suggest it will be very much, for America at least, like things are now. There is little hope in Hardin's writings that the separation advocated in the lifeboat metaphor will ever end (Hardin, 1977a:84).

Finnin denies that Hardin's highest good is survival or that this leads him to neglect other values.

> To identify a summum bonum, a good without which others goods are rendered unattainable, is not necessarily to neglect other values. Hardin's position recognizes the ethical necessity of values conflict deriving from pluralism. He asserts that unless survival is a normative species-value, corollary values will matter little. Far from negating corollary values, however, this

> view offers the possibility of their fulfillment
> in human history. Survival as a species is the
> necessary precondition for the realization of
> other human values, which will, by their nature,
> compete for primacy (Finnin:709).

The first three sentences accurately describe Hardin's position, but I see little concern for the fulfillment of traditional moral values such as justice and freedom. There is a concern for material values, aesthetic values and "survival in dignity" as part of a quality life (Hardin, 1981a). The issue of the relationship between "summum bonum" and "the necessary precondition" will be explored later, but I do not see them as equivalent as Finnin seems to do. Likewise, the term "normative species-value" needs explication especially if it is derived from biology and can support the sacrificing of justice and freedom for survival.

Rather than seeing Hardin as a supporter of the American ethnocentric view of the third world, as Benjamin does, Finnin sees him as a critic of "the dominant theme of development" which is itself ethnocentric. Before intervening in a developing country Hardin calls us to be sure that the result will be a long term benefit to the whole society. "Hardin's operative ethic here is to conserve the cultural, economic and environmental integrity of 'aid-receiving' nations" (Finnin:709). Finnin does not establish, however, that Hardin is not caught up in the dominant ethnocentrism, differing from the majority only in his desire to keep the goods for ourselves rather than give them to others.

Finnin agrees with Benjamin's warning that the elements of determinism and necessity in Hardin's thought should not lead to

fatalism. Finnin further suggests that Hardin identifies

the boundaries set by environmental limits but realizes that

technological advances can change them. Hardin asks for "recognition

of the natural structures in which any extensions [of the

environmental limits] will be achieved" and "questions the application

of technology to natural systems when such application has not

reckoned with the possible alterations that may result" e.g. the Aswan

Dam (Finnin:709). There is a certain ambiguity here: is the

determinism in regard to nature or to man? Or does a deterministic

world lead to a deterministic morality? /27/

Finnin feels it is sufficient to restate Hardin's point in using

India and China to reveal Benjamin's "misplaced" criticism: China

survived without damaging its ecosystem, and Hardin would add, without

outside "aid"' But Finnin is correct that the issue is not which

country has the better political system (710).

And last, to the remark that we are on a luxury yacht and not a

lifeboat, Finnin replies

> . . . his [Hardin's] error is one of emphasis, not
> of substance. Hardin's use of his metaphor is
> descriptive not prescriptive in the extreme
> (710).

> . . . he has rejected an approach of simply
> extending industrialized civilization to
> less-developed sectors. Benjamin implies that
> Hardin would -- or, as a matter of conscience
> could -- be an advocate for a style of lifeboat
> living appropriately termed "sloppy" or wasteful.
> This style is indeed a reality, and Hardin calls
> it tragic (710). /28/

Finnin concludes his article by considering Hardin's "operative

ethical perspective" and there he sees "a consistently reasoned

position of ecological, social, political and moral <u>restraint</u>".

Hardin's ethics are "consistently oriented toward consequences", is

concerned with the quality of human life, and has a "functional ethics

of 'future'" (Finnin:710). Finnin closes with a quotation from

Hardin:

> The best chance for the maximum survival of
> the world's population with the minimal damage to
> the carrying capacity will result from following
> the policy that each country must be self-reliant.
> I do not say self-sufficient, because no modern
> country can be self-sufficient . . . . Only the
> goal of self-reliance makes ecological sense in
> the long run (Finnin:710).

Hardin continues:

> I believe also that, <u>in the long run</u>, the pursuit
> of this goal is the most humane policy we can
> follow (1979a:35).

This is a clear statement of Hardin's goal as "maximum survival". It

should also put to rest any remarks about the food lifeboat being the

only one and about self-sufficiency as a goal in Hardin's thought.

But, like Benjamin, Finnin raises major issues without really

exploring them and in spite of his phrases "operative ethical

perspective" and "deeper consideration of the ethical framework" he

does not provide much insight into the value conflicts which Hardin's

thought generates or into the basis of Hardin's values. He does say

that Hardin's concern for the future "lies well within the scope of

credible alternatives for the globally concerned Christian"

(Finnin:710), but he does not address Hardin's emphasis on

consequences to the exclusion of intentions, the tension between

quality of life and survival or describe a "functional" ethics of the

future.

Neither Benjamin nor Finnin has read widely in Hardin's works or has accurately interpreted what they have read. And although both raise, implicitly or explicitly, crucial issues they do not explore them critically.

Callahan's brief essay contributes to an understanding of Hardin's position by explaining the appeal of Hardin's lifeboat ethic and by exposing its presuppositions, but in the end, it also simply proposes another set of values than Hardin's. Callahan agrees with Finnin that Hardin's lifeboat metaphor is descriptive and adds that Hardin also selected it "because it entails a more realistic ethic." Callahan finds Hardin's "argument powerful, troubling and, as one living in a rich country, immensely seductive" (Callahan, 1974:1-2). Its power rests on pointing to "a seemingly inexorable trend -- a rapidly growing world population" which humankind seems to lack the desire and the tools to effectively control. Further, "Hardin's additional appeal to our responsibility to future generations touches another sensitive nerve" (1974:2). But, Hardin begs three important questions, according to Callahan. First, ours is not a self-sufficient lifeboat as Hardin assumes. (I have already shown that Hardin's goal is self-reliance, not self-sufficiency.) Related to this point, Callahan reminds us that Hardin does not suggest "radically lowering our own standard of living" which is certainly a real and moral possibility. But as Hardin might reply, what is moral about a world where all are equally poor and miserable? Second, Hardin engages in "blaming the victim" by assuming "that the poor countries are in their present condition because they are neither as

wise nor as competent as the rich countries" (Callahan, 1974:2). But

Hardin's passage which acknowledges the role of nature and fortune in

our richness, blunts this criticism somewhat (Hardin, 1977a:84).

Nonetheless, there is a certain truth in this point as Benjamin noted,

although Callahan states it without being ethnocentric himself.

Callahan suggests that it might be more appropriate for poor countries

"to make their own decision to allow people to die" rather than rich

countries making the decision for them by not providing aid. Third,

and most important, "he sets up a straw-man known as 'perfect

justice,' which he then proceeds to demolish":

> The problem is not that of achieving 'perfect
> justice,' whatever that is, but rather of not
> perpetuating outrageous injustices which are
> self-interestedly allowed to continue (Callahan,
> 1974:3).

Callahan then proposes an alternate set of assumptions. First,

". . . the United States, precisely because it is rich, can afford to

provide significantly more food aid than it is presently giving; it

has nowhere near reached its limit." Even political self-interest

tells us that giving aid is to our advantage and ". . . there is no

firm evidence to sustain a thesis that any of the poor countries are

in so hopeless a condition that they must be written off." It would

be moral to act as if all countries could be saved, rather than

pronouncing them hopeless and thus creating a self-fulfilling prophecy

by providing no aid (1974:3-4).

Second, in regard to the subtle pull of future generations on our

moral sensibilities:

> While we surely have obligations to future
> generations, our more immediate obligation is
> toward those now alive. There is no moral
> justification for making them the fodder for a
> higher quality of life of those yet to be born, or
> even for the maintenance of the present quality of
> life (Callahan, 1974:4).

Thus contrary to the presentation of the problem by Neuhaus, Callahan

sees it as future persons versus present persons rather than as

persons versus preservation of the environment.

And third, although Hardin's approach to the problem appeals to

our pragmatic realism and ultimately to our self-interest, Callahan

reminds us (1974:4), "there are also moral interests to be served, of

which survival is only one". He continues:

> If we are to worry about our duty to posterity, it
> would not hurt to ask what kind of moral legacy we
> should bequeath. One in which we won our own
> survival at the cost of outright cruelty and
> callousness would be tawdry and vile. We may fail
> in our efforts to help poor countries, and
> everything Dr. Hardin predicts may come true. But
> an adoption of his course, or that of triage,
> seems to me to portend a far greater evil
> (1974:4). /29/

This essay deals only with the lifeboat article and does not present a

detailed critique of Hardin's thought. In it Callahan is satisfied to

 uncover three of Hardin's presuppositions and to counter them. He

suggeststhat survival without basic moral values is not worth the

price. And even though limited to one article, Callahan does not

discuss Hardin's view of immigration which takes up one third of the

text of "Living on a Lifeboat." No one seems interested in

considering this aspect of Hardin's article. And Hardin has recently

come out even more strongly against immigration (1981a).

The Principle of Carrying Capacity

Another major critique of Hardin's thought is provided by Marvin Soroos in "The Commons and Lifeboat as Guides for International Ecological Policy." He notes Hardin's challenge to the principles of equity and justice /30/ and sees the continuity, also pointed out in chapter 1 above, between the analogy of the tragedy of the commons and carrying capacity. But he cautions that

> Owing to their relative simplicity, such analogies are often more readily comprehended and analyzed than the actual world in its complexity. Simplification can however, result in an incomplete or distorted understanding of the nature of the problems of interest (Soroos:648).

Grounds for criticism of Hardin's thought can be found in its normative, empirical or logical aspects and on the surface, Soroos finds Hardin's position to contain a "repugnant and outrageous sense of values" (653). He focuses on the international context and identifies two issues in Hardin's thought: (1) the interpretation of the ecological problem and (2) the practicality of the lifeboat approach to international affairs (653).

Hardin's definition of carrying capacity "solely in terms of demographic variables" ignores the rate of consumption of resources and the rate of waste discharge. A drop in the rate of either would increase the carrying capacity and thus, Soroos suggests, the problem is overconsumption, not overpopulation (653-654). He also contends that famine in poor countries is caused more by inequality than by overpopulation. Lifeboat ethics, then, amounts to developed countries turning away from a problem they helped to create (Soroos:656).

He makes the standard point that there are other lifeboats than the food lifeboat and the United States is on the losing end of some of these scenarios (Soroos:661-662). He argues against self-reliant lifeboats: "In effect, an enforced policy of self-reliance would overt an overshoot having global proportions at the expense of numerous national overshoots that collectively could be far more costly and disruptive (Soroos:665). Is there a middle ground between one world and lifeboat ethics?

Soroos' solution is to reinstate some of the features of the commons. This would include some form of Hardin's "mutual coercion mutually agreed upon" perhaps as village councils. And it would assume that the resources belong to all men including future generations. State and national sovereignty would be challenged by a policy, modeling ocean law, which provided for sharing and fair access for all in the use of world resources (Soroos:667-669). And he advocates a balanced approach which matches the level of coercion with the danger to the resource (Soroos:670-671). Soroos tries to appropriate what is true in Hardin's analysis, but to present a solution to the problem which is more balanced and has more sensitivity to traditional moral values. But he does not deal with the presuppositions which underlie Hardin's position.

Falk, a lawyer, notes that "from an ecological perspective, the political fragmentation of mankind into separately administered states makes no sense whatsoever" and he proceeds to argue for one world (217-218). At issue is Hardin's apparent individualism-

nationalism-isolationism when ecology would seem to emphasize interdependence. Lurking in the background is Hardin's opposition to one world. It is paradoxical that an ecological viewpoint which acknowledges the high degree of interdependence leads Hardin to advocate a nationalistic, isolationistic policy. This is a question of boundaries: Hardin is advocating the separation of mankind into groups by environmental boundaries (set by biology, geology, geography, climate) and social boundaries (set by the socio-economic factors which control the flow of goods and services). But he considers boundaries primarily in biological terms and does not acknowledge the role of culture in creating and maintaining socio-economic boundaries.

A Critical Response to Hardin's Use of Biology

A major concern of Hardin's is to establish by appealing to biological principles that we have an obligation to future generations. The move from biology to ethics is clear in his suggestion that the principle of carrying capacity be elevated to sanctity. The relative roles of biology and values in Hardin's thought can be shown by considering other biologists' definitions of carrying capacity.

Emlin states that the carrying capacity "clearly varies with features of the population as well as with the environment" and he uses the basic, traditional definition of carrying capacity as one of the first steps in modeling population size and environmental relation and defines it as "the upper limit of the population size that allows growth" (Christiansen and Fenchel:2). Mathematically, carrying

capacity is a parameter of the equation which describes the growth of a population:

$$dN/dt = (rN(k-N))/K$$

where N is the population size, t is time, and r is the rate of population increase. "The upper level, beyond which no major increase [in population] can occur, as represented by the constant K, is the upper asymptote of the sigmoid curve and has been aptly called the carrying capacity (Odum:183). The time, t, is some discrete time interval which is shorter than "indefinitely" and there is no concern for the preservation of the environment. Carrying capacity is not constant:

> Each species of animal has its own set of requirements from a habitat, such as food, water, space, shelter, nesting or egglaying sites, and any one area of habitat will have a limited supply of these requisites. The maximum number of a species which a habitat can support throughout their lives is known as the "carrying capacity" of the habitat. This may vary from season to season and from year to year, but it sets a ceiling on the growth of any population through "competition" between animals for resources (Dempster:22).

Carrying capacity can and does change (Dempster:30; Hardin, 1977e:115). The more complex the animal's life cycle, the more complex are its requirements from the habitat. Hardin takes account of possible fluctuations in carrying capacity by defining it as the lowest level which it will have over the time period being considered, i.e., "indefinitely" for Hardin.

The fluidity and complexity of the concept is suggested by Cole's statement that carrying capacity "really represents the proportion of the 'occupiable spaces' which are still unoccupied in the particular

environment". He continues, "here, in my opinion, we have the crux of many of our recent controversies. Two populations of identical size occupying equal areas can differ in this type of "density", and an unvarying population can change in density when the weather changes"(Cole:10).

Pielou, like Hardin, introduces a time dimension into the definition of carrying capacity.

> The maximum possible density that a population can maintain for a prolonged period in any given environment is known as the saturation density or equilibrium density and its magnitude is determined by the environmental capacity or the carrying capacity of the environment (45).

"A prolonged period" is as imprecise as "indefinitely".

Emmel (120) uses the traditional definition, notes that carrying capacity is not static and suggests that attempts to apply this concept to human populations are especially primitive, a point which Hardin also acknowledges and attributes to the presence of taboos (Hardin, 1977e:115-116).

It has been estimated that a human being starves to death every three seconds, and Pianka concludes from this that in some regions human populations are close to or at the carrying capacity (282). He assumes, as does Hardin, that if people are starving, then the carrying capacity has been exceeded. This, however, ignores the role of social and political structures in shaping and overlaying biological realities. The core of the principles of carrying capacity is the knowledge that the earth is finite and can only support a finite number of individuals, an insight stated by Malthus in 1798.

The human carrying capacity has "grown fantastically" since Malthus'
time (Hardin, 1977a:57), but we do not have a developed understanding
of the factors which regulate the size of natural populations
(Tamarin:1) or human populations.

What does all this suggest about Hardin's definition of carrying
capacity? He is not in disagreement with current biological
definitions, although only one of the seven considered contains a
prolonged time dimension. Also, Hardin is more explicit about the
preservation of the environment as a condition of the "indefinite"
survival of a population. Nonetheless, the concern with the time
dimension and the preservation of the environment are not purely
biological. These extensions of the definition are not required by the
biology of the concept and are not necessary to make the concept more
theoretically useful. Rather they result from a value (or values)
which Hardin holds, which he cannot explain (Hardin, 1977a:83) and
which are not grounded in biological science. Nor should Hardin be
seen as representative of ecological or biological thought in general.

Worster identifies five major strands of ecological thought, each
with its historical period and each influential today. His historical
examination of ecology as a discipline reveals that the ecological
thought of a given age is very closely tied to its culture, and in so
far as Hardin relies upon current ecological concepts his thought too
is shaped as much by modern culture as by biological facts. Such
distinguished biologists as Simpson and Dobzhansky maintain that
ethics can neither be based upon nor derived from biology or nature
(Barbour:411). Thus, Hardin represents only one of many positions in

biology about the relationship between biology and ethics and about the implications of ecological principles for ethics.

Summary

Each of Hardin's three presentations of his ideas, i.e., the scenario of the commons, the metaphor of the lifeboat and the concept of carrying capacity, has met with criticism. His scenario, it has been argued, is not historically accurate and is not analogous to the world population problem. The tragedy of the commons is not an environmental tragedy but a human tragedy. Commons are presently functioning and preserving the environment and do not then, in themselves, push us to tragedy. Rather, the difficult is with the social institutions which regulate the commons. Commons function well when there is a clear distinction between insiders who have rights to the commons and outsiders who do not. It is also argued that there is a lack of clarity about "commons" in the literature in general as well as in Hardin's thought.

The lifeboat metaphor has been attacked as focusing on food to the exclusion of other resources, as promoting undesirable myths and encouraging isolationism, as confused about the possibilities of self-sufficiency in an interdependent world, and as an undesirable goal for humanity. Hardin sees the larger picture and readers should not be mislead because of the special focus upon food in "Living on a Lifeboat". Nor does he think self-sufficient nations are possible today: self-reliant ones, however, are a necessity. Likewise, Hardin certainly hopes the lifeboat is provisional, but until world

population growth is controlled, he sees no possibility of sharing resources to benefit poor populations. His position is not isolationistic in that it requires international trade and advocates information exchange, but it also contains a strong element of nationalism or tribalism which maintains a need for separateness to insure the survival of the human species. This article was such a stark statement of the implications of Hardin's views that it met with harsh emotional criticism. Many of these are not rational critiques of Hardin's position and miss the mark both by uncharitably interpreting minor points and by failing to get behind the emotional outrage to the underlying moral issues. Neither rational discussion nor ethical understanding are furthered by labeling Hardin's doctrine "obscene". "Hardin writes tough because he thinks tough, I realize. How he feels is something else" (Hayes:70). Hardin laments that he cannot sell the public on the dangers of overpopulation and immigration and that someone who might be able to do it would probably use methods of which Hardin would not approve. Hardin said "and this does disturb me. I'm trying to keep it on an intellectual level" (Hayes:70).

The concept of carrying capacity is the most biological and the most abstract presentation of Hardin's ideas. This and its relative recentness perhaps explain the lack of criticism. Hardin has, however, been accused of equivocating on the term "carrying capacity" by confusing the biological concept with the economic concept of purchasing power. This points to a major value issue, biology versus culture. Can moral values and ethics be derived from biology? How

much of human reality is biologically shaped and how much is culturally shaped and how do the two interact?

In regard to the underlying question of overpopulation, the counter position to Hardin makes three points. First, population size is not the issue, rather it is specific disvalued human behaviors which are causing the environmental problems. Second, the rates of resource use and pollution creation must be taken into account. Third, there are neither too many people nor too little food, there is a problem in distributing excess food to those who need it. All of these questions sidestep Hardin's distinction between "help" and "intervention". He attempts to force us to examine our good actions, sharing food with hungry people, to see if they are really good in the long run for the recipient. For Hardin, the experiences of India and China constitute an experiment which supports his view.

The value issues underlying the discussion surface in the criticisms, but with few exceptions, are not explored. The most obvious issue is the opposition between survival as a value and traditional values. Related to this are the question of the relationship between survival itself and survival at a certain quality of life and the question of the nature of survival as a value. The underlying problem is the foundation of values: is biology an appropriate source of moral values. And the time element in survival becomes important for Hardin in regard to obligation to future generations. The other major traditional issue is that of the individual versus the group both in the aspect of one person versus many persons as in the tragedy of the commons and in the

aspect of one nation versus all nations as in the lifeboat metaphor. And in both cases an appeal is made to behave in certain ways to promote the survival of the human species. Thus, there are at least three levels under consideration and the conclusions at one level, may not apply to higher or lower levels. And perhaps underlying all of these levels is the presupposition of a conflict between man and nature. One's view of the relationship between these levels of human interaction and organization is profoundly shaped by his anthropology and forces us again to the question of the role of biology in shaping human destiny. Each of these is a major issue in itself, but without some understanding of Hardin's position in regard to them a thorough critique of his thought is not possible.

The groundwork for such a critique has been laid in chapter one which traced the development of Hardin's thought and its roots in the works of Bridgman and Schoeck. Hardin's thought was further clarified in dialogue with his critics in this chapter where it was shown that although he has reached a wide audience, no in-depth critique of his position has appeared. He has been criticized on many single issues and undeveloped suggestions about the underlying presuppositions have appeared. Chapter three will discuss a major presupposition in Hardin's thought which has come to take a more prominent role in his later writings, namely our obligation to future generations.

NOTES

1.   Schoeck's detailed study of envy addresses the mechanism that produces this desire to conform in both its negative and positive aspects.

2.   Schoeck is building upon a Freudian thesis about the relationship of society to individuals. But there are more positive notes in Freud on this point. For example, in his consideration of possible defenses against the suffering caused by nature and other human beings, Freud notes that "the readiest safeguard is voluntary isolation" but, especially in regard to nature, "there is, indeed, another and better path: that of becoming a member of the human community, and, with the help of a technique guided by science, going over to the attack against nature and subjecting her to the human will. Then one is working for the good of all" (1961:24-25). See also Callahan (1973).

3.   See also Hartley's novel Facial Justice on the theme of the effects of forced equality (1960).

4.   This is confirmed by the observations of Kevin Maxwell, S. J. during his eight years in Africa (1980, personal communication).

5.   Thayer, on the other hand asks several provocative questions: "Can there be any rational or moral reason why man should survive if the price of his survival is the extinction of all other living things on this planet?"; "If people can justify in their own minds their part in the killing off of their living ecology, from what perspective in all the universe could their own continuance be justified?"; "Are modern man and his societies no longer fit for the rest of nature?"; and "How does man, individually and in his societies, measure up as a citizen of the total ecology of this earth" (72, 74, 75)? Thayer internalizes the problem of man's relation to his environment and discusses the problems of relation to self, life, and fellow beings in ecological language.

6.   Interestingly, Schoeck in his discussion of the kibbutz also rejects Buber's ethics, not because they are individualistic, but because their ideal is an unrealistic "mutual possession," a total openness and availability for the other, in short, a selflessness that most people cannot achieve (Schoeck:297).

7.   This contrasts with the position of Bridgman (see p. 91 above) who argues that consequences are not the whole story and cannot serve as the basis of moral judgments after the fact by third parties because those evaluations based upon consequences are relying upon information that was not present to the decision maker when he acted. The acting moral agent must then rely upon principles and be judged with sensitivity to his intentions. In spite of Schoeck's contention that Christian ethics has freed modern man from envy, Hardin appeals to Schoeck and expands his notion of envy so it colors the entire

Western moral tradition. What Schoeck limited to certain claims for justice, i.e., that they were based on envy and must be carefully separated from valid claims, Hardin applies to all of ethics. Likewise, Hardin seems to have lost the possibility of legitimate guilt, which although not emphasized, is also present in Schoeck.

8. These remarks are made in his discussion of The Gift Relationship by sociologist Richard Titmuss. Singer, after cautioning that Hardin's position should not be seen as a defense of the privilege of rich nations, argues that Hardin's presentation of Titmuss' thought is incorrect. Since Hardin is operating as a scientist discussing the "practical possibility of altruism," one empirical case of altruism would refute his thesis. Titmuss' book, a study of the volunteer blood donation system in England, refutes Hardin's thesis that altruism can only be applied in small close groups. Further, Hardin presents no detailed discussion of the causes either of overpopulation or poverty. Singer maintains that an understanding of these causes is necessary for Hardin's view to be adequately supported and that if the causes were understood, Hardin's policy would be rejected. Basically, Singer argues that insofar as Hardin is presenting scientific claims, his position does not hold up.

9. On aesthetics Hardin says the following: "In Augustine's system, error is evil. In Paley's, it is a reflection of the wisdom of God. In Darwin's, it is merely an evidence that the world is made by on-going processes. When a Darwinian comes across poor design, he does not say, 'poor God,' but rather, 'Rome was not built in a day.' Evil and imperfection, which cannot be satisfactorily accounted for by Augustine or Paley, becomes in Darwin's view, natural parts of a larger and more rational world. It is a more humane world, and therefore a more beautiful one" (1959a:58). Thus Hardin appeals to aesthetics and rationality and presents a view of evil that fits well with Teilhard De Chardin's. I am not convinced that the natural and the rational sum up to the humane or that the three in combination yield beauty in the face of mankind's experience of evil. Certainly Darwin's view is as acceptable as Augustine's or Paley's, since all three tend to deny the reality of evil in natural events. Human evil is another matter, and Hardin's expression of Darwin's view is not satisfactory here because it draws heavily upon the liberal view of the perfectibility of humankind for which I see little evidence. Hardin may be relying upon Charles Frankel's attempt to reconstruct and defend liberalism in the face of the post war critiques of Maritain, Reinhold Niebuhr, Karl Mannheim and Arnold Toynbee. And although Hardin cites Frankel in regard to the limited issue of responsibility (Hardin, 1977a:139, for example), he is certainly more in sympathy with liberal humanism than with religion. As noted above, this is an important difference between his thought and Schoeck's.

10. In other places Hardin expresses a less positive view of the family (1970). See also note 25 of chapter one.

11. On the importance of a sense of place, Snow says that it increases a child's sense of identity and his ability to deal with change. "It also permits him to feel identification with and affection for a piece of creation, permits him to care for how a place looks, and how it works, and what makes it distinctive. This caring is essential if society is successfully to cultivate an ecological life-style. Without this early experience of territoriality it is doubtful if anyone can learn to regard the whole earth as his turf" (38).

12. Here we begin to approach the question of "myth" which exerts motivation force on the whole person, not only the intellect. Although Hardin tends to generally use the term "myth" to mean "untrue belief" the following passage suggests that he is aware of the power of "myth": "A major religious idea of our time is the belief that perpetual growth is natural, healthy and right. It is dangerous to simply destroy a religious myth without putting something else in its place. A myth by which people live is better modified than destroyed" (1971g:263-264). He suggests the "Per Capita Amenities" index be substituted for the Gross National Product so that we can have our belief in growth and still control population.

13. The "indefinite" comes from Hardin's definition of carrying capacity.

14. The tragedy of the commons can be seen as the problem of internalizing externalities, that is of taking all the costs into the production costs rather than passing them on to the environment. There is a considerable economic literature on the problem of externalities. A broader issue is the link in history of ideas between economics and ecology. It has been suggested that Darwin's theory of natural selection is a biological reformulation of Ricardian economics (Hardin, 1959a:52-54). Regardless of which came first, it is clear that Hardin and neoclassical economics as reported by Meyers share crucial assumptions about human rationality and selfishness even though Hardin is willing to sacrifice freedom and neoclassical economists wish to maximize it (Meyers:452).

15. Baer (p. 138 above) and the literature on the recreational value of wilderness would argue that wilderness has value in itself. Peter Carroll's Puritanism and the Wilderness (1969) explores the symbolic aspects of wilderness which were important in early America: wilderness as refuge (25, 44), as sanctuary from worldly corruption (61) and as an area of trial (62, 73). Wilderness was also polarized against civilization (66). Generalizations about the wilderness were gradually replaced as the preconceptions which led to them were broken down by interaction with the environment (55) which is also suggestive of the problem mentioned above of the conflict between environment and world (see Carroll:127ff). Carroll presents data which supports Golding and Golding; even the Puritans experienced "overpopulation" and resource shortages (Carroll:128, 144, 165). As early as 1637-8 laws were passed to prevent destruction of forests, but for economic

reasons, not for concerns about conservation (Carroll:189ff). Even so, there was also some expression of concern for posterity, as early as 1637 (Carroll:59, 83), suggesting that this is not as new an issue as we might like to think and further that there may be resources in our past heritage, which if rediscovered could aid our thought on this issue.

16. Although Hardin's position is naturalistic, it is clear that an historical account of the development of naturalism and the place of Hardin's thought in that historical spectrum would not provide as much insight into his thought as a consideration of the works of Schoeck and Bridgman. Hardin mentions Hobbes but traces his roots not to naturalistic philosophy, but to the works of Schoeck and Bridgman. The naturalistic tendencies in his thought derive from his biological background and not from a specific philosophical tradition.

17. For details of the Goldings' proposal see pp. 516-522. A similar, but more detailed fictionalized proposal is presented by Robert Theobald and J. M. Scott (Teg's 1994. New York: Warner Books, 1972). Like Hardin, they suggest a need for roots (Golding and Golding, 1971:518). Their hopes for successful integration in "new towns" may, however, be unrealistic (see Schelling, 1971).

18. Hardin opens this editorial with a quotation from the father of the George Washington cherry tree story to the effect that our young nation must breed soldiers to stand on its own against England, France and Spain and notes that in this breeding race the United States is falling behind at an increasingly faster rate. He closes with the following:
        "If we renounce conquest and overbreeding, our survival in a competitive world depends on what kind of world it is: One World, or a world of national territories. If the world is one great commons, in which all food is shared equally, then we are lost. Those who breed faster will replace the rest. Sharing the food from national territories is operationally equivalent to sharing territories: in both cases a commons is established, and tragedy is the ultimate result. In the absence of breeding controls, a policy of 'one mouth, one meal' ultimately produces one totally miserable world.
        "In a less than perfect world, the allocation of rights based on territory must be defended if a ruinous breeding race is to be avoided. It is unlikely that civilization and dignity can survive everywhere; but better in a few place than in none. Fortunate minorities must act as the trustees of a civilization that is threatened by uninformed good intentions" (1971b).

19. This is of course one view, but I am more in sympathy with the psychologists upon whom Tillich relied for his development of the polarities of individuation and participation. In the human experience there is always a tension between self and group. See chapter three below.

20. According to Thompson, the moral center of the futurists' work is the new man who can be described as follows: "He has a longer and broader horizon of time and space than we. He has a range of sympathetic fellow-feeling that soars beyond himself, his kinfolk, friends, and fellow-nationals, and embraces both present and future humanity. Having acquired the knowledge needed, he has also found the will to assign the survival of civilization a higher priority than his own and his friend's temporary well-being. He is more patient than we, preferring long-range rational solutions to global problems which suspending irrational demands for short-range local fixes. He is all these things, finally, because he loves the world and its people for themselves alone--for him the world and its humanity is not merely the first act of a drama whose climax lies outside the human context" (196).

21. Another economist, Edward Renshaw, points out that there is no one answer to Hardin's question "What shall we maximize?". Rather, the answer is shaped by human goals (35, 39). The answer depends upon the total situation within which the question arises and the values held by those who answer it. Renshaw's analysis points out a variety of possible answers and suggests that Hardin's considerations may not be complete.

22. There is a substantial literature on fisheries as examples of the tragedy of the commons (Wilson, Clark, Silvert, Regier and Hartman, Mitchell, Scarff, and Alverson).

23. See also Netting's study of a Swiss commons and how it has avoided the tragedy of the commons since 1517. He concludes that "Communal tenure promotes both general access to and optimum production from certain types of resources while enjoining on the entire community the conservation measures necessary to protect these resources form destruction. The persistence of communal rights should not be dismissed as a historical anachronism or credited solely to external domination of the closed corporate community" (145).

24. J. S. Mill wrote: "In sober truth, nearly all the things which men are hanged or imprisoned for doing to one another are nature's everyday performances" (Hick:114-120). This suggests that insofar as Hardin is a biologist describing nature, the problem may be with nature rather than the describer. Mill's formulation of the problem of evil and its view of nature is less persuasive in our century which has moved closer towards accepting the evolutionary view of natural events which Hardin advocates as an aesthetically more pleasing account (Hardin, 1958a:58; see note 9 above).

25. And saving the species or mankind does not necessitate saving every brother and sister (Hayes:67). This is the problem of levels of humanity being discussed and of the difficulties with the concept of "mankind" or "species".

26. At this point Finnin cites (from the book he edited with Smith) Hardin's article as if it reveals something new about Hardin's position. The major differences are that the tone is inoffensive and the points are stated gently. The theme is that "intervention" would be a more appropriate term than "aid" (Hardin, 1979a:25), especially for such international projects as the Aswan Dam (Hardin, 1979a:25-28, 1977a:66-67, 72-74). By analogy with the medical profession, Hardin proposes that foreign "intervention" follow the dictum "primum non nocere": "Most of the time, the kindest thing we can do for other people is refrain from intervening in their lives" (Hardin, 1979a:29). He argues that saving lives sets in motion an extended chain of biological and ecological events (Hardin, 1979a:19-30, 1977a:94-95). Saving foreign lives beyond the number which can be supported by the carrying capacity irreversibly deteriorates the quality of life and reduces the future carrying capacity and ought not to be done (Hardin, 1979a:31). He reformulates his argument against one world and global solutions favoring instead a world with some isolation and local (tribal) solutions (1979a:32; 1977a:128,132). He closes with examples of self-reliant survival: the Urguayan rugby team and China (1979a:33-35; 1977a:64-66). He leaves open the possibility that intervention might be help, but contends that it would be undertaken only after careful reflection. Hardin closes with a passage which is representative of his position (see p. 139 below, 1979a:35; 1977a:63, 126-127). As the citations indicate, there is nothing new in the article Finnin cites; it all appeared previously in The Limits of Altruism (1977a).

27. This gives rise to the metaphysical question of the nature of reality. Are "facts" such as natural limitations stated value-free, or is the description of these limits shaped by values? The limits placed upon man by nature do not restrict us morally or physically to allowing millions of famine deaths or to massive food aid. With ethical problems in biology and medicine forcing us into these metaphysical depths, perhaps the pendulum is beginning to swing from Kantian internalization to a new externalization of metaphysics.

28. Waste cannot be escaped (Hardin, 1959a:300-346) and has a creative element. Hardin's refusal to use insecticides, however, suggests that we can choose the type of waste which will occur and in so doing, as he does, indicate a profound respect for the non-human beings and aspects in and of our environment (see Hayes:63).

29. Hardin applies the term "triage" in a recent work to the refusal to send food aid to certain countries and finds it useful because it maximizes the number of lives saved and takes the future into account (1980:56-71).

30. Others have noted this as well. For example Caldwell says: Hardin is one of those for whom "truth . . . is only coincidentally related to conditions described by legalists and philosophers as equitable and just" (609).

CHAPTER III

OBLIGATIONS TO FUTURE GENERATIONS

The basic unexamined assumption guiding Hardin's thought is that
we are obligated to the future generations of all mankind. Hardin's
point of contact with the literature on this subject is Jonas's
article "Technology and Responsibility: The Ethics of an Endangered
Future" (1972) which, with those of Golding (1972) and Callahan (1971)
marks the beginning of the contemporary discussion of obligations to
future generations. Hardin himself, however, must be given credit for
raising this issue in the popular scientific literature.

Beginnings of the Contemporary Discussion

Jonas argues that technology has so radically altered the
character and scope of human action that traditional ethics no longer
provides adequate guidance. The new ethics which responds to this
challenge must extend to include both nature and future generations
and must revivify the category of the sacred. Jonas justifies this
view by appealing to survival as a value (1972:28, 29, 32; 1977:169,
181ff) and states that we have an obligation to future generations
because "the survival of the species is more than a prudential duty of
its present members (1972:28). And this is "the obligation namely to
insure the very premise of all obligations, i.e., the foothold for a

moral universe in the physical world" (Jonas, 1972:31). The task for thinkers now is to find the "insight" or the "value knowledge" to represent the future in the present: a task of ethics and metaphysics (Jonas, 1972:35, 29). Jonas has plans to undertake this constructive task of developing an ethics of responsibility (Jonas, 1977).

Golding's "Obligations to Future Generations" (1972) has become a classic although he presented the same basic ideas earlier (1968). He translates the question "What are our obligations toward the future?" into

> a complex of three questions: (i) is there now an
> obligation to bring about any given situation in
> the future?; (ii) if there is such an obligation,
> on whom does it fall?; and (iii) if there is such
> an obligation, what ought be done now to fulfill
> it? (1968:452).

Golding defines the "future" in regard to future generations as the "remote future" which consists of those generations with whom we "cannot expect in a literal sense to share a common life" (1968:453; 1970:86). Claims about ". . . an obligation to promote a desirable situation or prevent an undesirable one--" must refer to some community and the boundary of this community is set by "the social ideal" . Golding is clear about the nature of community: ". . . it is not a biological notion. It is ethical and metaphysical, if you will, a spiritual idea" (1968:267). Thus, Golding argues, if we cannot be sure that our social ideal will be relevant for future generations, that our good would be good for them, then we have no obligation to them. He provides an example of the irrelevance of our social ideal to present persons in undeveloped countries: we no longer "feel an

obligation to export Western culture to the corners of the earth" (1968:267, n.18). Thus, the moral community does not even include all contemporary humans. Golding concludes that "it is highly doubtful that we have an obligation to . . . the remote future" (1968:456-457). He suggests "that the amelioration of current evils has higher priority than the production of future goods" (1968:458). And the question "Are we obligated to future generations?", has become "Will we have the same social ideal as future generations?"

To briefly summarize Golding's position, since membership in a moral community derives from a shared social ideal and future generations are defined as those with whom we will at no time be contemporaries, we have no obligation to future generations because they may not share our social ideal and thus will not be members of our moral community. His view rests on our ignorance of the identity of future generations and the definition of moral community as those who share a social ideal. And for Golding, future generations are the future generations of our moral community, not the future generations of mankind worldwide.

Callahan disagrees with Golding at several points. He states that our moral community must "encompass the entire human community" (Callahan, 1971:76). And he feels that even though we cannot know for certain what the social ideal of future generations will be, "we should act on the assumption that it will not be all that dissimilar from our own; we have no special reason to think otherwise" (Callahan, 1971:274). Our obligation to future generations must be grounded in our obligation to past generations:

> There is a necessary biological link between
> generations, each dependent upon the other: . . . .
> To live at all is to be linked in an inextricable
> way to the past, and to be a determinant of future
> generations (Callahan, 1971:271).

Our obligation to future generations is somewhat analogous to the

parent-child relationship. But we must not sacrifice the present to

the future. Although the existing claims of the present generation

take priority over the presumptive claims of those "yet-to-be-born",

present claims are limited to those things which are necessary to

provide an acceptable quality of life for present generations. And a

similar limit applies for future generations: "our duty to enhance

their welfare is problematic, we can and should have recourse to the

limited ethical goal of avoiding harm" (Callahan, 1971:272). Callahan

suggests four guidelines for our obligation to future generations:

(1) We should not do anything which would threaten their existence.

(2) We should not do anything which would endanger "the possibility

of future generations exercising those fundamental rights necessary

for a life of human dignity." (3) If there is a conflict of

equivalent rights of present and future person so that we must

jeopardize future individual's rights, "as far as possible minimize

this jeopardy". And (4) when trying to decide if a present policy

would jeopardize future generations, calculate the possible harm as if

it would be harm to your own children and take no risks with future

generations that you would not take with your own children (Callahan,

1971:279).

In summary, Callahan maintains that we have an obligation to

future generations since even the remote future will see no marked

change in what is basically good for human beings. Further, the ideal
moral community includes all humanity regardless of social ideal. The
obligation to future generations is grounded in the biological and
cultural continuity between generations and entails the four general
rules stated above. The key concepts in this view are that we cannot
define the human moral community as anything less than all of humanity
and that the issue of obligations to future generations must be
considered in the context of human history and the nature of the human
enterprise. Callahan is both more practical and more ideal than
Golding: More practical in his views of what links generations
together and what relevantly we know and act upon in regard to the
future, and more ideal in his definition of moral community as
encompassing all humanity. Golding's presentation highlights the
embedded issue of the definition of moral community which must be
addressed in considering future generations while Callahan's
highlights the anthropological issue that what we know of human
biology (parenthood and needs) and culture lead us not to expect
radical differences between ourselves and generations of the remote
future. Further, even a social ideal is not the product of one
generation, but of a generation, its ancestor generations, its own
past, and its hopes and plans for the future.

Callahan is not the only author to criticize Golding's position.
Selk and Surber agree that Golding sees three possible groundings for
moral community; contractual (mutual), reciprocal (self-interest) and
social ideal and that only the third provides a possible ground for
obligations to future generations. /1/ Selk thinks a concept of

moral community can be used as a basis for obligations to future generations and expands the sketch Golding provides (1977:253-255). In contrast, Surber maintains that the concept of moral community is not a strong enough ground for obligations to future generations because it does not allow the interests of the future to override those of the present. Further, Golding's concept of social ideal is too strong "to allow certain crucial distinctions to be made concerning what we are obliged to do" (Surber:112). In effect it removes the possibility of conflict between the future and the present (Surber:112).

Kavka provides three reasons for rejecting Golding's position. "First, there are not degrees of membership in the human moral community" even though the boundary lines of that community may not be clear. Second, membership does not depend on "any particular substantive conception of the good life" as is shown by the differences in viewpoints and lifestyles of present cultures which are surely as great as any between future and present generations will be. Third, the causal role of present generations in determining if future generations will exist and the numbers that will exist entails obligation (Kavka:191).

Philosophical and Theological Literature

Even though Callahan's article was published in a religious journal and Jonas' paper was read as a plenary address at a meeting of the American Academy of Religion, religious scholars have been (and continue to be) slow in taking up the challenges posed by this

difficult issue (as Hardin notes). There are few treatments of this issue by religious thinkers besides the tangential discussion by Neuhaus, Vaux's anthology, brief passages in Derr's book excerpted in Partridge and Hartshorne's article. And Hartshorne's primary interest is in philosophy of religion. A philosopher, Rolston, presents a visionary analysis of environmental ethics which could be construed as religious. But this issue has for the most part not been addressed by religious thinkers.

Golding's article was published in a philosophical journal, but philosophers too have been slow to respond to the challenge. The question of our obligations to future generations is rich, deep, and difficult to address. The temptation to deal with tangential issues becomes almost overwhelming. Thus, even though the anthology edited by Sikora and Barry is entitled Obligations to Future Generations, most of the articles it contains offer little help in approaching that problem. On the whole, it seems that the issue serves as a foil for developing the debate about the relative merits of average versus classical or total utilitarianism, and unless the reader has a major interest in this debate, many of the articles will not be helpful. The majority of the book, part I, deals with what Partridge calls "population policy" rather than with "the duty to posterity" on which Partridge's own anthology concentrates (1980:5-7, 309). But, in spite of the title of Part I--"Should intrinsic value be placed on the preservation of mankind?"--little is discussed that directly addresses the question of the value of the survival of the human species, in part due to the difficulty of separating the question of survival from

that of obligations to future generations. In the introduction, the editors note that concerns about nuclear war and overpopulation have led to the question "whether or not it is wrong to prevent the existence of future generations?" and, for them, "in the last analysis, the central question seems to be whether and to what degree it can be morally incumbent on us to make sacrifices to bring happy people into the world or to avoid preventing them from being brought into the world" (Sikora and Barry:vii-viii). The question they finally address is no longer a direct question about the value of the survival of the human species or about obligations to future generations, but has been transferred into a utilitarian framework and translated into a question about "happy people" and "potential" happy people. The question is no longer about obligations to future generations, but rather is about the quality of life at which survival becomes valuable.

The articles in Sikora and Barry advance the discussion of obligations to future generations by revealing the assumptions of utilitarianism about the moral relevance of temporal distance. Narveson and Sumner wrote long philosophical articles which in spite of their length conclude with a basic assumption of total utilitarianism, namely, that temporal and spatial distance are not morally relevant. Narveson concludes:

> . . . what we owe to future generations is neither
> Everything nor Nothing, but merely Something. And
> the something need not be the same for all, nor
> can its content be rationally estimated beyond the
> horizons of technological foreseeability, which
> are surely very little (60).

He considers in detail the relative merits of average and total
utilitarianism and person regarding and non-person regarding
utilitarianism. He sees the issue as not one of potentiality but of
temporal distance which is morally equivalent to spatial distance
(Narveson:39). There are four unique aspects of the problem of
obligations to future generations. (1) It is one way, from present to
future (as opposed to Bayles' absurd two way view). (2) They will
inherit our knowledge which is second in importance to physical
necessities of life. (3) "The population of all future generations is
potentially infinite, and in any case incalculably large." And, (4)
we control the size of the next generations and hence the existence of
future generations depends upon us (Narveson:40). The two major
issues he identifies are population size and the distribution of goods
between present and future generations (Narveson:41). Narveson sees
no obligation to preserve the human race since obligations only
properly apply to persons (44). And even if the race perished, there
would be no one who was harmed or to whom an obligation was owed and
not fulfilled (Narveson:44). And even though he acknowledges the
continuing decrease in exhaustible resources for each successive
generation, he concludes that our primary obligation is to the next
immediate generation, the "next fifty years or so" (Narveson:41). He
concludes too "that self-sacrifice for the sake of distant good to
others is unwise in any considerable dosage" (Narveson:59).

Sumner is also working in the utilitarian context and argues that
classical utilitarianism does better than average utilitarianism in
dealing with the question of population optimum, even though the

latter was created expressly for dealing with population problems. He does, however, suggest that the calculation include effects on non-human animal species (Sumner:99). Spatial and temporal location are irrelevant because "it [the effect] is, after all, equally real regardless of where and when it occurs" (Sumner:102). And later, "the utilities of possible persons are just so many possible utilities" (Sumner:109). The average utilitarian, however, violates the principle that temporal location is morally irrelevant and opens the door to increasing the average utility by eliminating persons in the population whose utility is lower than average. This violation occurs because of the average utilitarian's preference for presently existing persons (Sumner:105, 109-110 n.16). One might ask if this is not what Hardin's policy of let the starving starve or feed themselves is doing. Sumner rejects equating being below the average in utility with being better off dead (110). Also, he assumes that the population optimum has been reached or exceeded but does not defend this claim (Sumner:91, 105). So, on his view, we are obligated to future generations because a major tenet of classical utilitarianism is that temporal location is morally irrelevant.

Three articles on obligations to future generations directly address Hardin or issues he raises. Bayles' paper is a direct response to Hardin's lifeboat ethics and addresses the food issue as an intragenerational and an intergenerational problem. But, he removes the moral significance of "sacrifice" by defining it as "people not having some goods or benefits they would have were a different policy adopted" (Bayles:239). He agrees with Hardin that

the question is whether to allow present persons to starve to prevent
more starvation deaths in the future. "However, on current ethical
theories, it is not obvious that future famines would be a great evil"
(Bayles:239-240). He makes a distinction between "failure to provide
benefits" and "injuring people" and then asks: "Assuming justice
within each generation, how much quality of life ought one generation
to sacrifice for another?" For Bayles, "a sacrifice may be by present
generations for future ones, or by future generations for present ones
(240). He does not, however, explain how non-existent future
generations sacrifice for us when we are making the decisions. Nor
does he acknowledge the causal role of present generations in shaping
the future. He continues to downplay the seriousness of "sacrifice"
by claiming that the sacrifices will be "foregone benefits" rather
than "incurred losses" (Bayles:240, 241). If the issue is survival,
clean air, a livable environment, are we considering forgone benefits?

Bayles sees four levels of possible obligation to future
generations: (1) a minimum of species survival, (2) a minimum quality
of life higher than mere survival, (3) a concern that future quality
of life be equal to the present quality, and (4) altruism, which
desires that posterity be better off than present generations
(Bayles:241). This does not address the question of population size,
which becomes important if a certain level of quality of life cannot
be available for an overpopulated world. Thus, present generations
may have to limit the size of future generations to prevent extinction
due to a continually increasing population. This issue is important
because Bayles, like Hardin, expresses the goal of providing for

future generations a quality of life that is "indefinitely sustainable". He concludes that our long range policy ought allow the present quality of life for a population indefinitely into the future, but that we need not adopt this policy now (Bayles:242).

His maximum principle adds that we should leave open for future generations as many options as possible. Applying this to food aid,

> . . . the present generation ought to suffer current starvation to the extent that failure to do so would result in a lower quality of life in the future [i.e., worse famines] . . . . On a minimum principle one's obligation depends on what the minimum is and whether or not a future famine would reduce the quality of life below it (Bayles:244).

The whole discussion then boils down to the unaddressed issue of an acceptable quality of life for future generations, an implicit acceptance of present wasteful lifestyles, and an explicit acceptance of the false assumption of intragenerational justice. On this principle are third world countries obligated to pass on their present low quality of life to future generations?

For Kavka, the oppositions between standard of living and resource depletion and pollution and between freedom and population control are composed of two problems: the "Friends and Strangers" problem and the "futurity problem". The first involves the issue of aid to poor countries and the second, obligations to future generations, especially in its aspect of conflict between the needs of present and future people. His goal is limited: "I seek only to establish . . . that if we are obligated to make sacrifices for needy present strangers, then we are also obligated to sacrifice for future

ones" (Kavka:187). Their temporal location, our ignorance of their

desires, and the contingency of their existence are not morally

relevant and do not free us from obligations to future generations

(Kavka:187-195). Time is not morally different from space and we know

enough about future generations to obligate us to them.

> [T]he basic biological and economic needs of
> future generations--enough food to eat, air to
> breathe, space to move in, and fuel to run
> machines--are well enough known that they suggest
> a three fold program of (1) controlling population
> and resource destruction, (2) creating
> representatives for posterity's interests in the
> form of institutions or organizations, and (3)
> research in the "survival sciences" (Kavka:190).

Kavka asks if a moral person should have an interest in

preserving the human species. He lists three "non-religious" reasons

for answering positively" (1) the value of life is based on the

pleasures of life, (2) experience and relationships with others are of

intrinsic value and make life valuable, and (3) human accomplishment

and development are of value (Kavka:195). And since these apply to

future persons too, they provide sufficient reason for "bringing

future people into existence" (Kavka:195-196). In this manner he

attempts to provide philosophical justification for the claim, assumed

by Hardin, that future generations ought to exist, as if philosophical

debate could convince all present humans to stop reproducing. Kavka

argues, like Bennett, that the human project ought to continue and

draws an analogy between the life of a species and the life of an

individual. Just as for an individual, a fast and full life of

degenerate luxury is seldom chosen and is not seen as a sufficient

argument for suicide, so for the species. We should choose living at

a reasonable level for 20 years rather than living high on the hog for 2 years.

In considering the problem of food aid to poor countries, Kavka's position is the same as Hardin's. Present persons can be morally allowed to starve to prevent future starvations: "this is so, because it is as important to prevent persons who will be born later from starving as it is to prevent persons who exist now from starving" (Kavka:199). This is an interesting application of the principle that temporal location is morally irrelevant.

Using Locke's thought, Kavka suggests that our obligations to future generations mean that we should not waste resources and we should leave "enough and as good" for future persons. "This means that if a given generation insists on having more than one descendent per capita, it is to aim at leaving proportionally more total resources" and this is to be done through technological advance. He even has the naive hope that "if all succeeding generations abided by it, mankind could go on living on earth indefinitely, with living standards improving substantially from generation to generation, once world population were stabilized" (Kavka:200-201). The second law of thermodynamics prevents the "indefinitely" (Georgescu-Roengen). Others have questioned the faith in technology that this view assumes. And there is the question Hardin raises: could high technology civilizations survive the population crash?

Kavka asks if this generation is called upon to make special sacrifices and, using Locke, produces two possible answers. Our generation could be the initializing generation which sets up the

conditions so future generations will not have to sacrifice and we could see ourselves in a unique historical role, or we could define our task as eliminating certain negative inheritances from our past in the form of pronatal institutions, practices, and attitudes (Kavka:201). Kavka concludes that temporal location is not morally relevant and therefore future generations' interests are to be treated like the interests of present persons. We are obligated to control population size, but eliminating the species by failing to reproduce "would not be morally justified." The equality of present and future generations makes it morally appropriate to withhold or limit food aid to present starving persons to prevent starvation of future persons, and "suggests that our generation should, ideally, aim collectively at leaving our descendants a planet as rich in usable per capita resources as that we have inherited from our ancestors" (Kavka:201-202).

Although Williams does not discuss Hardin, her article is important because it provides an example of an appropriate use of biology for moral reasoning. Like Hardin, she rejects the concept of discounting the future. Instead, she opts for the concept of maximizing sustainable yield. Her conclusions apply only to renewable or "interest bearing resources" but for that group of resources the question of obligation to future generations is transferred from that of estimating future consequences to a practical, factual, though difficult, question of estimating biological parameters and determining which will provide the maximum sustainable yield (Williams:170, 178, 184). This eliminates the need for discounting

the future which rests upon uncertainty and remoteness of consequences (Williams:172). Thus, "the obligation to consider the effects on all subsequent generations has been replaced by an obligation to maximize sustainable yield in the present generation" (Williams:181). Estimating the biological parameters is difficult but theoretically possible and is easier, she feels, than solving the theoretical difficulties in establishing an obligation to future generations. For the limited case which she considers, our obligation to future generations, which rests on utilitarian theory modified by biology (for example, Williams:171), becomes that of establishing a presently existing biological parameter and creating a situation which maintains it. She realizes that this approach is limited to one class of resources and that even for this range it is not problem free (Williams:192, 183). Nonetheless her article provides an example of the productive use of biology in an explicit normative framework.

Applying the arguments in Sikora and Barry to Hardin, it appears that Hardin is an average utilitarian who considers the utility of the survivors (and largely ignores their disutility from grief and suffering due to the loss of persons important to them) and not the disutility of those who die of famine. But as Sumner suggests, an average utilitarian could accept an increase in the average utility that resulted from purging those in the society with less than average utilities (105, 109-110 n.16). The opposing position, total or classical utilitarianism, would argue that regardless of temporal location the utilities and disutilities of each person in each possible scenario must be considered. Thus, possible utilities of

possible persons must be considered equally with those of actual persons. Hardin is applying this principle negatively, i.e., minimizing disutility rather than positively, but only for future generations. Given that Hardin is courageous enough to make the same claims regardless of spatial distance, why prefer future persons to presently existing persons? First of all, present persons are in some degree responsible for their present conditions, whereas in important respects future persons have no control (power) over decisions which will greatly affect them and have no voice in the affairs which will shape their world. But did past generations, or our generation, have any say in shaping the world into which we arrived? Present persons do have voices and the possibility at least (if not the actuality) of influencing events which affect them. Hardin is an advocate for future generations since present generations can stand up for themselves, which they surely will do given the inescapability of self-interest. His position is probably an over compensation for the current all but one-sided favor of present generations over future ones, which leads to over-balance in favor of the future to prevent destruction of their world. And Hardin's time frame is not just two generations, but the indefinite survival of the human species. In this regard, too, he is an average utilitarian with an infinite time horizon adding in the disutilities of all future generations and weighing them against the then small disutility of one generation which could sacrifice for the future.

For purposes of discussion the literature on obligations to future generations can be divided into three general areas on the

basis of each article's approach to the problem: those which discuss it in terms of rights, those which deal with it as a question of the identity of future generations, and those which approach it terms of the human moral community or the human project. These approaches are not, however, mutually exclusive and many articles use more than one of them.

The Rights of Future Generations

Several authors discuss the applicability of the concept of rights to future generations. Pletcher and Feinberg argue that the concept of rights applies to future generations. Baier allows that the concept applies but suggests that it is not very helpful, as does De George though he tends to reject rights for future generations. Macklin says that the concept of rights does not apply to future generations.

Pletcher argues that future generations have rights which are "special cases of rights that every person has" (167). He separates his position from "any attempts to specify duties to future generations in terms of duties to God to respect His creation" (Pletcher:167) and consequently rejects expansion of the moral community by this method. Pletcher develops, mistakenly, an aspect of the identity issue and attempts to use it positively to ground rights for future generations. He contends that rights exist where the identity of the holder is unknown. For example, a camper in a remote area is obligated to leave a clean campsite for the next camper whoever he or she may be and whenever they may camp there. This type

of general obligation is an "obligation-function" or a "right-function". Such functions "must be stated with no particular person in mind" and "must range over all people at all times" (Pletcher:168).

I see two major problems with Pletcher's position. First, (accepting for the sake of argument that rights may be a helpful concept in this context), the identity of particular individuals is not necessary for the assigning of certain types of rights because they are properly assigned to a class which has members now, i.e., campers who may decide to use the camp after I have used it. Second, he confuses the question of identity with the question of temporal location. The class of campers who may use the site after me presently has members and the temporal aspect of this example is the time of use, i.e., a property of potential actions of present persons. In regard to future generations, the temporal aspect belongs to the potential person in his existence. In the former case, the temporal aspect is contingent, but in the latter it is an inseparable part of the future person, i.e., that which constitutes the person as future. I do not disagree with the general approach Pletcher is taking, but he is not really discussing future generations as much as present generations and he does not transfer his argument across that time gap. On his argument, the obligation might well be to those in charge of campsites (the government, the park service, nature preservation groups) or to the land itself as part of a secular stewardship of nature, and not then to future campers as he suggests. Or it could be specified as an obligation to oneself to "be a good camper". Unless

these possibilities are ruled out, Pletcher's argument cannot ground obligations to future generations. And that one of these alternative groundings may apply is suggested by Pletcher's lack of sensitivity to the conflict between the present and the future.

Pletcher describes the rights of future generations as "forms of freedom of action, commonly stated as life, liberty and the pursuit of happiness. Basically, they are rights that state that everyone is entitled to a world . . . ." where it is possible for rational people to actualize their goals. "Seen in this way, not only do future generations have a right to clean air, they may even have a right to a world without war" (Pletcher:169). The problem that this goal has not been achieved for present generations arises when he wonders about the relative weights of future generations' right to clean air and our "right to leisure activities and the prima facie right to unfettered travel" but it is not discussed (Pletcher:170). Like the Routleys', he rejects the uncertainty argument, i.e., the argument that the future is so uncertain that we could not possibly be obligated to future generations. But, on the whole, his attempt to ground obligations to future generations upon the concept of rights fails because of his confusion about the aspects of identity and temporality. He uses the uncertainty of identity that is part of a certain class of present obligations and rights to pull the future into the present and claims that we owe future persons goals we have not achieved for present persons.

Feinberg's assumption is clear: there will be future generations much like us, and "it is psychologically possible for us to care about

our remote descendents." And his goal is clear: love applies to existing persons, "but from the perspective of our remote descendents it is basically a matter of justice, of respect for their rights" (139). Using animal rights as a focus, he appeals to a phenomenology of moral judgment to show that we do treat animals as holders of rights because they can have interests (Feinberg:143). It is not necessary for the right holders to claim their rights because they can be represented by proxies or attorneys (Feinberg:142). Applied to future generations, this means " . . . not merely that conservation is morally required (as opposed to merely desirable), but also that it is something due our descendents, something to be done for their sakes" (Feinberg:147). He does not fear "falling into obscure metaphysics" because " . . . our collective posterity is just as certain to come into existence 'in the normal course of events' as is any given fetus now in its mother's womb" (Feinberg:147). We do not have to know the identity of these future persons for them to have rights because "their interest-ownership is crystal clear". And, like the Routleys, he rejects the uncertainty argument: "The vagueness of the human future" is not insurmountable because "of the nearly certain knowledge that it will, afterall, be human" (Feinberg:148). There is, however, no right to come into existence. Feinberg doubts that the species could agree as a species on suicide, but if it did, it would be "deplorable, lamentable, and a deeply moving tragedy, but . . . it would violate no one's rights" (148). His conclusion implies that his concept of rights widens the moral community to include animals and future generations and suggests that the underlying issue is not so

much "rights" as what types of beings are members of moral communities and as such entitled to certain treatment regardless of their ability to claim that treatment for themselves. If this is so, the discussion of rights does not directly address the central issue.

Baier, although addressing the question of present rights of future generations, also develops a theory of cross-generational moral community which grounds obligations to future persons independently of the question of their present rights. And her emphasis upon a line of reasoning which sees that our cultural, social and environmental heritage come to us "as members of a continuous community" suggests that she sees no basic distinction between grounding obligations to future generations in a theory of moral community or a theory of rights. She does not, however, discuss the similarities and differences of these two possible groundings.

She states that there are no problems with assigning rights to future generations, but neither are there any benefits from doing so (Baier:173, 181). If future generations had present rights, then we would be obligated to them as their contemporaries will be, and "they have rights to a share of what is now left of those scarce resources" (Baier:171). She presents a theory of rights which (1) links the rights of one person with the obligations of another, (2) holds that a third party may be the beneficiary of the obligation and (3) requires that sanctions can be applied if the obligation is not upheld. The addition of a third party is crucial to her case of establishing rights for future generations because it allows ". . . the extension of power to claim the right from the right-holder to his spokesman,

vicar, or proxy" (Baier:172). As with Pletcher, the rights of future
persons are not person-specific rights, but rather general human
rights (Baier:172). And to possess general rights it is not necessary
to be able to identify the right holders individually or in detail.
Knowing that they will be (biologically) human is sufficient to
entitle them

> to basic nonspecial human requirements, such as
> uncontaminated air. Our dependence on fossil
> fuels may be, compared with the needs of past
> generations, quite special, and there may be good
> reason not to extrapolate that need into the
> distant future (Baier:173).

The concept of rights which she presents holds that "rights and
obligations are possessed by persons not in virtue of their unique
individuality but in virtue of roles they fill, roles that relate to
others" (Baier:173). I am uncomfortable with her emphasis upon roles
since it could easily lead to neglect of the whole person, that part
of the person abstracted from roles and to whom ideas such as "basic
human necessities" apply. A "role" has no "basic human necessities"
and can be as accidental as "individuality". Baier correctly
separates "rights" from personal identity, but she also needs to
separate them from social identity. Basic human rights should not
change just because social roles change.

Only in the case of genuine conflict between obligations to the
present and the future might the identity and number of future persons
come into play, but the obligations to posterity have moral priority
over the continuance of our extravagant lifestyle. The wise saving,
planning and sacrificing of past generations was not solely for our

generation (Baier:173). The important thing is that ". . . we recognize our obligations to consider the good of the continuing human community . . ." (Baier:181). And in this continuity, our generation holds a special place because we have knowledge about the long term effects of current environmental decisions which was not available to past generations. Further, we have a "relatively privileged material position" and we are more aware of how much we owe past generations (Baier:175-177, 180). This portion of her discussion clearly grounds our obligation to future generations on a temporal expansion of moral community.

Her view of rights in the context of the continuity of the human community leads her to conclude that the right we would claim against past generations would be the right to receive the public benefits that past generations received, for example universities. She likens this to reaping where we did not sow. In the progression of generations, each generation has "the obligation to regenerate what they themselves did not generate." An implication of this is that if we overbreed, we are obligated not merely to conserve, but to increase the supplies of food and water for the extra persons (Baier:177). This is a key to the concepts of obligation and moral community.

> The crucial role we fill, as moral beings, is as
> members of a cross-generational community, a
> community of beings who look before and after, who
> interpret the past in the light of the present,
> who see the future as growing out of the past, who
> see themselves as members of enduring families,
> nations, cultures, traditions (Baier:177).

Baier is not sure theories are the proper ground for "assertions about obligations" and contends that no present theory "captures the

right reasons for the right attitudes to past and future persons" (178).

She discusses three points the community where obligation occurs: "First, it is not a community to which one <u>chooses</u> to belong, but one in which one finds oneself (Baier:178; Berger and Luckmann). Second, a moral community is formed by acknowledged relations of dependence and interdependency, and the most basic of these relationships are not self-initiated (Baier:179). And third, this "cross-temporal moral community . . . is not restricted to those who share one's own way of life, but extends to all those with whom one stands, directly or indirectly, in dependency or interdependency relations" (Baier:179). (Nell presents a similar argument for a cross-spatial moral community.) The cross temporal moral community is also cross cultural "and brings it about that (at least) no one human is alien to me" (Baier:179). "I have argued for a convergence of important interests of past and future persons, so that obligations to future persons do not stem from consideration of their interests alone" (Baier:181).

She holds, as does Callahan (1971), that obligations to future generations are grounded in our inheritance from the past and in the continuity of the human moral community and the human project. Our primary obligation to the future is to ensure that they exist, that they have adequate basic resources for their needs, and that they receive from us the institutions and gifts that past generations entrusted to us to pass on. She closes with a summary: "Future persons stand to us in several morally pertinent roles that give rise to obligations on our part." They are owed unpoisoned resources,

their share of the public goods created by past generations, their existence in appropriate numbers, or more likely, compensation for overpopulation in terms of adequate food (Baier:181).

De George, like Baier, has no objection to the view that future generations have rights but points out "that in ascribing rights to persons who do not exist it is the existing person who is expressing his interests . . . " (De George:159). Thus, he disagrees with Feinberg. De George agrees with Baier and Macklin that rights are not illuminating in regard to future generations, but he rejects utilitarian and consequentialist views as inadequate. And, future generations will actually have rights in the future, but these cannot compete with present claims now.

> Moreover, the weight which should now be given to the rights claims which future individuals or future generations will have should be proportional to the likelihood that such individuals will exist and, by analogy with the case of parents, the obligations should be borne by those individuals (and collectively by those groups) most responsible for bringing the individuals into existence (De George:160).

He advocates discounting the future, which Hardin rejects, but his last sentence in the quotation above has the same effect as Hardin's principle of carrying capacity: if third world countries want to produce more people, they must feed them and look to their future. Future generations will have no right to oil if that resource is exhausted before their birth, because it is impossible to have a right to something which does not exist (De George:160-161). He provides other examples of the problems introduced by claiming that future generations have rights now, but maintains that even though the

concept of rights fails to apply to future generations, present persons are obligated to leave future generations a quality environment and a range of possibilities "consistent with satisfying their own rational needs and wants" (De George:162). But there are still many problems: how many future generations are we to consider? Will future generations discover substitutes for what is indispensable for us? And the major problem for utilitarianism, on De George's view, "consists in specifying our rational and justifiable needs" (162). He does not address this problem but notes that parents are not obligated to leave their children better off than they are. And with the growing realization that progress cannot continue forever, and even now is dropping off, "what would be reprehensible on the individual level is if we live in luxury and allowed our children to exist at a subsistence level" (De George:163). He advocates the status quo: we have no obligation to improve life for the next generation but an obligation not to make it worse. His final suggestion is that quality of life does not consist of quantity of goods. We must pass on to future generations those things that matter most: culture, knowledge, moral values, "the qualities of mind and spirit which will help them to cope with what they have . . ."
De George:164). These are only suggestions and require a theoretical and an institutional framework. But he concludes that the needs of the present outweigh the needs of "some far distant time" (De George:164). In the Routleys' scheme, he falls on the middle of the fence because he holds that theoretically we have obligations to future generations, but in the end opts for presently existing persons.

For Macklin, obligations exist towards others which are not based upon rights. Rights are assigned to sentient creatures and since possible persons are not sentient, future generations cannot be assigned rights. Further, the class of "future persons" has no members (Macklin:152-153). Even so, "it does not follow that there are no moral restrictions whatever on acts in the present that will have foreseeable effects upon the future" (Macklin:154). The "fundamental justification" for considering future generations is utilitarian: ". . . we ought to engage in those actions that will have the best consequences on the whole" (Macklin:154). And Macklin concludes "that a deontological conception of morality may be too narrow to encompass all the actions properly subject to moral review" (154). Thus, "we ought (morally) to take steps or engage in actions with an eye to, or for the sake of, future generations as long as we believe that actual persons will exist in the future" (Macklin:155). As the Routleys argue that the concept of moral community is not the whole of morality, Macklin argues that rights, or more broadly, deontological ethics, are not the whole of morality. The emphasis upon the link between sentience and rights and the non-identifiability of particular individuals who will compose future generations are crucial to her position. And implicitly, so is the issue of potential versus actual personhood. Much as Feinberg acknowledges that future generations will actually have interests, Macklin acknowledges that they will actually exist.

In summary, there is no consensus about the rights of future generations. Pletcher and Feinberg argue that the concept of rights

applies to future generations, Baier and De George agree that it
applies but do not find it useful and Mackin argues that future
generations do not have rights now although they will in the future.
The complexity of the issue and the overlapping of the categories for
discussion also became apparent. Several of the articles focusing on
the rights of future generations also dealt with questions about the
identity of future generations and about moral community. What has
the discussion of the rights of future generations contributed towards
an understanding of the problem of obligations to future generations?

Pletcher's attempt to use the identity issue as a ground for the
rights of future generations fails because he does not preserve the
temporal distance between present and future generations, but rather
tries to pull future generations into the present. He does, however,
contribute an understanding of "general human rights" which suggests,
in contrast to Golding (1972), that we can know enough about future
human beings to allow consideration of our moral obligations to them.
Feinberg also emphasizes this point. And although he is discussing
rights, argues that the identity of future generations is irrelevant
because we know that they will exist and that they will have interests.
Using the analogy of animal rights, he maintains that future
generations have rights even though they cannot claim them for
themselves. Thus a third party or proxy can serve as the voice of
future generations in the present.

Baier presents two parallel groundings of obligations to future
generations, one based on rights and one based on a theory of cross-

generational moral community. Like Feinberg, she states that third parties can claim rights for future generations. She acknowledges the real possibility of a conflict between the claims of present and future generations. Part of the resolution of such conflict is the realization that we are members of a continuous human moral community which extends from the present into the past and the future. Present generations are obligated to preserve this continuity and to pass on to the future the resources and public goods which past generations gave to them.

De George advocates discounting the future which effectively prevents any obligation to future generations. Although he allows the concept of rights to apply to future generations, he argues that it causes more problems than it solves. He advocates the status quo, but has the hope that non-material goods like culture, knowledge, and moral values will be passed on to future generations.

Macklin argues from a utilitarian position that even though the concept of rights does not apply to future generations, present generations are still obligated to them because they will be affected by present actions. Her discussion deals tangentially with questions of the identity of future generations and of their potential personhood.

The concept of rights does not by itself provide a satisfactory grounding for obligations to future generations. It, however, reveals the importance of the questions about the identity of future generations and the nature of the moral community within which the concept of rights applies. The question of the identity of future

generations is a metaphysical dispute. Is the strong concern with identity a question of this age and culture (post-"God is dead" and post-Watergate) or is it a question which truly belongs to the issue of obligations to future generations? I wonder if the question "Who are you?" is the primary determinant of moral obligations? Clearly our actions and our morality shape our identity, but should morality be shaped by the other's identity?

The Identity of Future Generations

For Golding the answer to the question of the identity of future generations is the determining factor in deciding if we are obligated to them (1972). He argues that we are not obligated to any but the next generation because we cannot know that future generations which are not our contemporaries will agree with us about "the good", i.e., we will not know their identity. Without this knowledge we cannot be certain that they would be members of our moral community. Callahan (1971), Pletcher, Feinberg, Baier and Kavka disagree with Golding. They contend that future generations will be human generations and therefore we can know enough about them to talk meaningfully about obligations to future generations. Callahan (1971) and Kavka add that Golding's view of the human moral community is too narrow; it does not even include all contemporary humans. This issue is also closely related to the that of the moral status of "potential persons" which was raised by Macklin.

Several authors who dealt primarily with the rights of future generations also mentioned the question of the identity of future generations. Feinberg points out that:

> The real difficulty is not that we doubt whether
> our descendents will ever be actual, but rather
> that we don't know who they will be. It is not
> their temporal remoteness that troubles us so much
> as their indeterminancy--their present
> facelessness and namelessness (Feinberg:147-148).

This is the major difference between temporal and spatial distance for

moral concerns. Presently existing persons have an identity that is

available for inspection even though it may not be inspected. Baier's

emphasis on "roles" is also an attempt to deal with the facelessness

and namelessness of future generations.

Some articles deal directly with the question of the identity of

future generations. Schwartz agrees with Golding that we have no

obligations to "our distant descendents" because such an obligation is

grounded on equivocation. He also doubts that we can care about

posterity (3). We certainly should not adopt a restrictive population

policy, but should instead preserve individual freedom in procreative

decisions. The keystone of Schwartz's argument is that we cannot be

obligated to do anything unless we can identify a particular person

who would be affected differently if the policy in question were

adopted or not adopted. In the case of future generations, he uses

population policy to argue that the individuals who would compose the

future generations in question under two different policies would not

be identical and thus it becomes impossible to say that one or the

other policy makes them worse off. His first premise is mistaken and

undermines his argument. It is not necessary to be able to identify

particular individuals who could in actuality exist in different

possible but mutually exclusive societies to show that life in one

would be better than life in another before any moral claims can be made. It is enough to know that future persons would be harmed by present policies. Schwartz grants this, but argues that it is irrelevant because no one individual could possibly exist at the end of the different causal chains that differing present policies would entail. Schwartz rejects the more general statement "society 1 would be better off than society 2" by replying,

> But such a policy would be no favor to our distant
> descendents. They could not reproach us for
> having adopted a laissez-faire policy instead.
> The beneficiaries of the restrictive policy would
> be ourselves - those of us anyway, who get their
> kicks from the prospect of a flourishing future
> society (Schwartz:7).

This is Hardin's second order altruism (1977a:83), but contains an implicit question about the relative strengths of moral claims of presently existing persons and future generations. Schwartz, by implication, agrees with Hardin that all social policies rest upon self-interest. But this philosophical article takes a trivial point and focuses upon it to the exclusion of a major issue. It would have amounted to something if the proposition that particular identifiable persons have to be harmed before a policy can be immoral was analyzed and defended. Routley and Routley successfully argue against this claim. There is some indication, however, that this assumption is generally accepted, or reluctantly rejected by those who refuse to accept the implication which Schwartz draws from it. I suppose one could argue that Ramsey's "citizen" or "non-combatant" (1961:67) is identifiable in a way that "future person" is not, but Schwartz takes identity to mean "exactly the same individual" and argues at length

that since restrictive versus laissez-faire population policies would never effect the same person(s) they cannot be compared! This is an absurd application of consequentialism, and applied consistently would make it impossible to judge between most courses of action where the agent acts to affect others. The underlying issue, which is not explored, is the notion that continuity in time is a crucial factor in identity. Both Schwartz and Golding rest their case on an inability to answer the question "Who are future generations?" or "What is the identity of future generations?" Hardin's use of germ line emphasizes the continuity between present and future generations without raising the question of their identity. Schwartz sums up the difference between two sets of possible future generations resulting from restrictive versus liberal population policies as follows:

> In sum, Y would have differed from X in origin
> (different gametes), in content (different matter,
> different mind) and in basic design (different
> genotype), and he would have been shaped by a
> different environment to perform different
> functions (5).

He suggests, on the other hand, that a restrictive population policy might be owed to ourselves. If the policy would benefit distant descendents there must be a similar policy that would not cost us as much and would similarly benefit us and our near posterity. This less costly policy should be adopted.

> Many of us want mankind to prosper . . . . So
> those who would like our distant descendents to
> enjoy a clean, commodious, well-stocked world just
> may owe it to their like-minded contemporaries to
> contribute to these goals (Schwartz:11-13).

But, they do not owe it to posterity and, if they could find a way,

would just as soon everyone except them contributed to this cause (Schwartz:11-13). His conclusion is much like Bridgman's: a real concern for the future is impossible and a stated concern is nothing more than a mistaken or poorly described attempt to get approval from present persons (or optimistically stated, to join with like-minded individuals in a common project).

Schwartz is a proper target for Hardin's criticism that philosophy neglects posterity. His view of ethics makes it impossible to consider future generations by requiring different policies to effect the same individuals before any judgment can be made about which policy is better. Therefore, for Schwartz, we can only be obligated to presently existing identifiable individuals.

For religious groundings of obligations to future generations, however, the identity of the future generations is irrelevant. Derr suggests "that the case for an obligation to the future would be immeasurably strengthened if we viewed our life in the transcendent perspective which the religious imagination affords" (95). Religious transcendence reminds us (1) that we are accountable to God for all the results of our actions, even those which occur in the remote future, and (2) that in an ultimate sense, the human community before God knows no time boundedness. The covenant which spans generations also suggests that Biblical ethics can provide guidance in considering future generations. Nonetheless, we cannot sacrifice present persons who are clearly in need for future generations (Derr:42ff). Partridge also emphasizes transcendence but in an anthropological rather than a religious context.

Hartshorne presents a vision rather than a philosophical argument. Although he cites Buddha, Whitehead and Peirce (Hartshorne:103), his view is also compatible with Teilhard De Chardin's. "The rational aim of life, according to this view ["contributionism"], is to contribute value to the future, in principle the entire future, beyond any finite time limit." Even present persons are "at least slightly future" (Hartshorne:103). Likewise, we know that future persons as a minimum will have certain basic needs and we are obligated to provide them: "I submit that if our contribution to the future is not our justification we have none." He is critical of our "conspicuous waste" (Veblen) and our "extravagant plenty" and is aware of the possible competition between goods (Hartshorne:104). But, "our ultimate obligations are to the future in an impersonal or superpersonal sense, to humanity, nature, and God" (Hartshorne:105). Therefore it is not necessary to identify persons who will compose future generations. Historically, the fathers of our country had a sense of posterity which, although lacking knowledge of the identity of posterity's individuals held "a virtual certainty that there would be people in this country who for generations or centuries would enjoy or suffer the consequences of what . . . [they] were doing" (Hartshorne:106). But this is not the limit of obligation: Hartshorne sees all religions as valuing the cosmos, not merely groups of human or subhuman animals. We can contribute to this whole only in its future aspects. He adds that only a religious or philosophical scheme can give life meaning. Science makes us clever animals but religion and philosophy lift us to full humanity. He concludes: "we do indeed have obligations to

posterity. As Denis Hayes remarks, 'after me the deluge' is no better
coming from a whole generation than from a French king'"
(Hartshorne:106-107).

In Hartshorne's religious vision we have obligations to posterity
because of our ultimate obligation to contribute value to the entire
future. But the primary threat to the future is not overpopulation,
it is the nuclear military threat (Hartshorne:106). Our lack of
knowledge of the identity of future generations is not an issue for
him.

The potentiality issue is closely related to the identity issue
and Warren rejects potentiality as a basis for obligation to future
generations.

> Sentience is the ultimate source of all moral
> rights; a being which has experiences and which
> prefers experiences of some sorts to those of
> other sorts, has on that basis alone a prima facie
> right that those preferences be respected by
> beings which have the intelligence to comprehend
> this fact (Warren:22).

This basic principle widens the moral community beyond the human and
suggests that we have a way to go before we are "completely moral"
(Warren:24). Our concern should not be with "potential people" but
with the "actual people" who will exist in the future. This is
Anglin's mistake: a rigid failure to use imagination to project
possible futures as a means of deciding which is morally superior.
Warren's point is that we do not have to hold that potential people
have rights or see their potential existence as making them members of
our moral community to bring future generations into the sphere of
moral concern. We simply have to acknowledge that they will be actual
in a future time and that our actions will impact them. Warren's

position eliminates many of problems and yet provides a reasonable basis from which to consider obligations to future generations. We are obligated not to "overpopulate their world" and to respect future generations as if they were contemporaries. She maintains that "actual future people, i.e., those who don't yet but will exist" is a different category than "present but merely potential people". The latter category may not be sentient but the former will be.

Although it is difficult to pinpoint, this is not merely a semantic squabble, but an important idea: we do not have to smuggle future persons into the present under the guise of potentiality to make them worthy of serious moral consideration. And if Warren's argument stands, attempting to use the potentiality principle in this way creates far more problems than it solves (25-29).

Anglin unsuccessfully defends the potentiality principle against Warren's attack. He makes a crucial step that is not well supported: "Since there is an obligation to promote their interests [i.e. the interests of the children one might decide to produce], there is a fortiori an obligation to bring them into existence" (Anglin:31). Even though he emphasizes the causal sequence, he seems to be confused about the time sequence and to identify the decision to have a child (which is reversible until the moment of birth) with actually having a child (Anglin:31). An obligation to future generations is implied because "there is sometimes an obligation to produce people for the sake of happiness" (Anglin:37). We are obligated then, by the potentiality principle, to produce future generations so happiness may increase. Anglin's handling of this issue seems inflexible and

unimaginative. It falls prey to his own criticism of Warren: "Warren's argument cannot possibly convince anyone who does not already agree with her" (Anglin:37). This is a common problem when dealing with basic grounding assumptions such as accepting or rejecting the potentiality principle. But in the end, Anglin simply sets his assumption in favor of the potentiality principle against Warren's rejection of it.

Anglin has missed the point of Warren's argument. He cannot separate "potential person now" from "actual person in the future". He cannot expand the time frame of his moral thought beyond the present and think of future persons apart from their alleged existence now as potential persons. Warren explains the mistaken identity that is involved here and describes what Anglin is doing:

> Similarly, I think that when we try to imagine that state of affairs consisting of our never having existed at all, what we in fact tend to imagine is rather that we, the existing people that we are, are suddenly to have our very existence snatched away from us, as in the science fiction plot in which a time traveler "eliminates" someone by seeing to it that that person's parents never meet each other (Warren:20; Hardin, 1980:275).

The problem is that we cannot remove ourselves from the picture. In Lonergan's terms, we think we are doing science, i.e., being detached, describing relationships between objects without reference to ourselves, when we are actually using the heuristic of common sense in which there is no observer but rather a subject and that to which he is relating. The concern is with the relationship of the object, or concept, to me. This is to say that we identify so deeply with the

situation that it cannot be considered in the scientific heuristic since our personal existence is not a question which can be addressed as an objective observer. Any question of my existence or possible non-existence is of ultimate significance _to me_ and cannot be considered in any number of possible interchangeable space-time frameworks (Lonergan). It seems that Anglin is refusing to perform an exercise that is a basic part of moral decisions, namely, asking "What if I had a child?", imagining the future life of the child and deciding from that imaginary projection whether or not to actually cause a child to come into existence. There is also an odd notion that an unhappy person is not a member of any moral community, or at least should not be, and Anglin has shifted the focus subtly from the issue of potentiality as a criterion of membership in a moral community to happiness as a criterion. He also sees the rights of the potential person as outweighing those of existing persons: clearly there are deep disagreements about underlying presuppositions and values.

Anglin's conclusion is presented clearly. He claims Warren is equivocating on population size--at times seeing it as fixed and at times as fluctuating depending on procreative decisions. "But either the hypothetical person is a member of the given population or he is not" (Anglin:36). Warren's point is that a hypothetical person is never part of any, except an imaginary, population. Anglin merely asserts against her view that a hypothetical person is a person and a member of the present moral community. Warren has made a significant contribution to the discussion of obligations to future generations by

showing that it is not necessary to hold the potentiality principle to claim that we have such obligations.

Govier considers questions of population policy and duties to posterity and feels the term "future people" is misleading.

> However, we do not know that there will be any future people, and we cannot know that there will be any.

> For the purposes of moral reasoning, it is misleading to think that there are future people, who differ from us only with respect to the time at which they exist. Rather, there are people who for us are epistemically possible and whose existence is highly probable (Govier:107).

"Epistemically possible" means "known to be likely to exist". She rejects any human project, or temporally extended community grounding for obligations to future generations as unpromising because of the identity problem and supports her case with an uncertainty argument. But her argument contains a confusion between the levels of individual and group. Even though, as she suggests, every individual life is full of uncertainty, these individual uncertainties cannot simply be added together to arrive at a huge uncertainty for the species which makes survival impossible. She writes as if the life of the species is as fragile as the life of its weakest individual. And she discounts the future because of "the probability that an epistemically possible person will exist is always less than one" (Govier:109). These problems, and the Routleys' convincing refutation of the uncertainty argument, remove any force from Govier's paper.

The consensus is against Golding and Govier; our lack of certain knowledge about the identity of future generations does not remove

them from our sphere of moral concern. Those positions which use the uncertainty of the future to deny obligations to future generations are soundly refuted by Routley and Routley. They provide a helpful overview of positions against obligations to future generations even though they focus on the morality of nuclear energy. The majority of their paper is a refutation of "uncertainty arguments" which claim that the future is uncertain and therefore outside the range of our moral concern. Golding's position rests on an uncertainty argument: we are uncertain of the social ideal of future generations and therefore not required to view them as members of our moral community. But, the Routleys argue that in most cases, particularly in regard to nuclear energy, there is no significant moral difference between contemporaries and future persons. It is immoral to transfer the risks of our actions to others who had no causal role in creating those risks and who will experience none of the accompanying benefits (Routley and Routley:278, 289, 293; Neuhaus, Faramelli). Temporal distance does not remove the moral constraints upon our actions.

The Routleys list three major positions against obligation to future generations: (1) those which acknowledge them but do not take them seriously in comparison with obligations to present generations, (2) those which deny any obligations to the remote future, and (3) those which acknowledge them in theory but for practical purposes deny them to all but the next generation. They place Passamore and Golding (1972) in this group. Derr and Neuhaus could also be placed here. The second position, the unconstrained position, is dealt with briefly. It holds that there is not sufficient "temporal or spatial contiguity"

to obligate us to future generations (Routley and Routley:282). Some

versions of this view hold "that someone to whom a moral obligation is

held be able to claim his rights" (Routley and Routley:282) or require

that social sanctions be applied against the violators of the

obligation. Clearly, future generations can neither make claims for

themselves nor enforce their interests now.

> Both the view that moral obligation requires the
> context of a moral community and the view that it
> is contractually based appear to rule out the
> distant future as a field of moral obligation, as
> they require not only a common basis, which cannot
> be guaranteed in the case of the distant future,
> but also a possibility of interchange or
> reciprocity of action which cannot apply to the
> future (Routley and Routley:293).

Nor does a morality grounded "in non-transitive relations of short

duration such as sympathy or love" generate an obligation to future

generations (Routley and Routley:293).

> What all these views have in common is a
> naturalistic picture of obligation as something
> acquired, either individually or institutionally,
> something which is conditional on doing something
> or failing to do something (e.g. participating in
> the moral community, contracting), or having some
> characteristic one can fail to have (e.g.
> sympathy, empathy). Because obligation therefore
> becomes conditional, features usually thought to
> characterize it, such as universality of
> application and necessitation (i.e. the binding
> features) are lost . . . . (Routley and Routley:
> 293).

So, the Routleys are suggesting, in more specific terms than Jonas,

defects of certain traditional ethical theories that make it

impossible for them to support an obligation to future generations.

Stated positively, the unconstrained position maintains that future

generations can take care of themselves, but ignores the causal

importance of the present for the future (Routley and Routley:284).
Rather than viewing moral obligation as directed toward some
identifiable person and as conditional, they suggest there are moral
constraints where "responsibility arises as a result of being a causal
agent aware of the consequences or probable consequences of his action
. . . " Routley and Routley:284-285). "Thus also moral constraints
can apply to what does not (yet) exist, just as actions can cause
results that do not (yet) exist." And it is sufficient that moral
constraints exist to make it immoral for us to harm future
generations: no further conditions need to be met (Routley and
Routley:285).

Many positions which emphasize the uncertainty of the future use
the practice of discounting the future which Hardin criticizes. And
even though these positions may acknowledge obligations to future
generations, in application they result in the unconstrained position.
Another version of the uncertainty argument is more blunt: since we
can know nothing about the effects of our actions on the remote
future, we cannot plan the results of our actions, and therefore we
have no moral obligation to future generations. The Routleys argue
that this grossly overestimates the degree of uncertainty about the
remote future. Their article is discussing nuclear wastes which have
half-lives of thousands of years and thus have known risks even for
generations in the remote future. Against these two formulations of
the uncertainty argument, the Routleys reply that the same types of
uncertainties are present when dealing with "spatially remote people"
(285-289).

A third formulation of the uncertainty argument shifts the concept of technological fix into the future and contends that we cannot be certain that future generations will not solve the problems which we bequeath them. Hardin's point applies: a fundamental change in values and social structures is necessary; no change in technology can solve the problems which impact upon future generations. Even though this uncertainty is real, it must be weighed against the "significant risk of serious damage" that the proposed action carries for posterity (Routley and Routley:290). In summary, uncertainty arguments call "attention to some real uncertainty implying that this is sufficient to defeat the application of moral constraints. But as we have seen, this is often not so" (Routley and Routley:291).

There is also a metaphysical uncertainty due to the "non-existence and indeterminancy of the future", but the metaphysical status of the future does not for the Routleys affect our obligation to future generations because such metaphysical sensitivity would make nonsense of causality and deny facts (291-292). This is a problem for utilitarian theories, or any theory that relies upon a quantitative approach because it is difficult to quantify a possibility.

> For it is essential in order to apply moral consideration in the accepted way that we consider alternative worlds, . . . but these alternative or counterfactual worlds are not in so different a position from the future with respect to determinancy . . . . (Routley and Routley:292).

Thus, in principle, there is no difference between the indeterminancy of the future and that of a situation where multiple outcomes are possible. I see this as an issue of moral imagination and the size of

the role human creativity is allowed in shaping and re-shaping the human project.

Another aspect of the quantitative approach is an overemphasis upon the distributional problems with regard to the future (Routley and Routley:293). The Routleys contend that our obligation to future generations does not depend for grounding upon quantitative analysis or a detailed identity description of future people. There are, then, no factors applicable to future generations which "disqualify them from moral consideration or reduce their claims to it to below those of present people" (Routley and Routley:293). The universalizability principle makes moral claims independent of the spatial and temporal position of the claimants (Routley and Routley:293). But it is not necessary to accept a complete universalizability principle to establish obligation to future generations: one must only "require that the temporal position of a person cannot affect his entitlement to just and fair treatment, to full moral consideration . . ." and thus future person's claims are on an equal footing with those of present persons (Routley and Routley:294). We are morally required not merely to see that the human species survives, but "to see, other things being equal, that we do not act so as to rob future people of what is necessary for the chance of a good life (Routley and Routley:294). This is a suitably vague requirement which nonetheless holds that mere survival is not a morally acceptable goal. The Routleys further suggest that theories such as utilitarianism which cannot handle the future are probably inadequate in some respect in their handling of the present (293). Like Faramelli and unlike

Neuhaus, they contend that present social justice and "ecojustice", in its aspect of justice for future generations cannot be achieved separately.

The third argument against obligations to future generations is that there are overriding considerations which cancel the obligations. The Routleys also find this unconvincing because it usually rests on economic arguments. Economics is subject to morality and cannot provide a rational basis for overriding morality. A legitimate overriding concern must be a moral concern.

> The structure of such moral conflict arguments is based crucially on the presentation of a genuine and exhaustive set of alternatives (or at least practical alternatives), and upon showing that the only alternatives to admittedly morally undesirable actions are even more undesirable ones . . . . In short, the arguments depend essentially on the presentation of false dichotomies (Routley and Routley:295).

A common assumption in the literature on obligations to future generations which Hardin makes (1977a:84), is that high-technology societies "are uniformly and uniquely valuable". The Routleys rejection of this leads them also to reformulate the question to which it leads: "What is necessary to maintain existing high-technological society and its political institutions?" becomes "What is necessary to maintain what is valuable in that society and the political institutions which are needed to maintain those valuable things" (296)? They call for a critical approach to society rather than an uncritical acceptance of the status quo. A highly energy consumptive society, they contend, is likely to become authoritarian and "political freedom is a high price to pay for consumerism and energy extravagance"

(Routley and Routley:297). Hardin sounds like he is willing to pay that price.

The Routleys' view can be summarized briefly. They argue that objections to obligations to future generations fail because they demand more certainty than is usually demanded or available for moral decisions about the present, they set forth incomplete sets of alternatives (a false dilemma), or they rest on an uncritical acceptance of present high-technology societies. We do have obligations to future generations because temporal location is morally irrelevant and because such obligations rest on moral constraints which do not require future generations to make claims for themselves in the present, to contract with us, or to share (or evoke) certain emotions in present generations.

The views considered above provide an answer to the question, "Must the identity of persons affected by moral decisions be known before one is obligated to deal morally with them?" The consensus is that we do not. We know enough about common human needs to choose policies which leave open possibilities for future generations to meet their needs. This issue implies a question about moral imagination. Schwartz and Anglin have difficulty with the problem of the identity of future generations because they do not use moral imagination to project alternative futures and choose between them. Emphasizing the lack of knowledge about future generations includes forgetting that there is no radical discontinuity between even the remote human future and the human present. Hartshorne reminds us that even present persons are partly future. Routley and Routley show that moral

uncertainty is not limited to the future but occurs in the present as well. Religious views see moral life in an eternal or cosmic context that make temporal distance morally irrelevant, but may also tend to reject the future in favor of present needs (Derr, Neuhaus). A basic tenet of classical utilitarianism is that temporal distance is morally irrelevant. Another group of articles emphasizes this point by arguing that the human moral community links past, present and future.

Community and the Human Project

Arguments which ground obligations to future generations in the human community or the human project implicitly hold that the identity of future generations is relevant and can be known sufficiently for moral purposes. Our obligation to future generations, they argue, rests on the continuity of the human community through time. Callahan (1971) first suggested this line of argument and Selk, Bennett, and Rolston (1980) present arguments in this category.

Selk develops the "argument-sketches" of Boulding and Golding into an argument for moral community as the basis of obligations to future generations by building upon Royce's theories of the self and community.

There are three aspects of the self which must be considered to understand Royce's theory of community. First, "the self is essentially social . . . " and is formed in a social context. Second, the self is purposive and is centered (Tillich's term) "by commitment to an ideal or life plan". The self, then, is "a task which the individual has yet to accomplish . . . ." (Selk:257). /2/ Third, the

self is a time process in continual development and requires an awareness of the past. The development of the self through time must be continuous and coherent "and the self achieves this through the adoption of a life plan" (Selk:258-259). This theory of the self becomes the basis for Royce's theory of community with its "emphasis on continuity, a certain steadfastness, and coherence."

Like his theory of the self, Royce's theory of community also has a three part structure. First, a community must have temporal extension and is in relationship with its past and its future:

> Community is founded upon 'the power of an individual self to extend his life, in ideal fashion, so as to regard it as including past and future events which live far away in time, and which he does not now personally remember' (Selk:259).

This view sees the future as arising from the past and as shaped by an ideal. Second, "genuine community" involves actual communication among its members (Selk:259). This is an hermeneutical task: "The present interpreter mediates past minds to future minds" (Selk:260). Thus, our generation is a transmitter of information, ideals, and identity from past generations to future generations. This task of interpretation holds a community together: "A true community works constantly on improving understanding between its members" (Selk:260). Third, for Royce a true community has temporal extension where the community of the past becomes a "community of memory" and the community of the future becomes a "community of hope" (Selk:261).

Selk then proceeds to construct a "Roycean" theory of obligation by defining "moral obligation" as "the binding force on a person to

perform certain acts, a boundness which follows in part . . . from a commitment which that person has made to another person or group" (262). Although such obligations are usually implicit, they become explicit when "the members of a community have made a conscious decision to become a member of one community rather than another" (Selk:263; see Hardin, 1973a:17). But, only a "true community" (Royce's term) has valid claims upon its members. Moral obligation and commitment are, then, shaped both by the member's commitment to the community and by the nature of the community itself (Selk:264). From this, Selk builds a five step argument connecting "community, obligations to future generations and concern for the environment":

(1) Moral obligation arises from personal commitment to a community.

(2) A "true community" has "valid claims" on its members.

(3) A community is "a continuous temporal process." And:

> (4) Therefore, a person has an obligation not only
> to the present community of which he is a member,
> but also to the future community which will issue
> from the present community.
> It is a short and obvious additional step to
> conclude that (5) this obligation to future
> generations extends to the present care for our
> environment, since the future community will be
> greatly affected by what the present community
> does to the environment (Selk:264-265)

Selk sees the step from (3) to (4) as critical, but I think the crucial step is the transition from (4) to (5). It may be possible to make this step without any notion of community as a continuous temporal process linking past, present, and future by using Tillich's ontological theology (see chapter 4 below).

Selk then proposes and refutes several objection to this theory. Some objections question the consent aspect of commitment to a community and are ramifications of the general question "Whose commitment (or consent) is to count and over what period of time?". Are an individual's past commitments to be taken into account along with his present commitments and, on the community level, do the ancestors' commitments count now? Is commitment a matter of majority rule? Does commitment always result in obligation (Selk:265)?

Selk replies that past commitments are relevant to present obligation because full selfhood includes a continuity which is based upon his orientation to a life plan and runs through the individual's past, present and future (Selk:266). So too for the community: the commitments of the ancestors who are a part of the temporally extended community "must be an important component in determining the obligations of the present generation" (Selk:266-267). He addresses the questions about the extension and limits of obligations by noting that obligation is not merely self-imposed but also arises from the nature of community:

> the community which encourages it members to
> develop and pursue coherent, unifying life plans
> and ideals . . . . the community which deserves
> commitment and thereby has valid claims on its
> members is the one which allows and encourages its
> members to achieve healthy personhood (Selk:269).

Thus moral obligation can arise from the self in its commitment to a community and from the community. Aside from the question of a given individual's or group's consent, "A 'true community' in the sense just specified [i.e., one which fosters the development and pursuit of

"coherent life plans" by its members] is one whose members <u>ought</u> <u>to</u> <u>consent</u> to it, regardless of whether they have actually done so" (Selk:270).

There is also the objection raised by Golding which was discussed above, and Selk agrees with Callahan that future generations will probably be much like we are. "A Roycean theory does not require a strict homogeneity between the present and future state of a community . . . . It requires some degree of continuity" (Selk:270). Historically, change in human systems has been gradual and a drastic break between our generation and even remote generations is unlikely (Selk:271).

Another possible criticism" common to socio-political theories which emphasize community -- is that it would destroy individuality" (Selk:271). But, Selk contents, "commitment to a common past and future goals is a commitment to general ideals . . . . pluralism on the level of individuals is compatible with unity on the level of shared history and goals" (272).

Finally, Selk addresses the limits of community: "the obligation seems to be restricted to <u>our</u> community" and this is unhelpful in regard to environmental issues (272). He appeals to "the <u>human</u> community", that which all men have in common (Selk:273). Royce expresses this in terms of a future ideal, "the community of mankind", which will nonetheless have "distinct national unities" (Selk:273). "Royce also speaks of the need for a 'wise provincialism' to counteract the 'levelling tendency' and the danger of 'mob-spirit' in the modern world" (Selk:273; Tillich, 1933). Thus, for Roycean

theory, "Smaller communities may be viewed as overlapping with other communities in an intricate network" (Selk:273), a view not unlike that Hardin suggests (1978a).

Selk concludes that the obligation to future generations "indirectly includes all mankind" and although our obligation to those in our own community is stronger than that to mankind, even "a strong sense of this obligation [to our community] would go a long way toward mitigating the environmental situation" (Selk:274).

In this article, Selk states a version of the moral community grounding of obligation to future generations from a Roycean base. His position could be seen as a more philosophical statement of Rolston's river of life (1980), without the problem of ambiguity of terms. Selk argues that such an obligation, and indeed moral obligation in general, derives both from the individual commitment to a true community and from the nature of the community itself. In other words, obligation arises from the individual's commitment to a true community which validly claims obligation from its members and is grounded in the temporal continuity of communities. But in trying to expand the obligation to future generations in this way, which by implication are future generations of all mankind, the movement becomes hazy, visionary, ideal and, in the face of the practical forces, limited to our community. Although Selk acknowledges this in the spatial sense, he does not push its implication in the temporal sense. If we cannot extend community to spatially distant present mankind, how can we extend it to future mankind? But, this enters into the issue of human psychology and the motivational moral force of "mankind" which is beyond Selk's range of concern. /3/

Rolston addresses the issue of obligations to future generations with a metaphor for the continuity of the human community: "The River of Life: Past, Present, and Future". Five polarities which are "especially problematic under traditional ethical analysis" are seen as held and mixed in the river of life: (1) the actual and the potential, (2) the self and the other, (3) the human and the natural, (4) the present and the historical, and (5) the "is" and the "ought". Rolston acknowledges that his metaphor is "impressionistic and difficult to make 'operational'" but suggests that " as a symbol . . . it is a truth that bears moral insight, because it helps us see more deeply how the life process is and how it ought to be" (1980:123, 132). The problem is primarily one of the shortsightedness of an individualistic ethic and of a need for a collective vision (Rolston, 1980:123). His polarities point to some standard issues which shape the answers to the question of obligation to future generations.

Rolston's polarity of the actual and the potential brings up the question of the identity of future generations, which in the context of individual rights, or social contract theories makes it nearly impossible to consider future generations beyond grandchildren. But in the context of the river of life, the polarity is part of a "corporate current" where the present carries the potential: "this future belongs not to some hypothetical others; it is our future, which we who exist now do bear and transmit . . . . [It is] the future of our generation, the future we generate . . . ." (Rolston, 1980:124). The future of the human race flows through present individuals and beyond them. "We are so built as to be both

reproductively and culturally <u>projective</u>. That is the notion of
<u>con/sequences</u>, that there are 'sequences' that follow 'together with
past and present acts, and these consequences overleap the death of
the individual" (Rolston, 1980:124). And should the human species not
survive, it "would be lamentable both biologically and ethically"
(Rolston, 1980:125).

Self and other are the ends of the continuum of ethical
development which moves from egoism to kin to community. "[T]he
provision for regeneration" [read "survival"] supplies "a natural
beginning for the development of the moral sense in the defense not
merely of the self but of the in-group" (Rolston, 1980:125). Although
this statement could have been made by Hardin, as Rolston continues he
departs from Hardin's view.

> The evolution of conscience proceeds with a
> widening out of both senses of <u>kind</u> [related and
> considerate] so that they become less familial,
> less tribal, more ecumenical, reaching in the end
> a universal moral intent, and this extended sweep
> is not only a global but a chronological one
> (Rolston, 1980:125).

Both love of self and love of others stretch the time of concern into
the future and both are necessary. Here Rolston cites the Hillel
passage which Hardin also cites, (1977e:124) and proposes love as the
solution to the tragedy of the commons, rather than "some keener, more
calculating self-interest" (Rolston, 1980:127). He does not, however,
develop his provocative comment that "Those who join this collective
[read "altruistic"] current find new meaning in the earth's carrying
capacity" (Rolston, 1980:127), nor does he suggest how love will
conquer self-interest.

"It is typically, thought not invariably, the case that what is good now for the environment is good for the human future" and the categories of the "human" and the "natural" run together in the river of life (Rolston, 1980:127). Rolston's remarks about the relationship between the individual and the gene pool, the uselessness of the concept of rights in an environmental context, and the ultimate foundation of culture in biology, which subtly downplays culture, fit well with Hardin's views. But Rolston blurs the human/nature distinction by stating that "life is one of nature's projects, but it has flowed on so as to become one of our projects." And he seems to remove the possibility of transcendence by saying that "nature gives us objective life of which the subjective life of the individual is but a partial, inner face" (Rolston, 1980:128).

The river of life makes the connectedness of the past and present and future clearer. The past is not gone: "it survives in us; for the present is what endures out of the past." And "our present life is just that past life in a cumulative, contemporary incarnation" (Rolston, 1980:129). The present has creative elements but its "noblest adventures" pass on and contribute to intergenerational meaning (Rolston, 1980:129). Although there are real differences between past, present, and future, it is also reasonable to view them as inseparable parts of a whole time flow.

> The far-sighted see that to be alive in the present is to carry the past on to the future; and if so, it is rather the ephemeral "now" generation that is as good as dead, for they do not know what survival means. We are constituted in memory and hope, and it is indeed a prophetic truth that where there is no vision, the people perish (Rolston, 1980:130).

Thus, Rolston's vision has at least implicit religious elements.

The final polarity holds that in the flow of life "fact and fact-to-be-desired join 'the ought-ness in the is,' to cheer for this fabulous life project" (Rolston, 1980:130). Survival is valued: "life protects life; such survival is 'becoming,' again in biological and ethical senses. Should we fail, that would abuse our resources and abort our destiny" (Rolston, 1980:130). Life is a gift to be passed forward. Self-interest has its place but is balanced by sympathy and community. Rolston seems to have forgotten his own caution that survival be pursued morally and suggests that morality serves survival when he says: "the moral sense then becomes a new form of cybernetic control. But the effect of that switch can be, and ought to be, to ensure the continuity of a life process that has long been under way" (1980:131). /4/

Rolston sees an obligation to the future because biologically and ethically there are no significant boundaries between past, present and future. The biological project has become the human ethical project and is not imbued with value and meaning. In his vision, the precise relationship between biology and ethics is not clear. At some significant points he agrees with Hardin, while at others he disagrees. The basic problem with his vision is suggested by his statement that "life is organic, and much too complex to be illuminated by many of the features of a simple, inorganic river" (Rolston, 1980:123). It shows a lack of appreciation of the ecology of rivers and of their aliveness, which rests on an equivocal use of "life". Is he referring

to biological life or to the human life in the realm of meaning? His use of phases like "biologically and ethically" also points to verbal ambiguity. Without clearly defining "life", his vision neither resolves nor holds together the polarities he considers. Rather it dissolves them in the equivocation on the term "life" with its biological and ethical connotations. Thus, even with concern for the moral, it is too easy to subsume the ethical under the biological, and to transform vision into a hymn to survival. That this is the final direction of Rolston's vision is indicated by his vague talk of the river of life and of love stemming the tide of self-interest, contrary to the insights of Hardin (1968a) and Niebuhr. He does not address the question of the price of survival except to note that it will require changes in present lifestyles and should be done "morally". In the end, he says that human kind has adopted the biological project as its own, precisely what Hardin advocates. Rolston does, however, make some positive contributions to the discussion: (1) his intuitive appeal to human experience points to the use of a phenomenological method which would prove more effective if terms were used unambiguously; and (2) his realization that the issues surrounding obligations to future generations are dialectical, an insight which will be developed in the next chapter.

Bennett presents a clear statement of the human project grounding of obligations to future generations. His personal desire that the human species survive is based on what " . . . if formulated as a principle . . . would probably be one about the prima facie obligation to ensure that important business is not left unfinished" (Bennett:68).

He sees it as a matter of vision although he does not use that word. Further, with Hardin, he admits the importance of self-interest in morality: "although this 'morality of self interest', as I call it, seems to be neglected in philosophical writing about morality, it looms very large in almost everybody's moral thinking" (Bennett:69). According to this argument the ultimate ground of our obligation to species survival and thus to future generations, is not a moral principle but is phenomenological and intentional, and a matter of individual personal self-interest in the human adventure. He feels the unfinished business principle is better than the happiness principle (Bennett:71-72) because the latter makes the error of "moving from 'We ought to make people as happy as possible' to the conclusion "We ought to produce as much happiness [as many happy people] as possible'; which doesn't follow" (Bennett:64). This results from a shift of concern from persons to "amounts of" Bennett:63-64). (The error Anglin makes.) We are not obligated to preserve the species, but it is permissible to work toward that goal and, on a personal level, one may be motivated by self-interest to do so.

Another possible way to bring future generations into our moral community is to see space as a link between times. Selk notes that concern for future generations and for the environment are closely related and wonders if the obligation to future generations can "be translated into an obligation to care for the environment" (253). I like Jones' statement of this possibility. He suggests that we have obligations to future generations "because we know . . . that some

members of future generations will exist on an expanse of land and water identical to that on which we now live" (1976:250).

Delattre addresses the issue raised by Selk of the link between obligations to the environment and obligations to future generations. In regard to the question "whether we have responsibilities to people who do not yet exist, or . . . whether nonexistent people have rights now" his thesis is that "undue moral importance has been accorded this question, since the quality of our answer does not materially affect the nature of our responsibilities" (Delattre:254). We have responsibilities concerning ecology "which are not responsibilities to future persons." The idea that if we are not obligated to future persons we are not obligated to care for and preserve our ecosystem rests on a radical oversimplification which is accomplished "by ignoring the significant subclass distinction . . . . Specifically, the class of living people is composed of people of all ages within the human span". Present children are future potential adults (Delattre:254-255). He maintains that "either the right to existence or existence itself should be seen as a prerequisite for other rights" (Delattre:256). And, he disagrees with Grovier about the importance of community through time. The future is an important determinant "of the significance and possibilities of the present. The meaning of the present depends on the vision of the future as well as the remembrance of the past" (Delattre:256).

Delattre supports his position with two examples (the case of a burning farm building in an isolated area and the case of a closed cabin on a sinking ship) which show that we are obligated in

situations where it is not certain that any other persons are
involved, but it is possible that they might be. In both cases, he
contends that " . . . the ontological and epistemological possibility
of occupants is sufficient insofar as existence conditions are
involved, to warrant the ascription of responsibility to the persons
in our examples" (Delattre:257).

Therefore, "not all responsibilities are responsibilities
directed to someone other than ourselves" (Delattre:257). But he
never really establishes why this is so. Is it because "I could not
live with myself if I did not try to warn them?" This is an aspect of
human finitude, we cannot know everything. And he argues, parallel
with the Routleys, that the uncertainty that arises from finitude is
not adequate to escape moral responsibility for persons and
generations that will possibly exist. But, in another passage, he
suggests that the obligation is not to oneself: "it is to this set of
conditions that the agent is obligated to respond, according to the
analysis" (Delattre:258), i.e., the conditions of possible danger to
persons. This seems confusing. Is the obligation to the agent
himself, the conditions, or rather to the persons who might be there?
The latter seems actually to be the case, and any action on their
behalf is done with the hope that if the agent were in that situation
others would do the same for him. But, Delattre's point is " . . .
the obligation can be generated without the people. And since this is
the case, we evidently do accept responsibilities in the present which
presuppose, at most, belief in the possibility of existence" (258).
He concludes that " . . . our responsibilities in ecology will not be

significantly affected" by denying rights to future persons if "we recognize that not all responsibilities are directed to someone other than ourselves and appreciate the role of possibility as a condition for responsibility" (Delattre:258).

In conclusion, the grounding of obligations to future generations in an understanding of the nature of the human moral community are helpful. Hardin's moral intuition that we are obligated to future generations is, I feel, correct, but his attempt to ground this obligation in biology fails. Callahan uses biology and the analogy of parenthood to support a grounding of obligations to future generations in community. Selk links the idea of community with an understanding of the development of human individuals as social beings who live in communities which extend temporally before and after any one individual's life span. Thus, the future community and the hopes, traditions and ideals of the present community and the past community form a temporal whole which morally links present persons with future generations. Rolston's visionary presentation grounds obligations to future generations in a broader context than Selk's. Rolston does not limit his considerations to human life, but considers the continuities in all of life to bind us morally with the future. He thinks in terms of the "project of life" rather than the human project.

Bennett presents a clear statement of the human project grounding of obligations to future generations. This argument is not clearly separate from the moral community argument, but the emphasis is different. The moral community argument focuses on the historicity of human community while the human project argument emphasizes human

intentionality. Neither view is limited to biological continuity as Hardin's position is. Obligations to future generations is also linked with environmental concerns by Rolston, Selk , Delattre and Jones (1976). Thus, we are obligated to future generations by the biological, historical, spatial and intentional continuity of the human moral community.

Summary: Obligations to Future Generations

This review of the literature suggests that Hardin's moral intuition that we are obligated to posterity is correct, but he does not support it adequately or explore its ramifications. Routley and Routley provided a key step in establishing obligations to future generations by showing the inadequacy of a class of arguments, "uncertainty arguments", which have been used to deny that present generations are obligated to future generations. The literature on the rights of future generations was inconclusive about the usefulness of applying the concept to the future, but it revealed other issues: the moral relevance of the identity of future generations and the moral relevance of temporal distance. Arguments that deny obligations to future generations because we do not know their identity, rest on an uncertainty argument or on a failure to use moral imagination to investigate possible alternative futures. It is clear from the discussion above that the identity of future generations is not morally relevant. But does temporal distance remove any obligation to future generations?

Classical utilitarianism holds that temporal distance is not morally relevant and thus that present generations are obligated to future generations. Although it provides a theoretical basis for obligations to posterity, utilitarianism is left with the practical problem of quantifying future consequences and the literature did not address this.

Another way to approach the problem of obligations to future generations is to explore the link between the human present and the human future. For Hardin the link is biological, the germ line. Others argue that the link is community; the human moral community is cross-temporal. Baier's view of this communal link can be called a metaphor of inheritance. Present generations received a heritage from past generations which morally ought to be passed on to future generations. Rolston sees the community as a community of life which links humankind with future generations and with the environment. Bennett sees the human project as a worthy endeavor which ought to be continued. All of these arguments expand the temporal boundaries of the human community. A few authors suggested that the environment provides the link between generations; the space used by our community will be used by future communities. Thus a just and biologically sound treatment of our space and its resources will help us meet our obligations to future generations.

All three of the approaches to the question of obligations to future generations struggle with the question "Can future generations be included in the present moral community?" and this struggle forces a new consideration of the spatial and temporal boundaries of moral

community and of the nature of the communal being. These issues will

be considered in chapter four.

NOTES

1. James Sellers suggests that these might not be mutually exclusive, but rather "developmental" for example following Kohlberg's "stages" (personal communication, 1982).

2. Other aspects of Royce's theory merit discussion but are outside my immediate concerns. Although the self is not an object of introspection for Royce, drawing upon Peirce and Hume, his claim, at least on Selk's interpretation, that "prior to an individual's choice of an ideal or life plan, that individual is not strictly speaking a person" is problematic, especially in regard to abortion, infanticide, and the current attitude that personhood entitles an individual to moral consideration. This may not be a problem in the total context of Royce's thought, or if it were elaborated in terms of myth as ideal and center of identity, and of the wholeness of the self (a major theme in Royce).

3. Moral psychology is, however, addressed by Heilbroner, Thompson and Partridge who answer the question: Can we care about future generations? Heilbroner is pessimistic and doubts we would change our lifestyle to insure the survival of future generations and feels that this question has no rational answer (191). He contends that we must come to accept a "survivalist ethic" and to acknowledge "the transcendent importance of posterity" (194). His position is very much like Hardin's except for the appeal to transcendence (which has some parallel in Hardin's references to the sacred) and his acceptance of conscience as an important moral guide. He seems to ground obligations to posterity in human dignity and responsibility as such.

Thompson replies to Heilbroner and all prophets of doom with a pithy and equally pessimistic argument that we have no obligations to future generations. He presents a version of the uncertainty argument when he says ". . . beings of the future can never be conscientiously internalized as primary moral ends. They are too diffuse, too abstract, too impersonal" (201). Further, the extinction of the human species would be "a normal event" in the context of evolutionary history (201). Heilbroner's concern for future generations ". . . stems from unexamined Judeo-Christian residues bubbling up from his former liberalism" (202). Thompson rejects such religious and transcendent meaning schemes and without them sees no possible support for obligations to future generations.

Partridge argues against Thompson using a phenomenological and anthropological appeal. The basic human need for self-transcendence in conjunction with human mental development and sociality requires "well-functioning" human beings to be involved in projects that continue beyond the individual's lifetime. We can care about the remote future and healthy, whole human beings do. A crucial element of this caring is the identification of the individual with a community which is spatially and temporally larger than himself. Future generations give us the gift of transcendent meaning. Thus, "we need the future now" (204, 217).

4. Heinlein presents a strong statement that morality is solely to serve survival in <u>Starship Troopers</u> (New York: Bantam Books, 1959:94-95, 146-147).

CHAPTER IV

THREE CONSTITUTIVE ELEMENTS OF MORAL COMMUNITY

There are three important elements of moral community relevant to
Hardin's position which can be explored by asking questions about the
nature of moral community. First, what are the temporal boundaries of
moral community? or Are future generations included in our moral
community? Second, What are the spatial boundaries of moral community?
There are two aspects of this question: Is all of current mankind a
member of our moral community? and How much of present reality
(nature, organic being, inorganic being) makes moral claims upon us?
There is also the underlying question, Is the concern with non-human
being a concern for man or for non-human being for its own sake?
Third, what is the nature of the being who forms and thinks in terms
of moral community?

Chapter three dealt exclusively with the first question and
chapters one and two provided an analysis of Hardin's thought which
clarified his implicit position of these three issues. This chapter
will briefly review Hardin's answers and contrast them with those
constructed from Tillich's theology. First, however, it will be
helpful to briefly review Hardin's position and outline Tillich's
theology.

Review of Hardin's Position

In chapter one three aspects of Hardin's position were examined: (1) his view of survival as the goal of social policy, (2) the development of his thought from scenario to metaphor to concept and (3) the value assumptions in his view of man's nature. Hardin holds that survival is the ultimate criterion of success. He rejects the utilitarian goal of the greatest good for the greatest number and such traditional values as justice, freedom and equality. Ethics is forced, he argues, to consult biology and learn the biological meaning of survival, which is survival of the germ line.

Hardin's article "the Tragedy of the Commons" (1968a) is a proleptic summary of the dominant themes in his later works. The major thesis of the article is that each individual rationally pursues his own self-interest in regard to the use of natural resources and that the overall effect of this is the ruin of those resources. This problem cannot be solved by science and technology but only by a "change in human values or ideas of morality" (1968a:251). Hardin feels that traditional morality cannot prevent the tragedy because most of its concepts are not suited for a rapidly changing world or are based on appeals to moral ideas which are biologically or psychologically unsound, ideas such as "conscience" and "responsibility". The solution to the tragedy according to Hardin is "mutual coercion mutually agreed upon" (1968a:260-262) and this involves some loss of freedom and a movement away from traditional moral values such as justice and towards a situational ethic (1968a:261, 256).

In tracing the development of his thought from "The Tragedy of the Commons" through "Lifeboat Ethics" to "Carrying Capacity as an Ethical Concept" no major shifts were seen. Rather there was a continued development of the basic ideas presented in the first article and a search for an expression of them that would better communicate his ideas. His polemic against traditional ethical ideas was expanded to include a rejection of "need", "conscience", "responsibility", "sharing" and "altruism". And in the last article he called for the elevation of the biological principle of carrying capacity to the level of the Decalogue, to sanctity. The principle of carrying capacity was preferred to that of sanctity of life. And his concern for the survival of the human species increasing came to be expressed as a concern for posterity.

Hardin acknowledged the works of Schoeck and Bridgman as being influential and their place in the development of Hardin's thought was shown. They helped shape his presuppositions on three issues: (1) the nature of the individual and the possibility of altruism, (2) the nature of society and the possibility of altruistic social institutions, and (3) the limits of altruism.

Pure altruism is impossible for the individual, and biologically impossible in principle. There is no interspecies altruism in nature and man cannot be altruistic towards nature. Hardin, however, defines altruism as "masochism" and considers it only in a biological context. Man is rational and self-centered and it is rational neither to conserve for posterity nor to act in the long-term interest of the group as opposed to one's own short-term self-interest. Thus we need

to reconsider the meaning of rationality and devise a way to shift from short-term self-interest to long-term group interest. But a limited altruism or a secondary altruism is possible, e.g., Hardin's concern for posterity.

Hardin suggests that by providing some individuals with special privileges it would be possible to set up social institutions which would be altruistic towards posterity. Culture and society, however, are important not in themselves, but because they change human biology. The only clear path to preserve resources for posterity is to eliminate poverty, to stop the population growth of the poor, and to remove the cultural forces which select for genes which are adapted to a life of poverty. If we do not, the rapidly growing poor populations will overrun the earth and destroy resources that belong to posterity.

In his final analysis, a limited altruism is possible. It can only be practiced among the members of a small group or tribe. What is called altruism in the international sphere is really the self-interest of certain groups. Competition makes altruism impossible beyond narrow limits.

The basic points of Hardin's position are that (1) all questions about man and culture or society are answered ultimately by appeal to biological facts. (2) Biologically, a concern for posterity (and for Hardin this is the continuing lineage of human beings indefinitely into the future, not merely our children and grandchildren) can only be manifested by acting to preserve the germ line, the genetic information that constitutes a being as a member of the species Homo Sapiens. Survival of posterity should not be mere physical survival,

but survival in dignity and with creative possibilities for a fulfilling life. (3) Insuring this for future generations requires "mutual coercion mutually agreed upon" to force obedience to the biological principle of carrying capacity and it requires the separation of humanity in tribes (nations) which are self-reliant and isolated enough that the collapse of one does not spell doom for the human species.

Tillich's Theology

Before contrasting a position developed out of Tillich's thought with Hardin's position it will be helpful briefly to summarize Tillich's theology to provide a context for the primary focus, which will be upon his ethics.

The most complete statement of Tillich's theology is his three volume Systematic Theology, which is divided into five major parts: I. Reason and Revelation, II. Being and God, III. Existence and the Christ, IV. Life and the Spirit, and V. History and the Kingdom of God (1951, 1957a, 1963b). Tillich summarizes the structure of his theological system clearly and briefly (1951:66, 67). My concern is with Tillich's analysis of the human situation and of the being that is man. I shall draw primarily upon his descriptions of man's essence, "man as he essentially is" and of life where the essential and the existential "appear in the complex and dynamic unity." He presents a picture of man and of his place in the environment which is more congruent with human experience than Hardin's picture. For purposes of describing the human condition, minimal theological

presuppositions are needed, because Tillich starts with human experience rather than with revelation. /1/ For Tillich, the experience of living gives rise to questions which can only be answered by revelation. One does not have to assume revelation, however, to accurately describe the human condition, even though revelation may be necessary to understand that condition and its implications.

His theology is apologetic and ontological. It starts with the human experience of life and the questions which humankind raises about that existence. The philosophical task is to focus and formulate these questions and the theological task is to answer them. Tillich's method is the "method of correlation," which correlates existential questions and theological answers (1957a:13). He defines "correlation" as "interdependence of two independent factors", and notes that it is not a new method but the method of apologetic theology (Tillich, 1957a:13, 16). By starting with human existence and using philosophical language, which may be new and difficult for both believers and non-believers, Tillich reinforces his apologetic approach to theology. Apologetic theology tries to make the Christian message available to all by starting with experience which is available to all human beings, in contrast with dogmatic theology which starts with the revelation of God as expressed in dogma and is addressed primarily to those who have experienced God's revelation or accepted the dogma. Apologetic theology addresses the wider audience which does not have the specific beliefs or experiences of those within the circle of faith. The Christian apologetic theologian must,

however, accept the reality of the Christian message or he would not be a theologian (Tillich, 1951:10-11).

Tillich chooses to formulate and answer the questions raised by human existence in ontological language, the language of "being", rather than in traditional theological or Biblical language. He is aware of the danger in this approach, losing the the Christian message, but also of the potential reward, making theology available to those "for whom traditional language has become irrelevant" (Tillich, 1963b:4; Adams:279). Macleod suggests Tillich has made a place for theological language (152). This moves the theological discussion to a new arena where some thorny traditional issues become moot and space is cleared for renewed theological understanding. For example, the question of the existence of God becomes unimportant since God is not a "being" among other beings. /2/

Tillich's definitions of God as "being-itself", "being as being", or simply "Being" result in part from his attempt to go beyond the polarity of naturalism and supranaturalism with a view he calls "self-transcendent" or "ecstatic" naturalism (1957a:5; Adams:48). This view sees God neither as the highest being (qualitatively no different from other beings, just "bigger and better"), nor as the universe (the sum total of everything that is), but as "the Ground of Being" or "being itself". "In this respect God is neither alongside things nor even 'above' them; he is nearer to them than they are to themselves. He is their creative ground, here and now, always and everywhere. But,

> God as the ground of being infinitely transcends
> that of which he is the ground. He stands <u>against</u>
> the world, in so far as the world stands against
> him, and he stands <u>for</u> the world, thereby causing
> it to stand for him. This mutual freedom from
> each other and for each other is the only
> meaningful sense in which the "supra" in
> "supranaturalism" can be used (Tillich, 1957a:7).

God transcends the world, but not in the sense that there is a

"superworld" for God above the world of men. And the world is

self-transcendent " . . . , within itself the finite world points

beyond itself." This means the world ". . . goes beyond itself in

order to return to itself in a new dimension" (Tillich, 1957a:8).

Theology must be concerned with the ultimate and with nothing

less. It is not interested in issues like "the scientific value of a

physical theory" (Tillich, 1951:11-12). He defines ultimate concern:

"Our ultimate concern is that which determines our being or non-being"

(Tillich, 1951:14). Religion deals with that which concerns us

ultimately and ultimate concern is the core of faith (Tillich, 1957b).

Anthropology

The first step in Tillich's analysis of human existence is the

ontological analysis of the "self-world correlation" which is followed

by an analysis of the ontological elements which constitute the

structure of being.

> The ontological question presupposes an asking
> subject and an object about which the question is
> asked; it presupposes the subject-object structure
> of being, which in turn presupposes the self-world
> structure as the basic articulation of being. The
> self having a world to which it belongs--this
> highly dialectical structure--logically and
> experientially precedes all other structures
> (Tillich, 1951:164-165).

Human beings are not objects or "things". "They are selves and therefore the bearers of subjectivity" and any theory or institution which tries to turn them into objects "contradict[s] the basic ontological structure of being, the self-world polarity in which every being participates in varying degrees of approximation to the one or the other pole." At one extreme is "the fully developed human personality" and at the other the "mechanical tool" (Tillich, 1951:173). "Man experiences himself as having a world to which he belongs" and only man is aware of the structure of being even though he is estranged from nature. Man cannot understand what the actions of other non-human beings "means to them", yet " . . . based on an understanding of man as the being in whom all levels of being are united and approachable", man can "answer the ontological question himself because he experiences directly and immediately the structure of being and its elements" (Tillich, 1951:168-169). Man is not an object among objects, rather he is a self-aware subject encountering the structures of being. "A self is not a thing that may or may not exist; it is an original phenomenon which logically precedes all questions of existence." Ontological concepts are not within the subject-object structure, rather "they constitute this structure . . . ." (Tillich, 1951:169). From the notions that all levels of being are united in man and that the self is broader than ego, Tillich concludes: " . . . , selfhood or self-centeredness must be attributed in some measure to all living beings and, in terms of analogy, to all individual Gestalten even in the inorganic realm" (1951:169).

Self-centeredness occurs "wherever the reaction to a stimulus is dependent on a structural whole" (Tillich, 1951:169). But "self" is not only participation, it is also separateness. "Being a self means being separated in some way from everything else, having everything else opposite one's self, being able to look at it and to act upon it" (Tillich, 1951:170). Self-consciousness occurs against a world, "a structure of a unity of manifoldness." And this world is the realm of human meaning: "Language, as the power of universals, is the basic expression of man's transcending his environment, of having a world." The self-world correlation makes both self and world possible: "There is no self-consciousness without world-consciousness, but the converse is also true." And there must be separation between the self and the world, for without separation there is no world, only environment. The interdependence of ego-self and world is the basic ontological structure and implies all the others (Tillich, 1951:170-171).

Thus man and world are correlated. They participate in the same structures of being. The world is the object for the self-aware human subject and is created by language. Through language man transforms his environment into a meaningful world. Man lives in a world and participates in it, but it also stands against him as a separate being.

As we have seen, the first level of ontological analysis is to recognize the self-world correlation, the basic structure of being where each being is a self for itself, self-centered and separate and a self participating with all selves in being. "The second level of ontological analysis deals with the elements which constitute the

basic structure of being." This structure of separation and
participation contains three polarities where "each pole is meaningful
only in so far as it refers by implication to the opposite pole."
These polarities are "individuality and universality, dynamics and
form, and freedom and destiny" (Tillich, 1951:165).

The first element, individuality and universality, or
individualization and participation (Tillich, 1951:x), represents the
conflict between self and group and their mutual need.
Individualization as an ontological element is "a quality of
everything" and "at least in an analogous way it is implied in and
constitutive of every being" (Tillich, 1951:175). Individualization
and self-centeredness are conceptually different but inseparable.
Only man is completely self-centered and individualized:

> The species is dominant in all nonhuman beings,
> even in the most highly developed animals;
> essentially the individual is an examplar,
> representing in an individual way the universal
> characteristics of the species. . . . Man is
> different. Even in collectivistic societies the
> individual as the bearer and, in the last
> analysis, the aim of the collective is significant
> rather than the species (Tillich, 1951:175).

Thus, for Tillich to shift concern from the individual to the species
is a failure to recognize the uniqueness of man. Each individual
being participates in the universe of being. But man is unique
because:

> Man participates in the universe through the
> rational structure of mind and reality.
> Considered environmentally, he participates in a
> very small section of reality; he is surpassed in
> some respects by migrating animals. Considered
> cosmically, he participates in the universe
> because the universal structures, forms, and laws
> are open to him. And with them everything which

> can be grasped and shaped through them is open to
> him. Actually man's participation always is
> limited. Potentially there are no limits he could
> not transcend (Tillich, 1951:176).

The perfect form of individualization is the "person" and the perfect form of participation is "communion". "Man participates in all levels of life, but he participates fully only in that level of life which he is himself--he has communion only with persons" (Tillich, 1951:176). However, in a later work he says that persons can have communion with the world and that man participates in the life of plants and animals "practically and poetically" (Tillich, 1963b:33, 91). And "no individual exists without participation, and no personal being exists without communal being." It is the encountered other that limits the self and in this encounter the "person is born" with possibilities for communion or destruction . Relation requires both individuals and participation to make the relationship real (Tillich, 1951:176-177).

Tillich provides concrete examples of the polarity of individualization and participation and traces its expression in the history of thought (1952:86-154). The self requires other selves and a world (Tillich, 1952:88). Participation includes "the whole of one's existence. . . . temporal, spatial, historical, psychological, sociological, biological conditions . . ." (Tillich, 1952:124). The self can be lost in the collective where it is impossible to realize the whole self and affirm it or the world can be lost in Existentialism (Tillich, 1952:153-154). In the ambiguity of life the balance between individualization and participation can range anywhere

between the extremes of self-seclusion and self-surrender (Tillich, 1963b:76).

The second ontological element is the polarity between dynamics and form. A being's form is its essence. "'Being something' means having a form . . . Whatever loses its form loses its being" (Tillich, 1951:178). Dynamics is more difficult to define: it

> . . . cannot be thought as something that is; nor can it be thought as something that is not. It is the me on, the potentiality of being, which is nonbeing in contrast to things that have a form, and the power of being in contrast to pure nonbeing (Tillich, 1951:179).

In human experience this polarity is that of vitality and intentionality. Vitality is man's openness in all directions with no apriori limits: "Man is able to create a world beyond the given world; he creates the technical and the spiritual realms." Vitality in the subhuman world is limited and "dynamics reaches out beyond nature only in man." Intentionality is carefully defined by Tillich and is distinguished from "purposeful action": ". . . it means living in tension with (and toward) something objectively valid." It directs his vitality "towards meaningful contents" so that "it transcends itself." This polarity is the structure of reality which allows becoming and growth, continuity and identity (Tillich, 1951:180-181). And, like the first polarity, it also reveals the uniqueness of mankind: humanscreate technical tools and culture which are beyond biology. This creative process transforms natural materials and is an act of mankind's transcendence of nature. The culture which man creates transforms man: "He is not a tool for their creation; he is

at the same time their bearer and the result of their transforming effect upon him. His self-transcendence in this direction is indefinite, while the biological self-transcendence has reached its limits in him" (Tillich, 1951:181-182). Human creativity and freedom transcend the biological realm.

The third ontological element is freedom and destiny. "Freedom in polarity with destiny is the structural element which makes existence possible because it transcends the essential necessity of being without destroying it" (Tillich, 1951:182). Tillich is not discussing "freedom versus determinism" but a broader concept of freedom. "Freedom is not the freedom of a function (the 'will') but of man, that is, of that being who is not a thing but a complete self and a rational person" (1951:183; 1940:124). "Freedom is experienced as deliberation, decision, and responsibility" (Tillich, 1951:184).

But freedom is in tension with destiny which is not some external force, but rather the context for freedom. " . . . it is the indefinitely broad basis of our centered selfhood; it is the concreteness of our being which makes all our decisions our decisions." Destiny includes one's physical, mental and spiritual being, his past, the communities to which he belongs, his environment and his world. "It refers to all my former decisions. Destiny is not a strange power which determines what shall happen to me. It is myself as given, formed by nature, history, and myself. My destiny is the basis of my freedom; my freedom participates in shaping my destiny" (Tillich, 1951:184-185).

Destiny is not the opposite of freedom: it is the "conditions and limits" of freedom. This polarity only applies to subhuman nature by analogy as "the polarity of spontaneity and law". "A reaction to a stimulus is spontaneous if it comes from the centered and self-related whole of a being" (Tillich, 1951:185). It is this polarity which "creates the possibility and reality of life's transcending itself" (Tillich, 1963b:86). Understanding this is not an empirical question but a question of human consciousness (Tillich, 1963b:87). It is answered by examining man in whom all dimensions of being meet.

The three ontological polarities, individualization and participation, dynamics and form, and freedom and destiny are present in every being but in a unique way in mankind because man is the only completely individualized being. He is a fully centered self who is separate from his environment and can transcend it to create a world. Man is separate from the world and the environment and he participates in them. This separation takes the form of "personhood" and allows the participation of persons in community. Man's form, vitality, is in polar tension with his potentialities and this allows growth and change while preserving the identity of the self. Man also has freedom through which he shapes and is shaped by his destiny. Each of the ontological elements of the structure of being are present in mankind and to deny any of them is to fail to recognize the transcendence of mankind over the realm of biology.

Ethics

The method of correlation takes theological ethics "back into the unity of the system" (Tillich, 1951:31) and thus ethics is not treated in a "special section" but throughout the system. Fortunately Tillich presents the core of his ontological ethics in another work so that it is not necessary to extrapolate them from his systematic theology.

The concise ontological statement of Tillich's ethics in Love, Power, and Justice (1954) is the most provocative in the current context but other statements of his ethics can be found in Morality and Beyond (1963a) his political writings (1971, 1977), his work on the general subject of theology of culture (1959a), and in his Systematic Theology (1951, 1957a, 1963b).

The main categories of his ethical thought are reunion, participation, estrangement, centeredness, and ambiguity. All being participates in the ground of being and hence ultimately in every other being. Love is the drive for reunion that each being feels. Man, however, is estranged from his essence, even though he still participates in it and experiences reunion as centeredness. In this life, in existence, reunion is never complete. Life is ambiguous and unambiguity, when it appears, is fragmentary. All being seeks to overcome estrangement and ambiguity through participation, reunion and proper centeredness in the ultimate, the Ground of Being.

For Tillich each of the important ethical concepts, love, power and justice, is rooted in Being. Each is ontological. By clarifying their ontological source it is possible to come to a clear

understanding of the meaning of each term and of their interrelationship. He achieves this goal by using the ontological method which consists of determining "the structures, common to everything that is, to everything that participates in being" (Tillich, 1954:19). This method is descriptive and analytical. The ontological elements cannot be separated and for this reason the test of the method is in its application. Tillich applies this method and illuminates the concepts of love, power, and justice.

Love, power and justice are ontologically inseparable. Each is present in every relationship, but each is particularly emphasized in one type of relationship (Tillich, 1954:24,77).

"Love is the drive toward the unity of the separated". When it is fulfiled and separation is conquered the fulfilment is "at the same time extreme happiness and the end of happiness" because separation is necessary for life and love. Love is not emotion, but "emotion is the anticipation of the reunion which takes place in every love-relation". Contrary to the usual division of love into many types, Tillich maintains that they are all expressions of reunion and that agape is the depth of love (1954:25-34). Love is emphasized in the ultimate relationship which is between man and God.

"Power is real only in its actualization," and in its dynamic action with other centers of power. Tillich emphasizes encounter and talks about a phenemenology of encounters. Power is related to centeredness and occurs in organic and inorganic beings. It involves force and compulsion. When the spontaneity, the unpredictableness of a being's reaction is not taken into account, force becomes

compulsion: a being cannot be forced to go against its nature without destroying it. The compulsion must be "an expression of the actual power relation". (Tillich, 1954:41-48). Power is emphasized in group relations. "Structures of power are always centered in inorganic beings. . . as well as in organic beings" (Tillich, 1954:91).

Justice "is the form of being which is valid for everything in every period. Obedience to it gives power of being. Disobedience involves self-destruction." "A wrong, unjust power relation may destroy life", therefore "justice must be adequate to the dynamics of power." Justice includes the principles of adequacy between form and content, equality, personality (Kant's dictum that persons are to be treated only as ends), and liberty. There are three levels of justice. At the deepest level, ". . . justice is the intrinsic claim for justice of everything that has being" (Tillich, 1954:56-64). The next level is distributive or proportional justice which is the justice of traditional ethical systems. The highest level of justice is creative or transforming justice which involves listening, giving and forgiving (Tillich, 1954:84). At this level what is just is determined in the encounter of power with power (Tillich, 1954:64). The criterion of justice is "Fulfilment within the unity of universal fulfilment. The religious symbol for this is the Kingdom of God" (Tillich, 1954:65). Compulsion can be just or unjust and is just in so far as it respects "the intrinsic claim of a being to be acknowledged as what it is within the context of all beings" (Tillich, 1954:67). A violation of this intrinsic claim "violates the violator and destroys him morally" (Tillich, 1963b:89). In personal relations the emphasis is upon

justice. The other constitutes a limit which cannot be violated without harming one's own structure of being (Tillich, 1954:78). In the encounter of person with person " . . . justice occurs if in this struggle the superior power uses its power for the reduction or destruction of the inferior power" (Tillich, 1954:88). The highest form of justice is creative justice which involves listening, giving and forgiving (Tillich, 1954:84).

How are love, power and justice related? Love is united with power and justice in the ground of being (Tillich, 1954:108). Each of these concepts which refer to being also refer symbolically to God (Tillich, 1954:109-111). The dynamic tension between the elements of being is overcome in God. The ambiguity of life is overcome in the ground of being. Specifically, "Love is the foundation, not the negation, of power . . . ." And, "the basic formula of power and the basic formula of love are identical: Separation and Reunion or Being taking Non-Being into itself." But love is self-limiting and "cannot destroy him who acts against love" (Tillich, 1954:49-50). "On the basis of an ontology of love it is obvious that love is the principle of justice" (Tillich, 1954:57). Love, as it were, translates justice into each concrete situation.

> Justice was defined as the form in which power of
> being actualizes itself in the encounter of power
> with power. Justice is immanent in power, since
> there is no power of being without its adequate
> form (Tillich, 1954:67).

> Love does not do more than justice demands, but
> love is the ultimate principle of justice. Love
> reunites; justice preserves what is to be united.
> It is the form in which and through which love
> performs its work. Justice in its ultimate
> meaning is creative justice, and creative justice
> is the form of reuniting love (Tillich, 1954:71).

Whereas Hardin starts with ecology (biology) and moves to ethics, Tillich's ethical foundation is ontology. His ontological principles, do, however, fit well with ecological principles. Tillich's position is in harmony with evolutionary biology (Tillich, 1963b:20). His idea of the Ground of Being emphasizes the interconnectedness of all being as does the ecological idea of the web of life. Ecological knowledge about the self-destructive effects of mankind's environmentally destructive actions supports Tillich's notion that a violation of other being is always a violation of one's self. And even though Tillich does not start with biology he has a high appreciation of it as shown by his discussions of "nature" and "life".

In his theology nature appears in the form of the serpent which is representative of the dynamism of nature in the story of the Fall. The Fall leads to the "curse over the heredity of Adam, the body of woman, the animals and the land." Tillich rejects any interpretation of the Fall that leaves out the tragic element of destiny and maintains that "there is no absolute discontinuity between animal bondage and human freedom." Nature is neither guilty nor innocent. "Man reaches into nature, as nature reaches into man. They participate in each other and cannot be separated from each other" (Tillich, 1957a:32, 37, 41, 43). Thus although man is estranged from his essence and from his world, he participates inescapably in nature. Nature's fate and man's fate are intertwined. He acknowledges the struggle for existence: "Every look at nature confirms the reality of struggle as an ambiguous means of the self-creation [reproduction] of life . . ." (Tillich, 1963b:50, 54).

Man is not, however, limited to nature: he is self-transcendent and this self-transcendence is expressed in terms of the human spirit and of culture. There is transcendence in reproduction and in work where "the life of the species which is actual in individuals both fulfils and negates the individual" (Tillich, 1963b:54-55). And the self-creation of life in the spiritual dimension rises above biology and creates culture with language and tools (Tillich, 1963b:57).

According to Tillich, "Culture, cultura, is that which takes care of something, keeps it alive, and makes it grow." And culture is linked intimately with morality (1963b:57, 58). With this appreciation of the transcendence of nature by man, the moral goal is not survival but "humanity": ". . . in the sense of the fulfilment of man's inner aim with respect to himself and his personal relations, in co-ordination with justice as the fulfilment of the inner aim of social groups and their mutual relations" (Tillich, 1963b:67).

With the dimensions of spirit and culture come meaning. Meaning must occur in a total context, a "world", and the ultimate grounding of the world is God (Tillich, 1969:57, 81). Historically, the concepts of God and the world became separated with Galileo's thought: "Nature becomes purely objective, rational, and technical; it becomes divested of the divine. It is now possible to have a concept of the world without having a concept of God" (Tillich, 1969:128). This separation makes it possible to lose the dimension of the human spiritual and cultural transcendence of nature through the creation of meaning. And this loss is easier if reason is seen only as controlling or technical reason which does not have access to the divine, to the spirit of man, or to all of human experience.

Tillich has a high appreciation for "life" and deals with the concept at length (1963b:1-110). He explains the biological phenomenon of "life" in terms of the three ontological concepts. "Life is being in actuality and love is the moving power of life" (Tillich, 1954:25). ". . . life has love in itself as one of its constitutive elements" (Tillich, 1954:26). "Life is the dynamic actualization of being . . . . [which] includes continuous decisions, not necessarily conscious decisions, which occur in the encounter between power and power" (Tillich, 1954:41). The will to power is the "dynamic self-affirmation of life" (Tillich, 1954:36). "Life is tentative" it involves risk. ". . . Nothing is final except those structures which make the dynamics of life possible" (Tillich, 1954:41). "Actualized being or life unites dynamics with form" (Tillich, 1954:54) and that form is justice. Life is ambiguous, and self-transcendent. It always drives towards reunion (Tillich, 1954:115, 42, 107).

The many dimensions of life "meet in the same point", man, a multidimensional being. And in the multidimensional unity of life there is "a gradiation of value among the different dimensions" (Tillich, 1963b:15, 17). The prerequisite for life is the dimension of the inorganic. And it could be argued that Hardin's emphasis on the "germ line" is on this level, the level of physics and chemistry. The next dimension is the organic or biological where animal being shows self-awareness. The highest dimension is the spiritual which manifests history and psychology (Tillich, 1963b:25).

Tillich deals directly with several of the underlying issues in Hardin's position in discussing "life and its ambiguities" (Tillich, 1963b:77-98). He addresses the issue of the relationship between the individual and the group, the question of "brothers and others" (exclusion of others from the tribe or community), competition, and the general stance of humanism.

No individual can escape the blame for violations of nature by claiming that the responsibility lies with the state or group: "It is never the nation which is directly guilty for what is done by the nation. It is always the ruling group. But all individuals in a nation are responsible for the existence of the ruling group" (Tillich, 1954:94), especially in a democratic republic.

When considering the individual and the group it is important to remember that the person is centered while the social group has no center, although leadership "is the social analogy to centeredness" (Tillich, 1963b:78, 82).

But, the social group has a future that extends beyond the life of the individual. This is the historical dimension of life which contains all the other dimensions and the future. For the social group the goal is the "growth of the social group toward justice." Human groups arise naturally from culture but are also "objects of organizing activity" and in this they differ from groups in the animal and vegetable realms. And human justice is not simply the "might makes right" justice of "a flock or a grove of trees", rather human relations are "ordered under traditional rules, conventionally or legally fixed. . . . according to the principles implied in the idea of justice" (Tillich, 1963b:78-79).

A social group needs form "and the social group's form is determined by the understanding of justice effective in the group" (Tillich, 1963b:79, emphasis added). In life, however, justice is ambiguous. There is the ambiguity of "inclusiveness and exclusion." " . . . Justice does not demand unambiguous acceptance of those who would possibly disturb or destroy group cohesion, but it certainly does not permit their unambiguous rejection" (Tillich, 1963b:80). Thus Tillich is aware of a problem which Hardin addresses, but does not state a clear answer.

There is also the ambiguity of "competition and equality". And to this Tillich says "there is one unambiguous answer: every person is equal to every other, in so far as he is a person. In this respect there is no difference between an actually developed personality and a mentally diseased one who is merely a potential personality" at the practical level, however, "every concrete application [of justice as equality] is ambiguous" (Tillich, 1963b:80-81). And there is the ambiguity of leadership which represents authority in the group and should promote justice. If they do not, their authority, can be rejected by justice. Rejected leadership, however, tries to perpetuate itself even at the expense of the justice from which it gets its authority (Tillich, 1963b:83-84).

Tillich also discusses the ambiguity of humanism in considering "the question of the ultimate aim of the cultural self-creation of life: What is the meaning of the creation of a universe of meaning?" (Tillich, 1963b:84). In the macrocosmic answer, " . . . the universe of meaning is the fulfilment of the potentialities of the universe of

being". And "in the microcosmic answer, man is seen as the point at
which and the instrument through which a universe of meaning is
actualized." But humanism (and Hardin) "disregards the
self-transcending function of life and absolutizes the self-creative
function" (Tillich, 1963b:85). Its goal of education leading "into
the actualization of all human potentialities" is admirable.

> However, since the infinite distance between the
> individual and the species makes this impossible,
> the answer, in the humanistic view, would have to
> be: the actualization of those human
> potentialities which are possible in terms of the
> historical destiny of this particular individual
> Tillich, 1963b:86).

But, Tillich contends, this makes the humanist ideal impossible
because finitude makes it impossible to actualize human potentials and
human existence excludes " . . . the vast majority of human beings
from the higher grades of cultural form and educational depth"
(Tillich, 1963b:86).

Humanism's program fails because we cannot focus attention on the
species (all mankind) to the exclusion of individuals. Each
individual transcends the species. It is not the species as a whole
in which the ontological polarities and the dimensions of life meet
and unify, it is in each individual person. We cannot base an
all-encompassing ideal for men on an appeal to the biological
dimension, the species, because mankind transcends the biological
dimension of life and because it is only one dimension of the
multidimensional phenomenon of human life.

In summary, Tillich's theology provides a description of man and
of life. Man, and all being, share in the structure of being which is

described in terms of ontological elements or polarities. Tillich begins his analysis with a discussion of the self-world correlation which described man as a self-aware, questioning subject over against the world, the object of his questions. The self-world correlation requires both separateness and participation in the world and recognizes that human culture, through tools and language, creates the world and frees man from his environment. But this liberation throws him into ambiguity. Man is caught in the tension between the polar elements of individualization and participation, dynamics and form, and freedom and destiny. He shares these structures of being with all beings, both inorganic and organic, but in man they reach a new dimension because of human self-awareness and self-centeredness (complete individualization). And an analysis of these elements makes clear the uniqueness of mankind and his transcendence of the biological dimension of life.

Tillich's ethics, like his theology, is ontological and he discusses it in terms of the elements of love, power and justice. Each being by its existence presents to every other being a claim to be treated justly. In the encounter with another being each confronts the other with its power, its strength of being and love translates the demands of justice into the concrete encounter by seeking reunion. Tillich's ethics retains traditional ethical terms and redefines them in ontological language. One result of this is his appreciation of the importance and significance of the biological dimension of life while placing it in the broader context of the multidimensional experience of human life. Tillich's recognition of the importance of

the biological dimension of life opens the door for an extension of
his ethics beyond human relationships to mankind's relationship with
nature.

The Spatial Boundaries of Moral Community

The most obvious starting point to consider Hardin's view of the
spatial boundaries of moral community is his concept of carrying
capacity. Carrying capacity is primarily a spatial concept which
relates the environment over which a population ranges to the size of
that population. Hardin applies carrying capacity to nations even
though their boundaries are not completely biologically or
environmentally determined but are determined in part by human
political activity in history. The analogy of nations to lifeboats
further suggests that the spatial boundary of moral community is the
nation. In Hardin's thought this issue is addressed in terms of the
concept of altruism and the size of group within which it is
biologically sensible for an individual to behave altruistically.
Hardin's position, while emphasizing the negative interference of
mankind with biology, does not acknowledge the positive role of man in
transcending biology. Religion, politics, society and culture are
reduced to the common dominator of biological activity which affects
the gene pool. And the ability of mankind to ignore strictly
biological limitations and shape the biological world to its own
purposes is not explicitly considered. Yet, this power underlies any
appeal to change our behaviour and manipulate biology to other ends.
The notion of nations exporting goods, or selling the right to view

their scenery, in exchange for goods not found within their own boundaries is a very unbiological view of carrying capacity because such activities require money and aesthetics both of which are not characteristic of the non-human animal kingdom. In any case, it is clear that Hardin's moral community is no larger than the nation.

Moral community cannot be all inclusive. Hardin rejects the ideal of one world as impossible and states that brotherhood is impossible without otherhood. We can have moral community (altruism) only in small groups. Hardin contends that survival requires "a world made up of many antagonistic but coexisting tribes with each individual identifying himself with several tribes of different degrees of inclusiveness . . ." (1977a:133). The goal of germ line survival is best served by many small isolated groups so the destruction of one group does not spell doom for the species. Thus we must preserve the political, economic and social barriers which separate mankind (while working to eliminate poverty). It seems that there are contradictory strands here: perserve the species, a universal goal in some sense including mankind as a whole, by limiting our moral concern to small groups which compete with each other.

Whereas Tillich in his Systematic Theology tended to remove the significance of human action in time by placing the ultimate significance of history outside history, Hardin tends not to acknowledge the human transcendence of biology. If mankind was totally controlled and limited by biological principles there could be no environmental problem that could be corrected by human action. But this concern moves into the problem of moral anthropology.

For Tillich moral community is not bound by time and space. All human beings are members of our moral community. And, although Tillich does not develop his thought in this direction, his ontological ethics invites extension of the boundaries of moral community to all being. There are three aspects to the spatial boundaries of moral community: (1) are non-human beings members of our moral community?, (2) is the environment, inorganic being, a "member" of our moral community?, and (3) are spatially distant human beings members of our moral community? The first two aspects address the question of the moral relevance of our spatial surroundings.

Although Tillich has a well developed concept of justice he did not systematically apply it to nature. He thought that doing so would require moving away from ontological analysis, his stated goal, into a discussion of poetry and art (Tillich, 1954:85, 1945:305). Nevertheless, there are some suggestive passages which point towards such an application.

> The basis of justice is the intrinsic claim for justice of everything that has being. The intrinsic claim of a tree is different from the intrinsic claim of a person. The claims for justice based on the different forms in which the power of being actualizes itself are different. But they are just claims if they are adequate to the power of being on which they are based. Justice is first of all a claim raised silently or vocally by a being on the basis of its power of being (Tillich, 1954:63).

There are three themes in this passage that need to be considered in depth. (1) Every being has a claim to justice. (2) Differences in power of being lead to different claims to justice. Evaluating these claims involves determining the limits justice sets on human actions

towards other beings. (3) Justice involves listening for the claim each being makes "silently or vocally."

(1) The claim of each being to justice varies with its nature. Natural objects, both organic and inorganic, have their appropriate claims and human beings have theirs. Existence alone establishes the right to justice. Everything that I encounter in the world demands that I treat it justly, that my treatment of it is appropriate to its nature. Purely physical constraints upon my actions toward nature are obvious. I cannot survive on a diet of rocks nor can I construct a house entirely of water, and it would be absurd to attempt either. Finitude involves being subject to environmental and physiological limitations. Moral constraints are not as obvious. But when the hidden costs, i.e., those ecological and social costs which do not appear on the economic ledger sheets, are considered, it is just as absurd to violate the moral limits. Both types of limit are rooted in the ontological structure of being. Tillich's grounding of each particular being in the Ground of Being and his ontological analysis of justice make it clear that each being has a claim to justice. His ontology contains an implicit demand to extend the concept of justice to nature.

(2) What limits a being's claim to justice? In the quotation above, the notion of limit is stated in terms of differences in the power of being. Claims to justice are limited and shaped by the power of being on which they are based. "Power of being" refers to the degree of centeredness of a being (Tillich, 1954:44ff, 91ff) and involves the ability to resist non-being or to take non-being into

unity with one's own being. As one's power of being increases, more non-being can be conquered and taken into the self. The power of being in all its forms removes separateness and reunites being with being (Tillich, 1954:40, 98). For Tillich (1954:44; 1957:49) the power of being increases from inorganic being to organic being to man, "the completely centered, self-related and self-aware being . . . ." Man is the master and (in some senses) the center of the world (Tillich, 1954:44). This may sound as if Tillich holds an anthropocentric view which some argue has caused the ecological crisis (White). But this is only one pole of the human dialectic of individuation and participation: Man participates in nature (Tillich, 1951:261). Man can abuse his central role, his mastery, and move towards self-destruction (Tillich, 1954:45, 1957:62). There is a limit.

This is a central notion in Tillich's ontological ethics: The other being which confronts me sets a limit to my behavior which I cannot transgress without harming my own being. This also applies to mankind in its relationship to nature. Exceeding these limits destroys the violated being and it harms the violator. A limit is manifested in every encounter of power of being with power of being—every meeting of self with other. This ontological expression of an ecological truth is found in many passages in Love, Power, and Justice (Tillich, 1954:45-48, 50, 60, 68, 88). It is expressed strongly in the discussion of just relations between persons.

> In his encounter with the universe, man is able to
> transcend any imaginable limit. But there is a
> limit for man which is definite and which he always
> encounters, the other man. The other one, the

> "thou", is like a wall which cannot be removed or
> penetrated or used. He who tries to do so,
> destroys himself. The "thou" demands by his very
> existence to be acknowledged as a "thou" for an
> "ego" and as an "ego" for himself. This is the
> claim which is implied in his being (Tillich,
> 1954:78).

In regard to persons, the limit does allow destruction of life:
"Creative justice includes the possibility of sacrificing the other
one in his existence, though not in his being as a person" (Tillich,
1954:86). Although Tillich gives no examples of this, in his
discussion of the relationship between love and power there is a
passage which suggests that the destruction must work toward reunion
and must involve participation (Tillich, 1954:50). The passage also
implies that the key for understanding the distinction between
destruction and sacrifice is the intention of the destroyer. Finitude
involves anticipation of reunion with Being-itself. If the sacrifice
of the existence moves towards reunion, it is just. If, however, it
moves in the direction of separation, and hence of non-being and
chaos, it is unjust. Killing in a just war may be another example.
Killing an enemy without torturing or humiliating him does not
dehumanize him, but does sacrifice his existence. To dehumanize
another is to dehumanize myself. To refuse to acknowledge him as a
"thou" makes me less than an "I".

For Tillich, this limit clearly does not apply to the man-nature
relationship. The ontological concept of justice can, however, be
extended to apply to nature. This further development of Tillich's
thought is valid for two reasons: First, all being is grounded in the
Ground of Being whether it occurs on the level of nature or of man.

Secondly, Tillich's ontological theology emphasizes the interrelation
of man and nature. Man and nature share in glory, tragedy, and
salvation (Tillich, 1945, 1957:32, 37, 41, 43). Ecology also suggests
that even though there are distinct dimensions of being, all
dimensions are interconnected in complex linkages (the web of life).
And nature, like man, has self-transcendence as a possibility. She,
or any of her parts, can manifest Being-itself. This is the
sacramental function of nature which has been repressed in Protestant
thought and needs new emphasis (Tillich, 1948). Tillich is correct
that man transcends his environment by making a world. This is part
of man's function as a maker of meaning: only man creates a world
which transcends his environment (Tillich, 1951:170). Man cannot,
however, put any meaning he chooses on his environment: he cannot
make any imaginable world. If he builds his home with its world of
meaning on a flood plain or a fault, the enviornment may destroy him
and his world. The belief that man can make any world he wishes is a
result of mankind's technological ability, his "controlling knowledge."
True understanding, however, also involves "receiving knowledge."
"Controlling knowledge claims control of every level of reality" while
"receiving knowledge takes the object into itself, into union with the
subject" (Tillich, 1951:97-100). Nature is resisting man's control
and demanding that we reunite with her as a partner. Ecology is
teaching us that nature resists our assaults as vigorously as other
human beings do and that our abuse of nature is leading to our
self-destruction. On both ontological and ecological grounds then, an
extension of Tillich's concept of limit to nature is justified.

Formulating this extension, in terms of Tillich's ontological ethics means that man is morally allowed to use natural objects but use becomes abuse when it does not express the true power relation between man and the natural object. The true power relation does not include the right to destroy nature. Nature by its existence demands justice and limits human action. Mankind's misuse of power which results in the destruction of nature always leads to his own destruction (Tillich, 1954:46-48).

What are the limits to man's proper and just use of nature? It may be helpful at this point to venture briefly into the realm of art to clarify these limits. An artist can use natural materials without doing violence to their being. A great sculptor does not violate his material but raises it to a higher form and heightens its natural qualities. He captures its essence. For Tillich the work of art can become a "bearer of spiritual meaning" (1945:305). It can point towards reunion. Tillich acknowledges that ". . . given materials, things, or events which have their natural form are transformed by man's rational functions" and that "every type of material can be shaped by every form as long as the form is genuine, that is, as long as it is an immediate expression of the basic experience out of which the artist lives--in unity with his period as well as in conflict with it . . . The criterion is the expressive power of a form and not a special style." There is, however, ambiguity in changing the form of a being, which Tillich says is inseparable from its content, and replacing it with a content of human meaning (Tillich, 1951:178-179). The possibility of, and limits to, the just use of the inorganic

environment upon which all life depends is also unclear. Tillich does apply his concept of power to the inorganic realm (1954:46, 91). And, since love, power, and justice are a unity, justice and love must also be applied to the inorganic realm. A fully developed concept of ecojustice, of the application of the concept of justice to the ecological realm, must explore this problem in depth.

(3) Listening is the third theme in the passage above. Justice involves listening because "justice is first of all a claim raised silently or vocally by a being on a basis of its power of being." Tillich has characterized _agape_ as "listening love." It listens to everything in the situation, one's self and all that surrounds him or her (Tillich, 1968:64). It should include rational listening in the form of scientific ecological research, and emotional listening in the form of contemplative and sympathetic consideration of nature (both controlling and receiving knowledge). The form of justice in which love is most active, creative justice, involves listening, giving, and forgiving (Tillich, 1954:82-84). Considering these three aspects of creative justice will provide further suggestions for the development of a concept of ecojustice.

What does listening involve? In our over-loud society, learning to listen will require becoming at home with silence.   Our civilization is destroying nature in part because

> many of us have lost the ability to live with
> nature. We fill it with the noise of empty talk
> [or the sounds of portable radios, televisions and
> tape players] instead of listening to its many
> voices, and through them to the voiceless music of
> the universe. We speed through nature separated
> by a machine from the soil, having glimpses of it,
> but never an intuition into its greatness or a
> feeling for its power (Tillich, 1945:300-301).

Man's overconfidence in his dominion over nature has also contributed to his deafness. This dominion is not complete, as we realize when nature's voice takes the tragic form of hurricanes, tornadoes, earthquakes, and floods. These aspects of nature have not yielded to man's domineering hand. They point to a depth in nature that may be permanently beyond man's reach. Nor can man create natural beauty or natural mystery which are beyond scientific control and appeal to the whole man, not just to controlling reason. "Reality, every bit of reality, is inexhaustible and points to the ultimate mystery of being itself which transcends the endless series of scientific questions and answers" (Tillich, 1963b:88). Listening to nature in her glory and her destructiveness will require removing the noise barriers which we have constructed to prevent hearing. In the resulting silence perhaps each individual could reunite with his unvoiced thought; perhaps people could comunicate with new depth; perhaps mankind could hear the voices of nature. Listening could become one aspect of a broader new awareness.

Giving to nature, the second aspect of creative justice, also involves a new awareness. Man's emphasis on taking from nature must change toward a fuller appreciation of the interplay between man and nature. It must include awareness of the hidden costs of man's actions. It involves more than "giving" nature wilderness areas. As a minimum, we must give proper respect to nature as another being, and, as a maximum, we may give ourselves (Tillich, 1954:85). Giving to nature involves listening hard enough to hear her voice before we

take too much. C. S. Lewis's statement that "what we call Man's power
over Nature turns out to be a power exercised by some men over other
men with Nature as its instruments" points to the closeness of
ecojustice and social justice (69). Nature may cry out to us through
the voices of our fellow human beings: Our fellow human beings may
cry out to us through the voice of nature. The boundaries set by both
ecojustice and social justice are ontological limits. Similar
sensitivities are required to perceive these limits and the true cost
of violating them. Mankind can give nature appreciation for her
beauty and respect for her power.

Giving as sharing suggests man must learn to share existence with
nature--to participate with her rather than dominate her. Giving as
sharing also calls for sharing nature with others. On ontological
grounds it is morally wrong (unjust) for the citizens of the United
States to use more than their share of the earth's resources.
Likewise, the products of nature ought to be shared. But there is
danger here: even sharing can be done in a dehumanizing way. ". .
.charity is often the expression of one of the subtlest and most
mischievous forms of selfishness." We ought to avoid giving in such a
way that it "pauperizes" the receiver (Gladden:50-51, 80). Creative
justice is not sentimental do-goodism. Justice unites love and power
in the proper balance (Tillich, 1954:51, 56-57). It is unjust to give
too little or too much and it is the task of love to find the just
path in the concrete situation (Tillich, 1954:14, 63, 82). The
ontological cost of selfishness (and of self-righteousness) is
self-destruction in the form of sacrificing one's dignity as a person.

Nature does not play favorites and forcing her to do so is a violation of her claim to justice and of the claims of other persons for social justice.

The third aspect of creative justice is forgiving. Tillich characterizes forgiving as "acceptance of the unacceptable" (1968:59). In this light, it makes some sense to speak of forgiving nature for earthquakes, floods, drought, etc., but this is hard to reconcile with Tillich's view that nature is neither guilty nor innocent (1957:43). This aspect of creative justice might best be applied to the relationship between man and nature by suggesting that nature will forgive us. Nature stands ready to reunite with mankind, if we will stop violating her intrinsic limits. Ecologists have taught us that there are limits which if exceeded, destroy nature. But they also teach that if the trend is stopped before the limit is reached, nature, in time, can recover and restore the balance upon which we depend to sustain us. Forgiveness in particular and creative justice in general drive toward reunion. Therefore, any use of nature which furthers the reunion of people or of man and nature will be just. The destruction of nature or natural objects is unjust if it leads to separation. Violations of the limits of nature's being increase the separation of man and nature and are unjust. /3/

In summary, Tillich's concept of justice states that every being that exists, whether it is inorganic, organic, or human, has a claim to justice. These claims set limits on human actions towards every being man encounters, and the violation of these limits, collectively or individually, results in the self-destruciton of man. Ecology

supports Tillich's claim by showing us that our violations of nature's limits are leading to our self-destruction. Tillich's ethics suggests that the practice of ecojustice includes listening to nature; sharing with nature in the realization that we are mutual participants in the glory of creation, the tragedy of finitude, and the hope of salvation, and accepting nature's forgiveness by treating her (and our fellow men) justly. Our action toward nature and parts of nature can be judged as just when they move us toward reunion and unjust when they increase separation.

What are the differences between Tillich's and Hardin's positions on the spatial boundaries of moral community? First, Hardin is concerned with the "species" while Tillich is concerned with "mankind". This is a major difference: "species" has no regard for the individual, following the biological model of nature and viewing man as primarily a biological being. Tillich's concern with "mankind", on the other hand, allows for a balance between the individual and the group as shown by the dialectic between individualization and participation. And his analysis of the ontological elements emphasizes the importance of the human individual. Further differences can be shown by considering four aspects of the issue of the spatial boundaries of moral community, namely does moral community include (1) spatially close non-human beings, (2) spatially close human beings, (3) spatially distant human beings, and (4) spatially distant non-human beings?

(1) Moral community and spatially close non-human being: The expansion of Tillich's ontological ethics makes it clear that

non-human beings are entitled to moral consideration and that our fate
and the fate of nature (the sum total of non-human being, inorganic
and organic) are intertwined. At the minimum, then, we are
ontologically required to include contiguous non-human beings in our
moral community, not because doing so furthers human interests, but
because their being entitles them to justice. Hardin agrees that the
fate of nature and man are intertwined but is concerned that our
treatment of nature promote human interests, especially the long term
survival of the human species. Although there is a basic difference
in the grounding of the values guiding our relationship to nature, in
practical application the treatment of nature morally required by both
positions would be in harmony with ecological principles which
preserve the environment.

(2) Moral community and spatially close human beings: In
Tillich's ethics the humans we encounter are members of our moral
community. The only boundary in the encounter is the other who stands
against me with his ontological claim to justice. Family, tribal, and
national boundaries do not remove the moral obligation to treat the
encountered other with the justice his being demands. The term
"encounter" contains an implicit "here and now" element, but within
that here and now Tillich includes all men whereas Hardin includes
only members of the tribe. And Tillich's theology maintains that
ultimately the temporal and spatial boundaries that separate mankind
will disappear and mankind will be reunited in the Kingdom of God.
His ethics requires working towards the goal of reunion in this life
as well. Hardin, however, rejects the goal of "One World" and

advocates the separation of mankind into many groups in order to insure the survival of the species.

(3) Moral community and distant human beings: Since the fate of mankind ultimately lies outside history, for Tillich the moral community includes all mankind. And as we participate in the causal chain that results in injustice to distant humans, we share moral responsibility for it. But finitude limits our power, and at the practical level, our stand for justice can be more potent with and for those with whom we share space.

Ecology removes spatial distance; winds and rivers carry pollutants great distances; removal of distant mountain forests sets in motion a causal chain which leads to flooding on the coastlands. And even though Hardin is aware of this, he does not see spatially distant human beings as members of our moral community. He is willing to sacrifice spatially distant humans to preserve the environment for temporally distant future generations and he grounds this moral position on the biological principle of carrying capacity. Spatial separation is necessary, he argues, to minimize the impact of any disaster that would threaten the temporal continuity of the human species.

(4) Moral community and distant non-human being: The interconnectedness of nature removes the distance between us and remote environmental effects of our actions by using space as a medium through which consequences flow. Just treatment of our environment will be just for our distant neighbors.

But how do we know when our actions are ecologically destructive or unjust? In some cases our ecological knowledge is sufficient to answer this question, but in less obvious cases Tillich's ethics suggests that we know by the effect on our own being, which in our human freedom we may ignore. And we know because our essential being speaks to us in the form of conscience. Conscience can be distorted or ignored, but it cannot be eliminated because it is part of our constitution as human beings. And as with distant human beings, spatial separation does not remove non-human being from our moral community.

And for Hardin, spatially distant non-human being is a member of our moral community. We are obligated to protect distant environments for future generations by doing nothing that encourages distant human populations to exceed the carrying capacity of their environment. Stating his position as boldly as possible: our obligation to distant non-human being is so strong (for the sake of future humans, not for the environment itself) that we ought to allow present persons to starve so that future populations will have adequate resources and a quality environment. In short, for Tillich spatial distance is not morally relevant. But for Hardin it is, because it is biologically relevant. Animals are territorial and differences in spatial location have profound aspects (differences in temperature, moisture, seasonal variation, etc.) which determine which species of plants and animals can survive in a given place. Hardin, however, fails to fully appreciate the transcendence of man over the purely biological and the ability of man to create a world through the use of language and tools.

A Tillichian position of the spatial boundaries of moral community maintains that everything that exists makes moral claims on us because it has being. There are legitimate uses of natural being and there are abuses. Spatial separation from other human beings does not remove them from our moral community. But can they then present claims to us that override claims of other not-yet-born human beings? It seems to me that the ontological ethics means that not-yet-born humans present their claims to us through the claims of nature to just treatment. If we treat nature justly, there will be resources for future generations and there will be a livable environment.

This leads to the issue to which Neuhaus was sensitive, the possible competition of "nature" with "humans" for justice. /4/ Would a just treatment of nature mean injustice for the world's poor? History is the realm of conflict: between person and person and between humanity and nature. But by making clear the interdependence of man and nature, ontological ethics shows that the claims of justice for nature and for mankind are not incompatible. Social policies protecting nature do not have to harm human beings. To use nature as a means of exercising unjust power over other persons is an injustice to nature and to persons. And in cases of a genuine conflict, Tillich values man higher than any natural being because in man the dimensions of life reach their peak.

The Temporal Boundaries of Moral Community

According to Hardin, posterity is clearly part of our moral community and we are obligated to them. Posterity is not limited to

our direct descendents: it is an "anonymous posterity" which consists
of those individuals who carry the species (germ line) into the future
(Hardin, 1977a:75). And Hardin notes that the desire to care for
posterity and convince others to do so is paradoxical, given the
limits of altruism. Part of the paradox is the identification with a
large and anonymous group. The concern for future generations is
linked with an appreciation of the past (Hardin, 1977a:83). We are
obligated to preserve and conserve the environment and the resources
necessary for a quality life for posterity which includes all human
beings who will be effected by our present policies and not just our
immediate descendents. Hardin does not dwell on the theory behind
this view, but expresses his moral intuition that we ought to be
concerned for posterity and works actively to encourage others to hold
the same goal. And he supports his intuition by appealing to biology
and arguing that the goal of preserving the species can only be
reached by working with biological principles whose goal is preserving
the germ line.

Although Tillich was aware of the environmental crisis
(1963c:66), the concern for future generations had not risen
prominently and he did not explicitly address the issue of the
temporal boundaries of moral community. Trying to develop a position
from his theology and ethics confronts one with many of the issues
identified in chapter three and some new concerns specific to
Tillich's theology. It is clear that for Tillich temporality as
time-boundedness is characteristic of existence and stands over
against eternity which is characteristic of essence. The former is

the realm of history and the latter is the Kingdom of God. The Christ-event is the center of history and the in-breaking of the eternal into the temporal, the essential into the existent (1963b:4, 364-369, 1957a:88, 95-96, 120). It is the center for all mankind, past, present, and future. Thus, religiously, morally, and ultimately, temporal location is not relevant. /5/

The irrelevance of temporal location is also suggested by Tillich's remarks about time: ". . . the present is a nothing, a boundary between past and future." Attempts to discuss the present in the end discuss the past or the future (or eternity). The present includes and rests on the past, but "to live in the present is to live in tension toward the future; every present is essentially a transition out of the past into the future". The final significance of the present and its movement from past to future is the unconditioned and transcends time. It is ". . . the eternal which presses on out of the past, in and through the present, toward future actualization" and which provides meaning (Tillich, 1956:31-40).

> Time is the form of the created finite (thus being created with it), and eternity is the inner aim, the telos of the created finite, permanently elevating the finite into itself. With a bold metaphor one could say that the temporal, in a continuous process, becomes "eternal memory." But eternal memory is living retention of the remembered thing. It is together past, present, and future in a transcendent unity of the three modes of time (Tillich, 1963b:399).

In the ultimate sense, mankind is one regardless of spatial or temporal separation. All individuals will participate in Eternal Life (Tillich, 1963b:409). Historical time is irreversible and "running

toward fulfilment" (Tillich, 1963b:319). "The main category of finitude is time. Being finite means being temporal" (Tillich, 1951:82). Both time and space are categories of finitude. Reason leads us to question the temporal and spatial distance between us and leads to "quest for revelation" (1951:85). There are no essential differences within time, the difference is between time and eternity. "Eternity is the transcendent unity of the dissected moments of existential time" (Tillich, 1951:274) and it is the answer to the ambiguous and fragmentary human experience of separation and incompleteness in time. The past, like the future can be shaped by the present. /6/ Thus, the present as a transmitter of the past to the future, is a participant in its own self-creation and in the creation of the past. The present prevents future actualization for some potentials of the past and actualizes others. This creative aspect of the present should strive for reunion in its creation of past and the future. Both time and space are categories of finitude and not ontologically or morally ultimately important. They are aspects of existential separation and categories of finitude which will disappear when history is fulfilled.

But, in regard to future generations, how can we have a moral relationship with those who do not yet exist? "We have defined morality as the constitution of the person as person in the encounter with the other person" (Tillich, 1963b:158,95). Tillich's remarks about the relationship between generations provides some help. Of the youth movement which protested against "the spirit of capitalist society" /7/ he says that "it was great because the best forces of a

whole generation revolted against the compulsion of a self-sufficient finitude . . . ." And "it recovered the love of nature and deepened that love into a nature-mysticism with a decidedly religious coloring." The movement also "recaptured in the sphere of human relations the mystical, religious ideal of community" (Tillich, 1956:131-132). Tillich holds a positive evaluation of the critique of "self-sufficient finitude" and the appreciation of love for nature and community. The rebellion of the younger generations is an issue of "the old and the new in the dynamics of history" but neither can claim ultimacy (Tillich, 1963b:343-344). This suggests that concern for future generations can be seen as a creative cry for the new, voiced by present persons. But the future should not become an absolute for which we sacrifice the present because both future and present are relative and temporal.

Tillich also discusses the relationship between time and space. "Historical time is a unity", space is a unity and both are centered. The religious struggle has been to break away from the confines of space into the realm of time moving toward fulfilment (Tillich, 1971:142-153; 1959:30-39; 1977:17-23). In nature and for non-human life, time is under the control of space (Tillich, 1959:31; 1977:17), but in man arises the possibility of time overcoming space because man is an historical being (1959:31).

Space, however, is still a powerful concept: "examples of spatial concepts are blood and race, clan, tribe, and family." Tillich provides some strong warnings against a spatial approach: "modern nationalism is the actual form in which space is ruling over

time, in which polytheism is a daily reality." And the gods of space are imperialistic and competitive. For mankind ruled by the gods of space, "the 'beside-each-otherness' necessarily becomes an 'against-each-otherness' in the moment in which a special space gets divine honor. The prophetic message, however, separates God from space and thus from the nation and marks the end of polytheism. These gods are replaced by "The God of time [who] is the God of history." This is the God who takes a creative role in history and moves it towards an ultimate end. "The tragic circle of space is overcome. There is a definite beginning and a definite end in history" (Tillich, 1959:32-37). And the following is suggestive with Hardin's position in mind: "Tragedy and injustice belong to the gods of space; historical fulfilment and justice belong to the God who acts in time and through time, uniting the separated space of his universe in love" (Tillich, 1959:38). Space is not necessarily so negative as these passages suggest and it must be remembered that this view came out of Tillich's experience of World War II. A balanced position on the ethical relevance of space would avoid the isolationistic and nationalistic tendencies of Hardin and the rejection of space by Tillich in the above passages. And it would appreciate the importance of place for identity and as "home".

The forward movement in time, towards the future (and for Tillich towards the end of time when fulfilment will occur) is crucial to any ethics which is concerned with justice and is an essential part of man. That is to say, the future is an aspect of man, separating him from the animals and making him "man". And justice applies to life in time.

But the unity of time and the promise of eternal fulfilment in Tillich's thought brings with it the possibility of a subtle loss of value for historical life under estrangement from essential life. This has been expressed as a criticism of Tillich's theology: he holds a lower appreciation of history than the Christian faith warrants. This apparent low valuation of history is striking in his discussion of "The Individual Person and His Eternal Destiny" (Tillich, 1963b). The individual's destiny is to realize his essential self through the use of his freedom. He can, in freedom, turn away from his destiny, from his essential nature: "he can waste his potentialities, though not completely, and he can fulfil them, though not totally." In the final judgment, "the exposure of the negative as negative in a person may not leave much positive for Eternal Life . . . " but it will leave something (Tillich, 1963:406). This, however, seems to undercut the significance of historical existence, and for the problem at hand, what difference does it make if individuals, societies, or the Western developed world act justly towards our contemporaries and future generations when in the end all will be saved? Tillich's statements about the end of history and the possibility of the end of the human species also seem to remove importance from future generations. In "Man and Earth" he considers the call for a "science of survival" in the face of the possible destruction of mankind or even all life upon earth:

> What the Christian message does tell us is that
> the meaning of history lies above history, and
> that, therefore, its length is irrelevant to its
> ultimate meaning. But it is not irrelevant with
> respect to the innumerable opportunities time
> affords for creation of life and spirit, and it is

for these that we must fight with all our strength
(Tillich, 1963c:75).

He continues that even if the human experiment were to end tomorrow,
"At least once, a living being shall have come into existence, in whom
life achieved its highest possibility--spirit" (Tillich, 1963c:76).
This suggests that the significance of history lies in its role as the
arena for the creation of spirit. There is another strain in Tillich,
however, which emphasizes the significance of human action:

> History has within itself a directionality, an
> impetus. Always and everywhere, it travels the
> road from the bond of origin to the final
> fulfillment. But it moves on this way through
> human action. If it were to bypass human action,
> there could be no fulfillment, for apart from
> action, being is neither fulfilled nor
> unfulfilled; it lies beneath that contrast. The
> fulfillment of being is fulfilled human action
> that corresponds to the demand. No miracle nor
> any natural process can produce the fulfillment of
> being if human action is bypassed.
>   But the opposite is also true: the fulfillment
> of being is not dependent on human arbitrariness
> (Tillich, 1977:121-122).

There is also the concept of "Kairos", the moment of the
inbreaking of the essential, of Being, into existence and the human
possibilities of seizing these times or letting them pass (Tillich,
1977:55). And it would seem that the manifestation of the New Being
in history, the New Being which is the center of the ultimate and of
all sacred and religious history, would lend at least derivative value
to the temporal.

To conclude the discussion of the temporal boundaries of moral
community, let us summarize and compare the views of Hardin and
Tillich. For Hardin, the temporal boundary of moral community is the

indefinite life of the species which is promoted indirectly by furthering the continuation of the human germ line. This temporal boundary does not include all currently existing human beings nor all of their offspring because the biological entity "species" can survive as long as some individuals survive. For Hardin, the survivors will be those who control enough resources to prepare and preserve them for the future. And the survivors should be those who are presently living life at a level that provides comfort, dignity, and a minimum basic material quality of life.

For Tillich, the temporal boundary of moral community is history, i.e., all time, past, present, and future, in contrast to eternity. The present decisions shape not only the future, but also the past and it could be argued that we are obligated to past generations as well as to future generations. But even though future generations belong to our moral community, since they do not exist, the cannot confront us "being to being." So, although a Tillichian position creates the temporal space for future generations within our moral community, it does not advance us towards specifying the obligations which their inclusion entails. And, the emphasis on the eternal could be seen as removing significance from our present actions in history, although I have argued that there is a balancing theme in Tillich's writings which holds that history is important.

Aside from questions about the ultimate significance of history, it is clear that the temporal boundaries of moral community are not limited to this and the immediately succeeding generations, but extend "indefinitely" for Hardin and to the end of mankind for Tillich. But

they arrive at the same conclusion for different reasons. Hardin does so because of his concern for the future which he grounds biologically in the drive for survival of the germ line. Hardin's concept of carrying capacity is spatial, but it has the temporal element of "indefinite" which does not move toward fulfilment or eternity, but rather is "endless time" (Tillich, 1951:274ff). There is no concern that future generations exist toward some ultimate fulfilment. It is more that they might carry forth our dreams and hopes and experience the joys of life which we have experienced. For Tillich, however, temporal distance is not significant because all time is a unity whose beginning and end are marked by eternity. Time is constitutive of existence while eternity is representative of essence, fulfilment, and ultimate significance. Tillich, however, cautions against a return to spatial limitations such as the nation or the tribe, which is exactly the approach Hardin takes. On Tillich's view Hardin attempts to save time for future generations by submitting again to the dominance of space. Thus, in Hardin's thought there is a movement towards the temporal conquest of space in his concern for the future, which in contrast to Tillich, remains a concern in history.

What are the implications of this discussion of the spatial and temporal boundaries of moral community for our attempts to deal morally with future generations? Do spatial and temporal separation differ in any morally relevant way?

There were three general types of suggestions for dealing with obligations to future generations in the literature discussed in chapter three: (1) that the identity of future generations as human

beings provides us sufficient guidance about what type of world we are obligated to leave for them, (2) that the human project is worth continuing, and (3) that future generations have rights even though they cannot press their claims against us themselves. But I think the most productive suggestion was that of Jones (1976) that it is space which links us with future generations. If we treat justly the beings in the space that surrounds us, we will meet our obligations to future generations to leave them a life fulfiling environment.

The most obvious difference between space and time is the separation between present and future existence. Although the spatial and temporal causal chains between us and the distant is complex, it seems clearer for temporally distant persons. We can trace genetic lines from ourselves to parts of future generations. We can pass on our goods, our name, and our lands. Time is the dimension through which we pass into the future. Space is the dimension which we use to limit our practical responsibilities. My spatial influence is more limited than my temporal influence. Space makes time concrete when it is realized that others will use my space after I die. Space links times which are not connected by continuous individual human awareness.

Can we expand the temporal boundaries by expanding the spatial boundaries and thus extending the "life" of the space (inanimate and animate beings as groups) to include future humans? The motivation for the extension of the moral community in space could be either anthropocentric or a concern for nature herself. Can the practical failure of spatial concern for others, and our powerlessness over

institutional structures, be counterbalanced by our use of space or is
it also beyond our control, e.g., polluting neighbors?

Communal Being

For Hardin, the communal being is primarily a biological being.
Culture and society are secondary to man's biology which makes culture
and society possible. The primary struggle for the communal being is
to balance short-term individual interest with long-term group
interest. It is rational for the individual to get all he can now and
ignore the long term interest of the group. Traditional moral values
are not biologically sound and should be replaced with values derived
from biological principles such as carrying capacity. The communal
being is biologically incapable of being altruistic to all mankind and
thus must limit altruism to small groups if the human species is to
survive.

For Tillich, ethics and philosophical anthropology are
inseparable:

> Ethical values are commands derived from the
> essential nature of man. Human nature is their
> ontological locus. Therefore, I would say: our
> knowledge of value is identical with our knowledge
> of man, of man not in his existential, but in his
> essential, nature.
>   If this is true, the ethical value theory is
> reduced to anthropology in the sense of a philo-
> sophical doctrine of man (Tillich, 1959b:194).

Man is a unified whole containing biology and spirit (Tillich,
1952:83) and since "man's psychological, spiritual, and social being
is implied in his bodily being . . .",

> The dimension of the spirit which in all its
> functions presupposes self-consciousness cannot be
> denied eternal fulfilment, just as eternal
> fulfilment cannot be denied to the biological
> dimension and therefore to the body (Tillich,
> 1963b:413-414).

Man is embodied being and he is essentially biological and not essentially pure spirit. Tillich has a high appreciation of the biological, but he does not exclude the other dimensions of human being and knows that man can transcend biology. "Thus it is wrong to assert that human beings at their lowest level, are animals, and that everything else is built upon this basis" (Tillich, 1977:114-115).

In considering what is needed for survival he notes "that the immediate vital needs on which one's very existence depends are usually the most pressing. Were it otherwise, the survival of the human race down to the present would be inexplicable." But these needs can be transcended, in part because their expression is shaped by other non-vital needs and by the historical context (Tillich, 1977:114-115). Understanding human needs reveals "the priority of the instinct of self-preservation in most living beings" but also that this only arises when survival is threatened, and for man "in many cases the drive toward self-preservation is by no means concerned with 'life at any price,' but rather with a specific quality of life, e.g., life in freedom". Further, even the basic biological needs are met by humans in a wide variety of ways (Tillich, 1977:135-136).

In an early work, Tillich defined man as "finite freedom". Finite freedom has two elements. First, man acts as a whole being and second, he contains the possibility of transcending "the given".

Human finitude brings with each use of human freedom the threat of nonbeing (which includes death, error and guilt) and limits the possibilities of human transcendence: "There is nothing given that man is not able, in principle, to transcend. That he cannot in fact do so is the problem of finitude" (Tillich, 1977:126-129). Later he presented a more complete view of man and said that "The main category of finitude is time. Being finite means being temporal" (Tillich, 1951:82). And it means being linked intimately with nature: "Of course, theology cannot rest on scientific theory. But must relate its understanding of man to an understanding of universal nature, for man is a part of nature and statements about nature underlie every statement about him." Tillich sees his view in harmony with Teilhard De Chardin's but he does not share Teilhard's optimism about the future (Tillich, 1963b:5, 1951:43). Tillich acknowledges the biological dimension of man, but unlike Hardin, does not see biology as the primary dimension of humanity.

Tillich also presents a detailed analysis of the concept of "reason" which can be used to explain Hardin's difficulty with the concept and his movement toward "non-rational" solutions to the tragedy of the commons. Hardin recognizes only one type of reason, "technical" or "controlling" reason in Tillich's terms, which is the "capacity for 'reasoning'" and "determines the means while accepting the ends from 'somewhere else'" (Tillich, 1951:71-75). /8/ In contrast, there is also "ontological reason" which "is the structure of the mind which enables the mind to grasp and to transform reality". "Neither structure, Gestalt processes, values, nor meanings can be

grasped without ontological reason" (Tillich, 1951:73). There is also

a "depth" of reason (Tillich, 1951:79-81), which is the "substance" of

reason or "being-itself" manifesting in reason which directs reason

towards ultimate reality, i.e., ". . . to the infinite power of being

and of the ultimately real, through the relative truths in every field

of knowledge" (Tillich, 1951:79). For example,

> In the communal realm the depth of reason is its
> quality of pointing to "love-itself," namely, to
> an infinite richness and an ultimate unity,
> through every form of actualized love. This
> dimension of reason, the dimension of depth, is an
> essential quality of all rational functions. It
> is their own depth, making them inexhaustible and
> giving them greatness (Tillich, 1951:80).

This depth, however, is hidden "under the conditions of existence"

(Tillich, 1951:80). But the intellect, the faculty in which reason

functions is not the only faculty through which humans approach

reality: religious experience is not available to intellect nor is the

totality of reality. Thus, man can only be understood by using the

whole of our awareness of reality, not just our intellect. And human

life is multidimensional, so focusing upon one dimension, as Hardin

does on biology, leads to an incomplete view of man because it does

not capture the full range of human experience. Lonergan's analysis

of human experience supports Tillich's in regard to the

multidimensional aspect of human life (Lonergan:173-189).

Tillich links the self-world correlation with reason. The world

is a "structured whole" whose structure is "objective reason" and the

self is a "structure of centeredness" whose structure is "subjective

reason" (Tillich, 1951:171). Tillich defines these types of reason.

"Subjective reason is the rational structure of mind, while objective reason is the rational structure of reality which the mind can grasp and according to which it can shape reality." This is the function of mind called "ontological reason", in contrast to "technical reason", which contains an emotional element (Tillich, 1951:77). Reason in reality and in mind both have duration and change, dynamic and static elements (Tillich, 1951:78).

> Reality itself creates structural possibilities within itself. Life, as well as mind, is creative. Only those things can live which embody a rational structure. Living beings are successful attempts of nature to actualize itself in accordance with the demands of objective reason. If nature does not follow these demands, its products are unsuccessful trials . . . . Neither nature nor history [human activity] can create anything that contradicts reason (Tillich, 1951:79).

Another area of disagreement between Hardin and Tillich is human "conscience". For Hardin it is biologically eliminated from society. He does not deny its reality as a human experience, but rejects self-sacrificial actions due to conscience as biologically senseless. Tillich says that "man always and everywhere demonstrates something like a conscience, but its contents are subject to a continuous change." He formulates a series of questions to emphasize the complexity of the issue and traces the history of the development of the term "conscience" (1963a:65). Tillich offers the concept of a "transmoral conscience":

> A conscience may be called 'transmoral' if it judges not in obedience to a moral law, but according to its participation in a reality that transcends the sphere of moral commands. A transmoral conscience does not deny the moral realm, but is driven beyond it by the unbearable tensions of the sphere of law (1963a:77).

He notes that Darwin and Freud denied the existence of moral conscience because they rejected any universal natural law (Tillich, 1963a:79). The transmoral conscience removes us from the self-accusatory and condemning moral conscience and calls us to "an enthusiastic unity with life in its creative and destructive power" (Tillich, 1963a:80). Since for Tillich, "'Existence as such is guilty.'", any act leads to guilt. The transmoral conscience frees us from this burden, but not without risk. "'Transmoral' can mean the re-establishment of morality from a point above morality, or it can mean the destruction of morality from a point below morality" (Tillich, 1963a:80). Tillich appeals to religion and depth psychology to make the point that a "joyful conscience" can occur in and through the religious acceptance of grace and through psychological self acceptance and that both require transcending the moral conscience "because it is impossible to unite a sensitive and a good conscience" except by going beyond moral conscience to the transmoral conscience (Tillich, 1963a:81). Tillich then, in a manner characteristic of his thought, considers conscience in existence to be split: if it functions well it heaps blame on the individual and thus drives beyond itself to a fuller expression, to the essential. The demands of conscience are ambiguous because of the ambiguity of the moral law, that it is universal but expressed in culturally limited forms, and because of the ambiguity within man. "Man's essential nature and the ultimate norm of agape in which it is expressed are both hidden and manifest in the processes of life." This ambiguity makes acting on

one's conscience a risk and leads "to the quest for a moral certainty which in temporal life is given only fragmentarily and through anticipation" (Tillich, 1963b:48).

For Tillich, conscience occurs in every man and represents the voice of essential being. And regardless of how many individuals perish because they heed that voice (rightly or wrongly, due to the ambiguity of existence) , it will still be present in each remaining individual. The basic issue on which the two authors disagree is the status of moral values that involve some level of individual sacrifice. Hardin says it never pays in the biological dimension, in which he includes use of the commons for short-term individual gain. Tillich, with a multidimensional view of man and a theology holding that there is an ultimate transcending human history and the events of daily or individual lives, sees such action as meaningful and in some conditions morally required. Hardin's view of conscience is shaped by emphasis on the biological dimension of human life to the exclusion of other dimensions and by his valuing of the biological criterion of judgment, survival.

Hardin does not reduce man to an animal in that he appreciates the human accomplishments of controlling reason, but he never sees man as breaking out of the biological. Even culture is only a manifestation of biology where biology begins consciously, or unconsciously, to shape itself but it is not a movement to a new level.

Tillich has a high appreciation of the biological and the natural in man, but his anthropology makes it clear that human experience is

an experience of being more than biological. His discussion of the self-world correlation shows this. Through self-consciousness man transcends his environment and has a world; "the world is the structural whole which includes and transcends all environments, not only those of being which lack a fully developed self, but also the environments in which man partially lives" (Tillich, 1963b:170). This transcendence is a function of man's ego-self which provides centeredness and unity.

Man is the highest being because he has a more definite center and because he unifies more content. These two criteria also raise the animal kingdom above the plant kingdom. They also raise the dimension of self consciousness above the biological and the spiritual dimension above self consciousness. "They decide that man is the highest being because his center is definite and the structure of its content is all-embracing." Man has an environment and a world which is "the structured unity of all possible content" (Tillich, 1963b:36). "Man lives in an environment, but he has a world." Therefore, attempts to explain human action in terms of environment are reductionistic and omit the dimension of the spirit (Tillich, 1963b:38). Man encounters the world in environmental things by transcending "their merely environmental quality" as a centered being over against them. This centered separation allows him to "oppose his self to every part of his world, including himself" (Tillich, 1963b:38-39).

Language and tools are crucial to the separation of environment and world, and language and world are mutually constitutive.

> In language, communication becomes mutual
> participation in a universe of meanings. Man has
> the power of such communication because he has a
> world in correlation to a completely developed
> self. This liberates him from bondage to the
> concrete situation, that is, to the particular
> here and now of his environment. He experiences
> world in everything concrete, something universal
> in everything particular (Tillich, 1963b:58).

Language liberates man from his environment, ". . . a bondage to which life in all previous dimensions is subjected" (Tillich, 1963b:69). But, with freedom comes ambiguity: language involves a separation of the meaning of the word from the reality to which it refers and creates ambiguity.

Tools also liberate man from his environment and ". . . enable the mind to set and pursue purposes which transcend the environmental situation." This "ambiguity of freedom and limitation" is not the result of reason, or of the structure of mind and world but of spirit which is "their dynamic actualization in personality and community. Strictly speaking, ambiguities cannot occur in reason, which is structure, but only in spirit, which is life" (Tillich, 1963b:73,63).

The dimension of the spirit in man is part of Tillich's theology and is the dynamic aspect of all life. Tillich's theology has, however, been criticized for having a weak doctrine of the Spirit, in effect not sufficiently distinguishing the Holy Spirit from the spirit of man (Hamilton:91,242). But according to Tillich, we must understand the human spirit before we can begin to understand Spirit (1963b:22). For my purposes, that weakness becomes a strength, because it allows the discussion to remain in the arena Hardin has chosen and prevents it from being reduced to a matter of differing

beliefs about God. The spirit as the dynamic, creative dimension of all life (Adams:57f) is available to human experience whether it is given a religious label or not. Therefore, Tillich's anthropology can be used to point to the creative transcendence of the biological by man and to reveal a weakness in Hardin's anthropology even within the secular arena Hardin has chosen for the discussion.

Tillich's ontological analysis is also helpful in considering Hardin's position on the social or communal aspect of human life. Tillich wrote about community when he was involved with religious socialism and was particularly sensitive to the dangers of nationalism and tribalism. After considering this analysis, there is a model for community that is the answer to the ambiguity of community in existence, the Spiritual Community which is the inbreaking of the essential into existence.

Tillich agrees with Schoeck that justice is an indispensable part of community: "In the sacramental spiritual situation, justice and community are directed toward the realization of the Unconditional" (1971:73). But justice transforms community:

> With the victory of pure justice, however, the
> sacred connections to eros and power disappear and
> with them the living import of community. Thus,
> what has been called society (Gesellschaft) arises.
> Society, however, is only an unreal abstraction, a
> system of rational relationships of individuals
> having equal rights, without the import of
> community. But subjective naturalistic demonries
> break into this form (Tillich, 1971:77).

"The bearer of all justice is the community that posits justice, namely, the state." Today, it is the nation with its demonic tendencies to oppress both brothers and others. "A perfect theocracy

would realize democracy within a state and a unified system of
international justice" (Tillich, 1971:80). So rather than give up
justice as Hardin suggests, Tillich would expand it to the
international level. There are, however, forces which subvert the
state as the positor of justice: ". . . the demonry of naturalistic
nationalism, especially when it seeks to give itself sacramental
consecration." This can be combatted by a position which "must also
affirm the all-embracing theocratic idea of justice--justice that is
not an empty form negating power and eros but, rather, justice as a
structure of national and racial powers" (Tillich, 1971:82). The
state, however, can never renounce the community that bears justice or
the force that maintains it (Tillich, 1971:83). That is, the state
can only posit justice through a community which "has the power of
justice" (Tillich, 1971:99).

For Tillich there is a clear link between community, justice and
the nation. The nation gives concrete form to the power of justice
which occurs in community. But as Niebuhr also points out, at the
level of institutionalization enters the threat of demonic capture of
the institution and of its use for purposes other than empowering
justice. This is a powerful warning to a position like Hardin's which
suggests that justice can be dispensed with: the unjust state is a
state which has lost its purpose and come to serve special interests
rather than justice.

Not only has the rising power of the state distorted community,
but also the rise of liberalism with its elevation of the individual
has weakened communal bonds (Tillich, 1977:85). "And nationalism

almost completely eclipsed the idea of world citizenship which

liberalism had inspired" (Tillich, 1977:86). This left socialism with

a clear task: "It must therefore propose a form of community in

contrast to that which is disintegrating. It cannot believe that

through the freeing of all individuals, harmony will follow as by a

natural law" (Tillich, 1977:87). Thus it "advocates an international

ideal of humanity" but also

> It has learned that the concrete community of
> place, race, and culture, is, in spite of the
> opposition of classes, stronger than the abstract
> identity of its destiny to that of the proletariat
> in other countries. It understands that it must
> actualize itself nationally if it is to actualize
> itself at all (Tillich, 1977:87).

This is parallel to the dilemma of national versus species survival:

the ideal or abstract group (the proletariat or the species) survives

only as a concrete limited group. The concept of "solidarity" does

not solve this problem of community: "Solidarity refers in the first

instance to a purposive, fighting community, and thus is dependent on

the existence of an opponent." But a community based only on this

will dissolve when the other is removed (Tillich, 1977:88). However,

" . . if solidarity is understood as the expression of a unity that

also exists apart from a common struggle and a common enemy, then it

rests on some form of origin, on _eros_ and destiny, and it is not

grounded in reason" (Tillich, 1977:88). Thus, community, like

everything in existence, is ambiguous.

Unambiguous community is Spiritual Community. The Spiritual

Community is not to be taken as an ideal toward which the church

strives, rather it is the expression of New Being, the essential

"behind and within the existential" (Tillich, 1963b:163-164). And as
the essential it permeates everything that is: "There is nothing in
nature, nothing in man, and nothing in history which does not have a
place in the Spiritual Community . . ." (Tillich, 1963b:170). Moral
community is universal. All humanity is included without regard to
tribe or nation (the boundaries Hardin suggests) and moral community
is open to all of nature, all being. Tillich's view of Spiritual
Community is further evidence of the inclusiveness of his view of
community.

As we have seen, Tillich disagrees with Hardin in significant
areas about the nature of man, the communal being. There is
disagreement about the nature of individual men in terms of reason,
conscience, and traditional ethical values. There is disagreement
about the importance of culture or society for human reality. And
Hardin does not acknowledge the dimension of self-transcendence.
Tillich, however, presents the more complete analysis of human life
experience.

Hardin searches for a better understanding of rationality and
Tillich can provide it. Tillich's analysis of conscience fits human
experience better than Hardin's does. And the notion that it can be
biologically selected out of the population ignores the reality of
culture. Conscience can be aroused by the written word, not only by
personal example. In fact, Hardin's writings are evidence of the
cultural function of conscience that will survive, and perhaps
persuade others to be concerned for future generations, after his
death. Again, Hardin begins to have an appreciation of the past, and

the role of tradition in shaping each individual and his beliefs, but he does not explore this insight fully.

The crucial difference is in their respective views of culture. For Hardin it is not significant since any cultural difference will ultimately become a biological (genetic) difference. But this ignores human experience of transcending the biological and anthropological data about human kinship systems that ignore biology, i.e., genetic kinship (Sahlins). And it does not fully appreciate the break that language and tools place between man and non-human beings.

Summary: The Elements of Moral Community

Hardin's position on the three elements of moral community is brief and clear. The ideal is to have small isolated human communities to prevent a worldwide collapse of civilization and the death of the species. Space is morally relevant, because it is biologically relevant, and spatial separation of mankind into separate groups is necessary to meet our obligation to posterity. The interests of posterity are to be taken into account (temporal distance is morally irrelevant) and the environment and its resources which contribute to a quality life are to be preserved for future humanity. Community is a human enterprise and includes only humans and further, only humans in the same tribe. There are no moral obligations to inorganic resources or to non-human life beyond doing what is necessary to further long range human interests and ultimately survival of the human germ line. Man is first and last a biological being and his morality must reflect biological principles.

Tillich's position on the three elements of moral community is more complicated, reflecting his fuller understanding of the multidimensional nature of human reality. Neither space nor time is morally relevant because they are not ontologically ultimate. Rather, they are structures of finitude bounded by eternity. In fact, Tillich's ontological ethic calls us to overcome spatial and temporal separation and to strive for reunion with all being. Thus all beings are members of our moral community because they have being and thus confront us with a claim to be treated justly. And all men, past, present, and future are members of our moral community because time is a unity in contrast with eternity. Man is first biological, but he participates in every dimension of life and in him only is the dimension of spirit. It is this dimension which provides the dynamism in all life, and the creativity that leads to culture in human life.

NOTES

1. Tillich does, however, presuppose that ontology is a meaningful way to approach theology and the questions which arise from human existence. But it is important in this secular age that his theology does not start with a list of dogmatic theological beliefs that must be accepted before any discussion can begin. Ontology is the study of being and is a branch of the most abstract part of philosophy, metaphysics, which attempts to understand what is behind or beyond the physical, i.e., what grounds reality and gives it being. Granting that Tillich's ontological method requires presuppositions, it seems to me to be a fruitful approach for dealing with environmental questions and it illuminates many aspects of human experience.

2. For Tillich's position on the problem of God see 1951:204-210. Adams discusses Tillich's view of God (256-257) and MacLeod is critical of Tillich's approach to the problem of God (68-75). The books by Hick, Murray, Kaufman and Gilson provide examples of the time and effort that have gone into this problem in the past.

3. There is more to justice, however, than the passive elements of listening, sharing and forgiving. Justice is the encounter of power with power and can include a sense of outrage at nature. But our current ecological awareness and knowledge of nature suggests that by balancing the human tendency to dominate and destroy nature with these passive elements of justice, a new and more productive understanding of the relationship between man and nature can be achieved.

4. A tangential question might be raised at this point, namely, can nature can be unjust to mankind? Is a hurricane unjust? There is a danger here of anthropomorphizing nature; nature can "forgive," "reunite" and "listen"; she can return these responses to human actions but she cannot "act" in the same sense that humans act. Nature does not possess freedom, intentionality or responsibility: those traits which characterize human action. Following Kaufman, however, one could develop the idea that nature is the instrument of God through which He acts out his intentions in history.

5. For Tillich's thoughts on the union of religion and morality and the end of historical man see 1963b:307-308, 367, 1957a:99, 101.

6. "For God, the past is not complete, because through it he creates the future; and, in creating the future, he re-creates the past. If the past were only the sum total of what happened, such an assertion would be meaningless. But the past includes its own potentialities. The potentialities which will become actual in the future determine not only the future but also the past. The past becomes something different through everything new which happens. Its aspects change—a fact upon which the significance of the historical interpretation of the past is based. The potentialities included in the past, however, are not manifest before they determine the future. They may determine it through a new interpretation given by historical

remembrance. Or they may determine it by developments which make effective some hidden potentialities. From the view of eternity, both past and future are open. The creativity which leads into the future also transforms the past. If eternity is conceived in terms of creativity, the eternal includes past and future without absorbing their special character as modes of time" (Tillich, 1951:276). Tillich's view of the relationship between time and eternity is clearly set forth in his sermon "The Eternal Now" (1963c:122-132).

7. About the correct interpretation of the term "capitalist society", Tillich says: ". . . it does not mean the spirit of individual men or of a class or a party. It is rather a symbol for an ultimate, fundamental attitude toward the world. It is . . . a very real symbol . . .most concretely visible in actual, capitalist society . . . . But it means something far wider than this society" (1956:27).

8. There is a less technical presentation of the types of reason in Tillich (1957b:71-75).

CHAPTER V

CONCLUSION

Hardin's position emphasizes the biological aspect of
humanhood and the role of biological principles in confronting man
with his mistreatment of the environment and of his own human future.
"The Tragedy of the Commons" set forth his basic ideas which he has
continued to elaborate and refine in his later works. The emphasis
has shifted from "survival" to "posterity". And he has moved away
from the "lifeboat" to the less emotional "carrying capacity". There
are two major weaknesses in his position. First, he is willing to
dispense with some traditional ethical values (justice, freedom) to
insure survival. But his concern is not with mere survival, but with
survival at some level of comfort and dignity that includes the best
human accomplishments such as music, art, fine food, and the products
of technology. Achieving this goal will require giving up some
individual freedom and may require injustice. It may also require an
isolationist position (lifeboat). Hardin grounds this goal in the
facts of biology: the earth is finite, population is growing
exponentially, there is a limit to the food, space, etc. which can be
produced or are available on earth and thus, there is a limit, which
we may have already exceeded, to the number of people the earth can
support at an acceptable quality of life. But the concern for quality

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of life is not a biological concern: it is the point at which

Hardin's implicit value system is superimposed upon his analysis of

the biological facts. There are certain traditional ethical values

which he wishes to preserve, and he claims that they can only be

preserved at the expense of other values. Much of Hardin's writing

attempts to force the reader to see an unpopular or ignored side of an

issue. This "taboo stalking" necessarily involves swinging the

balance of ideas towards the neglected viewpoint. But at times,

Hardin overcompensates. This occurs, for example in his definition of

"altruism" as "masochism" and in his arguments about justice in terms

of "pure justice", a justice so ideal that it could never be achieved.

The impossibility of attaining "pure" justice, does not mean that no

gains can be made or that justice is a useless concept or goal. His

goal is to make us aware of the dangers inherent in our commonly

unquestioned positions and to point out that we are working against

biological principles. He evaluates moral values by using biological

criteria.

Morality, however, cannot be reduced to biology. The biological

goal of survival is not the goal of man as a self-transcendent being.

The strength of the goal of individual survival and the importance of

this "biological drive" in each human individual can be recognized,

but when the goal becomes "the survival of the human species" the

change in context makes a simple analogy impossible. This shift has

all the dangers Niebuhr saw in the shift from the individual to

society: morality and individual responsibility get lost. Erikson

wonders if such an inclusive goal as species survival which encompasses all mankind is even possible to conceptualize. He shows that limited groups identify themselves as mankind to the exclusion of other groups and he calls these limited groups, whether tribes, classes, nations, or religions, "pseudospecies". Although a universal human identity is morally desirable (and is necessary, Erikson believes, for species survival), men may not yet be capable of considering the interests of mankind as a whole (1968:42, 298-299, 318). Hardin's position is evidence of the accuracy of Erikson's analysis: The all-encompassing goal of the survival of mankind becomes in practice the narrower goal of insuring the survival of my group, nation or tribe.

Although Singer does not see Hardin as a defender of American prosperity and its continuance, it seems to me, in light of Erikson's concept of pseudospecies, that Hardin's formulation of the goal as survival of the human species in effect limits the concern for survival to the American nation with its present lifestyle (or to developed nations). These two goals are very different ethically. Thus, species survival as a goal is used ideologically to support the interests of a group that is smaller than mankind. It cannot help but be self-serving since our survival insures the survival of the species. The question who should carry on the species and Hardin's answer (We should.) stops short of a true concern with species in favor of our group. It amounts to an acceptance of American misuse of world resources and a justification of its continuance in pursuit of "the

survival of the human species". This also suggests that mere survival is not the goal, rather it is some level of quality of life. The issue of who should benefit from the quality of life (or who should survive) both within America and internationally is not sufficiently addressed. Nor is the possibility that the American quality of life should be lowered considered, as for example in the Routleys' suggestion that rather than accepting the status quo, we examine it and retain only what is valuable. Dealing with these issues will involve some notion of justice. Can we rise above our pseudospecies to a universal human moral community?

Hardin's concern for species survival and his knowledge and use of ecological principles which show the interconnection of all the world would seem to suggest a need for a political reality of "one world" to reflect the biological reality. But Hardin rejects the political goal of one world as impossible in principle. This could be called a paradox of levels: the species can survive only as individuals. Likewise, even though ecology shows that there is one interconnected and linked world, because of this unity we must isolate ourselves both to protect the environment for the future and to prevent conflict. This view of separateness as a solution to the problem of competition results from an overemphasis on the pole of individuality in contrast to that of participation. It seems ecology could be used to argue the opposite pole, namely that because the world is ecologically one (and from Tillich's thought spiritually and ultimately one) we ought to work towards one world which will allow

differences within the same community. Can we survive in comfort and dignity knowing that we do so at the expense of lives of misery and the deaths of others? We do it all the time. But ought we to do it? Ought we not rather to "rethink" our values and lifestyles (Taylor)?

In spite of these difficulties with his position, Hardin has made a major contribution to our understanding of the environmental biological crisis. He has forced us to think about hard and unpleasant issues. And he has raised the difficult problem of our obligations to future generations.

Tillich, while maintaining an appreciation of the biological dimension of human life, does not reduce human experience or morality to biology. Man is unique because he transcends the multiple dimensions of life and unifies them. In mankind life reaches its highest expression, spirit. Moral values do not come from human biology but from man as a multidimensional being, from the essential man, the whole man. Both Tillich and Hardin create room for the future; Hardin by arguing from biology and Tillich by showing that time is not morally relevant and that we cannot limit our morality to concern for present persons. Tillich, too, is paradoxical: his theology can be developed to allow future generations into our moral community but he sees morality in terms of the encounter of being with being. How can future being confront us now?

So there are two basic issues raised in the above discussion: the nature of man and the nature of our obligation to future generations. Hardin is clear that man is a biological being, that our morality

should be shaped primarily by biology and should be evaluated according to biological criteria and that we must do whatever is necessary to insure a quality life for future generations. For Tillich, man is a multidimensional being, not merely or primarily a biological being. He makes no direct statements about our obligations to future generations but his theology and ethics provide grounds for developing a position that we are obligated to future generations. What is our obligation to future generations? What does it require us to do?

Obligations to Future Generations

The question of our obligations to future generations is complex and attempts to deal with it have not been systematic or conclusive /1/. A large part of the difficulty was identified by Bridgman: our language does not handle the concept of "time" well. We can think about future persons as "potential persons" and enter the discussion about the "rights of potential persons". I, however, find that discussion unproductive, not only because future persons do not yet exist and so cannot make claims for themselves, but also because this approach pulls them into the present and gives them a reality equal to present persons. That is to say, it acts on the moral intuition that they ought to be in our moral community without fully dealing with the problem of the differences between future and present persons. Part of my difficulty here springs from the use of this argument in the abortion controversy and from a rejection of the

attempt to move it from the context of an individual (the fertilized egg which is a "potential person") to that of the group (future generations). It is a question in part of the nature of our encounter with future generations: in Tillich's terms it must be an encounter of "power of being with power of being". Where does the power of being of future generations encounter us? Perhaps a concept of "racial imagination" analogous to Jung's "collective unconscious" could be developed to explain how future persons encounter us now. But to me the most direct encounter is spatial not temporal. The future encounters me through space which touches me now, or following Jones (1976), it is though space that we reach the future. The realization that the space we inhabit will be inhabited by others after our death links us with future generations. It is space which I pass on to the future. This is the poignancy of Hardin's tragedy of the commons: if I nurture and care for my space or for the collective space of a park or wilderness, and the next individual to pass through that space defaces or destroys it, what have future generations gained from my stewardship? And if my good example serves to prick no one's conscience (because on Hardin's view conscience cannot survive), why should I bother to attempt to preserve the environment for future generations? (This is analogous to the philosophical question "Why should I be moral?") There are two separate though related issues; the question of motivation for forgoing present benefits for a future we will not know and the more general question of the risk that is involved in all human activity: often I cannot know the ultimate

outcome of my actions. But that a concern for posterity can be real and motivating is shown by Hardin's writings which espouse the cause of future generations.

The environmental crisis, of which Hardin has helped make us aware, is forcing us to reconsider our metaphysics, our view of the nature of space and time and of their interaction in the context of ethics and morality. Nature is crying out for justice and forcing us to re-evaluate our relationship with her. Our interest in this issue arises in part from a self-interested concern for the human future. What kind of world will we leave our children and grandchildren? Man is a being who has a future which contains his plans and hopes and which can transform the past and present filling them with newly created meaning. The future is also the realm where our intentions and projects are actualized. But obligations to future persons, the not-yet-born, are difficult to conceptualize.

My development of Tillich's theology suggests that Nature, the space which surrounds us and the beings it contains, is confronting us as the voice of creation, calling us and pointing us towards the reunion which can come fully only with the end of history. Thus the most practical way to insure that we will treat future generations justly is to heed the voice of nature and treat justly the space which we will share with future generations. This new appreciation of natural objects and space also provides practical and concrete guidance for our present actions (Williams). But there is an important difference between this approach and Hardin's. The goal is

not set by biology, unless perhaps in the most general way that biology shapes our physical being, and Hardin would add, our cultural being. Rather, the goal is that of reunion which arises from our whole being and from all being. This brings us to a fundamental issue of disagreement between myself and Hardin: the nature of man.

The Nature of Man

The problem with Hardin's position which introduces many of the other problems is his inadequate view of man. It leads to his willingness to sacrifice traditional ethical values for survival. But at the same time, his own writings provide evidence for another view of man. There are two specific problems with Hardin's view of man. First, he does not appreciate the multidimensional aspect of human being. Second, he does not have an adequate view of human society.

Hardin's view of man presents an incomplete picture of human reality. But, in fairness to Hardin, he does not set out to write a systematic philosophical anthropology. Evidence for the view of man which I will suggest is provided in Hardin's own works. He attests the futility of conscience, yet refuses to use pesticides upon his garden and grudgingly allows the birds their "share" of his crop (Hayes). Likewise his early involvement in advocating for women the right to abortion was an act of conscience that would not further his survival. Hardin is unsatisfied with views of reason and the economic "discounting of the future" and suggests a fuller view of the human by calling for the use of taboo and the sacred to aid in preserving

resources for the future. That is to say, he senses the incompleteness of the view of man as a rational animal and he is aware of the existence of non-rational aspects of man which are addressed by taboo and religion.

Likewise, he acknowledges the power of society (culture) in some regards, but maintains that society is ultimately a product of biology. Yet, he says that culture can change biology: an implicit admission of the transcendence of culture over biology. He calls for social policies that will promote caring for posterity and for the use of administrative law to prevent the tragedy of the commons. He is aware of the power of society to put the individual in the double bind of abusing the commons for his own good or being played the fool. Yet he does not acknowledge the power of human society over against the power of human biology. And he sees the individual to be in fundamental conflict with society as Bridgman did. This, however, is not a complete view of the relationship between the individual and society because it ignores the interdependence and harmony between the individual and society while emphasizing their independence and conflict. His consideration of "carrying capacity" as a parameter of the population of a nation, which is a political, cultural, and historical entity, not a purely biological one, suggests that the focus should not be so exclusively upon biology. His appeal to act differently now in support of "germ line survival" rather than against it as many of our social policies and cultural assumptions would have us do also says that man can change his own biology. It this is not

transcendence of biology what is it? What other creature can consciously work to change his biology or create a culture that can unconsciously work to change his biology? This aspect of self-transcendence is an aspect of the multidimensionality of human being.

Although Tillich acknowledges the multidimensionality of human life, he does not develop it fully. He discusses as dimensions of life (in general, not human life in particular), the inorganic, the organic, the vegetable, the animal, the psychic (i.e., self-awareness), the "personal-communal" or spiritual, and the historical (1963b:18-25). Likewise, his ontological elements address what is common to all being and thus omit some aspects characteristic of human life. At this point Tillich's thought can be filled out with Lonergan's analysis. For Lonergan human life is a complex dynamic involving several "patterns of experience". Life is experienced biologically, aesthetically, intellectually and dramatically (Lonergan:181-189). It is the combination of all these aspects of human experience which create the social world that shapes our values.

And the relationship between the individual and society is not necessarily as antagonistic as Hardin suggests. He could be read as following Bridgman and attempting to determine how the intelligent man can shape social policy to prevent the tragedy of the commons or as following Schoeck and attempting to find social controls to limit the threatening behavior of commons violators and overbreeders. Both, however, assume that the individual can change society. Hardin adds

that society is working towards its own destruction by creating a situation where it rewards individuals for being environmentally destructive. But another assumption of his view is that individuals are, in their rational self-interested way, trying to get the better of each other. This ignores the knowledge we have of the phenomenon of human development. Individuals do not arise in isolation but in society: individuals are social beings. Social interactions are not composed entirely of conflict, in fact, they are based upon cooperation. Hardin's emphasis upon biology leads to a neglect of social reality which shapes the individual and through which the individual and society together shape the world.

Social policy and ethics must take account of the active role of man in shaping the world. Mankind is not merely the product of the environment or of biology. Mankind is creative, self-transcendent, and intentional: "Intentionality is man's living toward the structure of his world in the unity of caring, hoping, conceiving, feeling and meaning" (Winter, 1968:198). And Hardin does not fully appreciate the role of symbol in transcending and shaping reality. (For a fuller understanding, see Winter, 1968:26, 104-105, 227). These aspects of human experience are not found in Hardin's thought and are crucial to a complete and accurate view of man.

Hardin's position can be placed in a broader context by examining Winter's analysis of four styles of social science and their views of man, the object of their study; behaviorist, functionalist, voluntarist and intentionalist. The behaviorist model of man is the

closest in style to the physical sciences and emphasizes the external factors in human action. It tends to view man as an object of study and is least accurate in representing the richness of lived experience. The functionalist style is more concerned with the balance of forces in society, tends to view individuals as controlled by their culture, and supports the status quo. The voluntarist and intentionalist styles are more concerned with intentional consciousness and see man as actor and chooser (Winter, 1968:114ff). Hardin's position includes elements of the behaviorist and the functionalist views, neither of which captures the richness of human experience. But Tillich's is compatible with Winter's analysis, and as argued above, is more complete (Winter, 1968:101, 227, 228). Thus, on the continuum of view of man from the rigid behaviorist who views man as a object controlled by his environment to the intentionalist who includes the subjective experience of living in his analysis of man, Hardin's position is better than many but it is not complete. On the other hand, Tillich's dialectical view of man captures more of human experience.

An adequate view of man includes the following: it appreciates the biological limits of being human (theologically an acceptance of finitude, existentially an acceptance of "facticity") and sees them as limits and not as moral imperatives; it acknowledges the power and necessity of properly using rationality generally, and particularly in regard to moral problems, but sees that man cannot be reduced to rationality (or to biology). This points towards a need for a renewed appreciation of the mythic, symbolic and pre-rational aspects of man

and accepts the emotional life of humankind as an important reality with ethical significance. It realizes that our identity as human individuals and as human communities is a matter of our whole being and not just our intellect. This is the realm of humanhood in which we primarily find transcendence expressed, although it can be expressed rationally (ecstatic reason) as well. The mythic and symbolic express the roots of the human with which our culture has lost conscious touch. And, this is perhaps related to our loss of touch with nature and to some degree, with our own future. The human future has been replaced by the technological future. Both are human possibilities, and we cannot simply return to nature. But a reconsideration of the path upon which we are embarked, provoked by Hardin's view of the problem and its solution, leads me to examine his underlying assumptions about man and to reject his view of man in favor of a Tillichian view. It also leads to a reconsideration of the relation between the individual and society (community). Is there more to community than biological pressure to form a group to survive? Answering this question calls for an appreciation of culture (Sahlins) which includes consideration of the role of the symbolic and mythical in society. Adequate views of man and society include consideration of the roles of the biological, rational, and mythical aspects of man in human life and refuse to reduce man to any one (or two) of these. To paraphrase Tillich's view of faith, "Man is all these things and more."

There are also problems with Tillich's position. I see three major problem areas in his thought: language, epistemology, and the lack of separation between theology and ethics. There are also theological problems which are not particularly relevant for present concerns and which are based upon a disagreement with his starting with the human rather than with God, Scripture and traditional doctrine. /2/ But that starting point and the depth of his analysis of human existence are what makes his thought useful for developing a position counter to Hardin's position.

One aspect of the problem of language is exemplified in the Paul Edwards' article which attacks Tillich's use of the term "non-being". Hammond correctly divides this issue into the question of the linguistic analysts about the meaningfulness of theological language in general and the specific question of the meaningfulness of ontological language (1966:108ff). This issue is closely related to the question of the use of ontology as a method for theology. The latter issue is more relevant here where Tillich's ontological ethic was used. This difficult issue has been addressed in books by Kelsey, MacLeod, and Keefe.

Several points are relevant here. First, Tillich's own remarks about the use of ontological rather than scriptural language show that his choice was part of his apologetic theology and his attempt to make the Scriptures relevant for modern secular man. Second, there is an ontological tradition in Christian theology that goes back to Anselm (see Hammond, 1965:181; Shinn:70-71). And third, the usefulness of

Tillich's ontological ethic for addressing ecological issues suggests the possibility of providing ecological (empirical) evidence in support of Tillich's ontological vision. At least, the use of ontological language opens the door of theology for many that would be driven away by Biblical language. Nonetheless, Tillich's ontological language is difficult and his phrases are problematical. It would be helpful if his language could be simplified without a loss of content (Hammond, 1966:109).

Another aspect of the problem of language in Tillich is his understanding of symbol and myth. Although he has an appreciation of them and realizes their power even in the modern world (1977) he presents no theory to explain the continuing power of myth in human experience. Tillich's position can be strengthened here by adding insights about the place of myth in human experience from Cassirer's work.

In spite of his protests to the contrary, another major weakness in Tillich's thought is his epistemology (Randall:133). Although he presents long and detailed discussions of reason, he writes little about how we come to know what we know. Again, Tillich's thought is nicely balanced by Lonergan's complete epistemology. (Lonergan calls it "cognitive theory".) Lonergan and Tillich, however, approach theology from separate traditions. Lonergan is in the Thomist tradition which Tillich rejects in favor of the Augustianian. Cassirer would also be a possible source for a more complete epistemology.

The critique of Tillich's ethic is the most relevant for the use of Tillich in this paper. Ramsey (1962) contends that Tillich's three elements of ontological ethics—love, power and justice—are reducible to love and that Tillich has understood love in terms of human "eros" instead of God's "agape" (see also Hammond, 1966:129-130). Hammond suggests that Tillich's emphasizes salvation to the neglect of ethics (1966:127f) and Thomas contends that Tillich short-changes ethics by refusing to discuss them separately from theology (91ff). Adams, however, clarifies the reason for the lack of separate treatment of ethics; with the arrival of secular man and secular culture a separate religious ethic is no longer possible. Ethics becomes part of theology of culture (77,160,171). Dealing with these criticisms is a demanding task that cannot be done here. There is an increasing concern, however, with understanding and developing Tillich's ethics (Graber, O'Keeffe). And it is hoped, in spite of any technical problems with Tillich's metaethics, the usefulness of his ethics has been demonstrated in this paper.

Moral Community and Survival

Hardin's goal is not community but survival. Survival of the species can best be promoted if moral community is limited to small groups. For Hardin, moral community does not include non-human beings. Nature must be preserved because it is necessary for human life to continue. But in spite of his narrow spatial boundary for community, he has an extended temporal boundary. Hardin includes even distant

future generations and feels that we are obligated to leave them a quality environment and the possibility of a quality life, even at the expense of the lives of present persons. He maintains that preserving the environment will always cost lives in overpopulated countries and that our goal should be to minimize that cost. Hardin's mistake is the elevation of the basic value survival, the precondition of value, to ultimacy. But survival "is only a base for the moral life, not a fulfilment of its meaning" (Hartmann). This confusion of a base value with an ultimate value occurs because of Hardin's incomplete view of man and his reliance upon biology, one dimension of human life, as a guide for ethics and social policy. The crisis he addresses is real, but the cost of his proposed solution is too high. Our obligation to future generations does not arise from a moral obligation to preserve the germ line but from human self-transcendence and intentionality which look toward future generations with hope that they will carry on the human, not the biological, project.

The Tillichian view developed above provides a better grounding for the concern for posterity. It also presents a broader view of community. Both space and time are morally irrelevant. Neither sets a boundary on moral community which excludes other human beings. Rather, the boundaries are set by our finitude and we ought to strive to overcome them and work towards reunion. This ontological approach also makes room in moral community for non-human being. Both organic and inorganic being have moral claims upon us not because they are useful or necessary for the continuance of human life, but because

they exist. This position appreciates the biological dimension of life but does not elevate it to ultimacy. The ultimate value is the community (reunion) which is necessary for a full human life. And this goal preserves those ethical values which help make us concerned and complete human beings, justice, freedom and love. /3/

NOTES

1.   With the rather naive view of a student beginning his
dissertation I had hoped to solve this issue "once and for all".   In
1974 there were less than five articles dealing with obligations to
future generations. The literature has expanded considerably since
then, but little headway has been made because this issue forces
ethics to a very basic level. Addressing the issue of our obligations
to future generations "systematically and completely" must deal with
the question of the grounding of moral values and arrive at an ethics
which can evaluate different value presuppositions, an awesome task.

2.   Tillich has been accused of losing the Christian message and
replacing it with philosophy (Hamilton; Tillich, 1963b:3), of
neglecting the historicity of Jesus (Tavard:82-112; Kelsey:125-126,
140ff, 152-153) and of having a weak doctrine of the Holy Spirit
(Kelsey:147).   His "symbolic" talk of God has also been criticized
(Hammond, 1966:110ff). In my experience, it takes at least three
times through Tillich's Systematic Theology to begin to address the
question of its relation to the Christian message. The first reading
is spent struggling with his language and ontology and it is not until
the third that the elegance and completeness of the system begin to
appear.   And when that occurs, a very traditional and orthodox core
can be glimpsed behind the unorthodox approach and the ontological
language.

3.   Several issues remain unresolved. In the most general sense
there are two basic tasks that our growing biological and
environmental knowledge is forcing upon us, the development of a
philosophical anthropology and the revival of metaphysics. The former
is needed to lead us to a new understanding of the relationship
between man and nature. The latter is forced upon us by the growing
awareness of the fragility of the human species and the questions of
the role of time and space for morality that the problem of
obligations to future generations raises. These are not new
questions, but they have been neglected especially since philosophy
shifted away from normative thought to which it is beginning to return.
Likewise, theology, with the prodding from outside (White), has only
recently begun to face these issues, and realize the need for
developing other strains of the Christian message than the
exploitative domination of nature strain which modern culture has
appropriated.
    These however are lifetime tasks and there are more manageable,
but no less difficult, specific tasks that need to be addressed.
There are issues which were only tangentially mentioned in this
paper, such as determining the "facts" about overpopulation and its
threats.   This is one area where Hardin's thought needs critical
evaluation. There is evidence that commons can work and that there
are natural factors of population control that are contrary to

Hardin's position. But the most difficult and interesting issue is the obligations to future generations. There is an increasing literature on this problem but much remains to be done. For example, what rewards or "rights" accompany the obligation to future generations? There is also a growing literature on "animal rights" and the "rights" of nature which also need further exploration. And the issue which I have discussed in terms of anthropology, man's transcendence over biology in culture and society, merits further exploration on the level of the interaction between culture and environment.

How have different cultures handled the environmental problem and what social realities, worlds, have they created? Several papers presented at the meeting of the Religion and Ecology Group of the American Academy of Religion on Nov. 19-20, 1978, addressed this issue, Peter Heinegg's "Apologizing to the Bear: Notes on Ecological Ethics", James Whitehill's "Ecological Ethics in Post-modern Japan: Wabi and Amae" and Lester J. Bilsky's "Religion and Ecojustice in Early Imperial China".

The most difficult questions are about the nature and source of values, their philosophical grounding and their force in shaping one's view of the facts. Thus if one values a certain level and style of life as Hardin, and most of us do, and if overpopulation threatens that it seems to require drastic action against the overpopulators. If, however, the issue is seen at the level of presuppositions, of the values that color our perception of the world and shape our reality, there may be other alternatives which preserve what is worth preserving in our lives without requiring a moral hardness and a refusal to acknowledge our responsibility in creating population and food problems for distant others.

SELECTED BIBLIOGRAPHY

Adams, James Luther
    1965   Paul Tillich's Philosophy of Culture, Science, and
            Religion. New York: Schocken Books.

Alverson, Dayton L.
    1975   "Management of Ocean's Living Resources." Ocean Develop-
            ment and International Law 3/2:99-125.

Anglin, William
    1978   "In Defense of the Potentiality Principle." Pp. 31-37 in
            Sikora and Barry.

Audesirk, Gerald
    1971   "Letter to the Editor." Science 174/4014(10 Dec.):
            1077-1078.

Baier, Annette
    1980   "The Rights of Past and Future Persons." Pp. 171-183 in
            Partridge.

Baer, Richard A., Jr.
    1977   "Higher Education, the Church, and Environmental Values."
            Natural Resources Journal 17/3(July):477-491.

Barbour, Ian
    1966   Issues in Science and Religion. New York: Harper & Row.

Barry, Brian
    1978   "Circumstances of Justice and Future Generations."
            Pp. 204-248 in Sikora and Barry.

Bayles, Michael D.
    1980   "Famine or Food: Sacrificing for Future or Present Gener-
            ations." Pp. 239-245 in Partridge.

Benjamin, Walter W.
    1979   "A Challenge to the Eco-Doomsters." The Christian Century
            XCVI/10(21 March):311-314.

Bennett, Jonathan
    1978   "On Maximizing Happiness." Pp. 61-73 in Sikora and Barry.

341

Berger, Peter L.
    1967   The Sacred Canopy: Elements of a Sociological Theory of
            Religion. Garden City, New York: Doubleday & Company, Inc.

Berger, Peter L. and Luckmann, Thomas
    1966   The Social Construction of Reality. Garden City, New York:
            Doubleday & Company, Inc. (Anchor Books).

Berger, Peter L. and Kellner, Hansfried
    1974   "Marriage and the Construction of Reality." Pp. 157-174
            in Rose Laub Coser (ed.) The Family: its structures and
            functions. 2nd ed. New York: St. Martins.

Board of National Ministries of the American Baptist Churches
    in the U. S. A.
    1974   "Ecological Wholeness and Justice: The Imperatives of God."
            Foundations XVII/2(April-June):133-157.

Boulding, Kenneth
    1977   "Peace Research." International Social Science Journal
            29/4:601-614.

Bredemeier, Harry
    1973   "Complementarity of 'Partisan' and 'Objective' Research."
            American Behavioral Scientist 17(Sept.-Oct):125-143.

Bridgman, Percy W.
    1938   The Intelligent Individual and Society. New York: The
            Macmillan Company.

Brightman, Edgar Sheffield
    1945   Nature and Values. New York: Abington-Cokesbury Press.

Burgess, David S.
    1978   "An Answer to Life-Boat Ethics." Theology Today XXXV/3
            (Oct.):265-272.

Buttell, Frederick H. and Flinn, William L.
    1976   "Environmental Politics: the Structuring of Partisan and
            Ideological Cleavages in Mass Environmental Attitudes."
            Sociological Quarterly 17(Autumn):477-490.

Bybee, Roger W.
    1977   "Toward a Third Century of Science Education." The
            American Biology Teacher 39/1(Sept.):338-341, 357-361.

Caldwell, L. K.
    1975   "Review of Cases and Materials on Environmental Law and
            Policy." Indiana Law Journal 50/3(Spring):607-611.

Callahan, Daniel
    1971   "What Obligations Do We Have to Future Generations"? The
           American Ecclesiastical Review CLXIV/4(April):265-280.

    1973   The Tyranny of Survival and Other Pathologies of Civilized
           Life. New York: Macmillan Publishing Co., Inc.

    1974   "Doing Well by Doing Good: Garrett Hardin's 'Lifeboat
           Ethic'." The Hastings Center Report 4/6(Dec.):1-4.

Cannon, Mott D.
    1971   "Letter to the Editor." Science 174/4014(10 Dec.):1077

Carroll, C. Ronald
    1975   "Letter to the Editor." BioScience 25/3(March):146-147.

Carroll, Peter N.
    1975   Puritanism and the Wilderness. New York: Columbia
           University Press.

Cassirer, Ernst
    1944   An Essay on Man: An Introduction to a Philosophy of
           Culture. New York: Bantam Books.

    1955   The Philosophy of Symbolic Forms, Vol. 2. New Haven: Yale
           University Press.

Catton, William R. Jr.
    1973   "Extensional Orientation and the Energy Problem." ETC
           20/3(Dec.):344-356.

Catton, William R. and Dunlap, Riley E.
    1978   "Environmental Sociology: A New Paradigm." The American
           Sociologist 13/1(Feb.):41-49.

Christiansen, F. B. and Fenchel, T. M.
    1977   Theories of Population in Biological Communities. Berlin:
           Springer-Verlag.

Ciriacy-Wantrup, S. V.
    1971   "The Economics of Environmental Policy." Land Economics
           47/1(Feb.):36-45.

Ciriacy-Wantrup, S. V. and Bishop, Richard C.
    1975   "Common Property as as Concept in Natural Resources
           Policy." Natural Resources Journal 15(Oct.):713-727.

Clark, Colin W.
    1973   "The Economics of Overexploitation." Reprinted on
           pp. 82-95 of Hardin and Baden.

Cole, Lamont C.
     1957   "Sketches of General and Comparative Demography." Cold
               Spring Harbor Symposia on Quantitative Biology 22:1-15.

Copleston, Frederick, S. J.
     1966   A History of Philosophy, Vol. 8, Part I. Garden City, New
               York: Doubleday & Company, Inc.

De George, Richard T.
     1980   "The Environment, Rights and Future Generations."
               Pp. 157-165 in Partridge.

Delattre, Edwin
     1972   "Rights, Responsibilities and Future Persons." Ethics
               82(April):254-258.

Dempster, J. P.
     1975   Animal Population Ecology. New York: Academic Press.

Derr, Thomas Singer
     1981   "The Obligation to the Future." Pp. 37-44 in Partridge.

Dyck, Arthur J.
     1977   "Alternative Views of Moral Priorities in Population
               Policy." BioScience 27/4(April):272-276.

Eddy, Neal
     1970   "The Exponential Crisis." IEEE Spectrum 7/8(Aug.):53-56.

Edwards, Paul
     1970   "Professor Tillich's Confusions." Pp. 209-235 in Steven M.
               Cahn (ed.), Philosophy of Religion. New York: Harper &
               Row, Publishers.

Eliade, Mircea
     1960   Myths, Dreams and Mysteries: The Encounter between Contemp-
               orary Faiths and Archaic Realities. Translated by Philip
               Mariet, New York: Harper & Row, Publishers.

Emlen, J. Merritt
     1973   Ecology: An Evolutionary Approach. Reading, Mass.:
               Addison-Wesley Publishing Company.

Emmel, Thomas C.
     1976   Population Biology. New York: Harper & Row, Publishers.

Erikson, Erik H.
     1968   Identity Youth and Crisis. New York: W. W. Norton &
               Company, Inc.

Falk, R. A.
    1970   "Toward Equilibrium in the World Order System." American
            Journal of International Law 64/4:217-224.

Faramelli, Norman J.
    1974   "Ecojustice: Challenge to the Churches in the 1970's."
            Foundations XVII/2(April-June):124-132.

Feinberg, Joel
    1980   "The Rights of Animals and Unborn Generations." Pp. 139-
            150 in Partridge.

Finnin, William M., Jr.
    1979   "Assessing Lifeboat Ethics." The Christian Century
            XCVI/23 (4-11 July):708-710.

Finnin, William M., Jr. and Smith, Gerald Alonso (eds.)
    1979   The Morality of Scarcity: Resources and Social Policy.
            Baton Rouge: Louisiana State University Press.

Frankena, William
    1973   Ethics. 2nd ed. Englewood Cliffs, New Jersey: Prentice-Hall
            Inc.

Freud, Sigmund
    1964   The Future of an Illusion. Translated by W. D. Robson-
            Scott, edited by James Strachey, New York: W. W. Norton &
            Company, Inc.

    1961   Civilization and Its Discontents. Translated by James
            Strachey, New York: W. W. Norton & Company, Inc.

Futrell, J. William
    1976   "Parks to People: New Directions for the National Park
            System." Emory Law Journal 25/2:255-316.

Garfield, E.
    1978   "The 100 Articles Most Cited by Social-Scientists 1969-
            1978." Current Contents Social Science 10/32:5-14.

Geiger, Donald P.
    1975   "Letter to the Editor." BioScience 25/3(March):146.

Georgescu-Roegen, Nicholas
    1975   "Energy and Economic Myths." Southern Economic Journal
            41/3(Jan.):347-381.

Gilson, Etienne
    1970   God and Philosophy. New Haven: Yale University Press.

Gladden, Washington
    1902   Social Salvation. Cambridge: Riverside Press.

Godwin, Kenneth R. and Shepard, W. Bruce
    1977   "Population Issues and Commons Dilemmas." Policy Studies
             Journal 6/2(Winter):231-238.

Golding, Martin P.
    1968   "Ethical Issues in Biological Engineering." UCLA Law
             Review 15/2(Feb.):443-479.

    1972   "Obligations to Future Generations." The Monist 56/1:
             85-99.

Golding, Martin P. and Golding, Naomi Holtzman
    1971   "Ethical and Value Issues in Population Limitation and
             and Distribution in the United States." Vanderbilt Law
             Review 24/3:495-523.

Govier, Trudy
    1979   "III. What Should We Do About Future People?" American
             Philosophical Quarterly 16/2(April):105-113.

Graber, Glenn
    1972   "The Metaethics of Paul Tillich." Journal of Religious
             Ethics 1(Fall):113-133.

Hamilton, Kenneth
    1963   The System and the Gospel: A Critique of Paul Tillich.
             Grand Rapids, Michigan: William B. Eerdmans Publishing
             Company.

Hammond, Guyton B.
    1965   Man in Estrangement: A Comparison of the Thought of Paul
             Tillich and Erich Fromm. Nashville: Vanderbilt University
             Press.

    1966   The Power of Self-Transcendence. St. Louis: The Bethany
             Press.

Hardin, Garrett
    1956   "Meaninglessness of the Word Protoplasm." Scientific
             Monthly 82:112-120.

    1957   "The Threat of Clarity." American Journal of Psychiatry
             114:392-396.

    1959a   Nature and Man's Fate. London: J. Cape.

1959b   "Interstellar Migration." _Journal of Heredity_ 50:68-70.

1960   "The Competitive Exclusion Principle." _Science_ 131:1292-1297. Reprinted on pp. 142-157 of Hardin, 1973c.

1963a   "A Second Sermon on the Mount." _Perspectives in Biology and Medicine_ 6:366-371. Reprinted on pp. 60-66 of Hardin, 1978a.

1963b   "The Cybernetics of Competition: A Biologist's View of Society." _Perspectives in Biology and Medicine_ 7:58-84. Reprinted on pp. 148-176 of Hardin, 1978a.

1966   "The Semantics of 'Space'." _ETC._ 23:167-171. Reprinted on pp. 116-120 of Hardin, 1978a.

1967a   "Pop Research and the Seismic Marker." _Per/Se_ 2/3:19-24. Reprinted on pp. 107-116 of Hardin, 1978a.

1967b   "Semantic Aspects of Abortion." _ETC._ 24:263-281.

1968a   "The Tragedy of the Commons." _Science_ 162:1243-1248. Reprinted on pp. 250-264 of Hardin, 1972e.

1968b   _39 Steps to Biology: Readings from Scientific American._ San Francisco: W. H. Freeman and Company.

1968c   "Abortion--or Compulsory Pregnancy?" _Journal of Marriage and the Family_ 30:246-251. Reprinted on pp. 293-303 of Hardin, 1969c.

1969a   "Not Peace, but Ecology." _Brookhaven Symposia in Biology_ Number 22, "Diversity and Stability in Ecological Systems, Upton, New York: Brookhaven National Laboratory.

1969b   "The Economics of Wilderness." _Natural History_ 78/6:20-27. Reprinted on pp. 262-269 of Hardin, 1978a.

1969c   _Population, Evolution and Birth Control: A Collage of Controversial Ideas._ San Francisco: W. H. Freeman and Company.

1969d   _Science Conflict and Society._ San Francisco: W. H. Freeman and Company.

1970   "Parenthood: Right or Privilege?" _Science_ 169/3944 (31 July):427. Reprinted on pp. 219-220 of Hardin, 1978a.

1971a   "Nobody Ever Dies of Overpopulation!" _Science_ 171:527. Reprinted on pp. 215-216 of Hardin, 1978a.

1971b   "The Survival of Nations and Civilization." Science 172:
         1297. Reprinted on pp. 205-207 of Hardin, 1978a.

1971c   "Population, Biology and the Law." Journal of Urban Law
         18:563-578. Reprinted on pp. 177-193 of Hardin, 1978a.

1971d   "Letter to the Editor." Science 174(10 Dec):1078.

1971e   "On the Immorality of Being Soft-Hearted." The Relevant
         Scientist 1:17-18.

1971f   "Education in an Overpopulated World." Science Teacher
         38/5(May):20-23.

1971g   "How to Specify an Optimum Level of Population." Pp. 260-
         264 in Fred S. Singer (ed.), Is There An Optimum Level of
         Population? New York: McGraw-Hill Book Company.

1972a   "Preserving Quality on Spaceship Earth." in James B.
         Trefethan (ed.), Transactions of the Thirty-Seventh North
         American Wildlife and Natural Resources Conference.
         Washington, D. C.: Wildlife Management Institute.

1972b   "Population Skeletons in the Environmental Closet."
         Bulletin of the Atomic Scientists 28/6(June):37-41.
         Reprinted on pp. 194-204 of Hardin, 1978a.

1972c   "We Live on a Spaceship." Bulletin of the Atomic
         Scientists (Nov.):23-25.

1972d   "Exploited Seas -- An Opportunity for Peace." BioScience
         22:695.

1972e   Exploring New Ethics for Survival: The Voyage of the
         Spaceship Beagle. New York: Penquin Books Ltd.

1972f   "Genetic Consequences of Cultural Decisions in the Realm of
         Population." Social Biology 19/4(Dec.):350-361.

1973a   "Ambivalent Aspects of Evolution." American Biology
         Teacher 35/1(Jan.):15-19.

1973b   "Ecology and Growth--The Tragic Insight." Research Manage-
         ment 16/6(Nov.):9-12.

1973c   Stalking the Wild Taboo. 1st ed. Los Altos, Calif.:
         William Kaufman, Inc.

1974a   "The Rational Foundations of Conservation." North American
         Review 259/4:14-17.

1974b   "Living on a Lifeboat." BioScience 24/10(Oct.):561-568.
         Reprinted on pp. 221-241 of Hardin, 1978a.

1974c   Mandatory Motherhood: The True Meaning of "Right to Life".
         Boston: Beacon Press.

1975a   "Ten Charming Delusions about Population." American
         Biology Teacher 38/2(Feb.):102-103.

1975b   "Gregg's Law." BioScience 25/7:415. Reprinted on pp. 217-
         218 of Hardin, 1978a.

1975c   "Letter to the Editor." BioScience 25/3(March):148.

1976a   "Carrying Capacity as an Ethical Concept." Soundings
         59/1:120-137. Reprinted on pp. 245-261 of Hardin, 1978a.

1976b   "Fishing the Commons." Natural History 85/7:9-15.

1976c   "Pejorism: the Middle Way." North American Review 261/2:
         9-11. Reprinted on pp. 129-139 of Hardin, 1978a.

1976d   "Living with the Faustian Bargain." Bulletin of the Atomic
         Scientists 32/9(Nov.):25-29.

1976e   "The Trans-science of Necessity." Bulletin of the Atomic
         Scientists 32/9:24. Reprinted on pp. 213-214 of Hardin,
         1978a.

1976f   "Is Civilization Ready for Nuclear Power?" Pp. 117-128 in
         Hardin, 1978a.

1977a   The Limits of Altruism: An Ecologist's View of Survival.
         Bloomington, Indiana: Indiana University Press.

1977b   "Sociobiology--Aesop with Teeth." Social Theory and
         Practice 4/3(Fall):303-313.

1977c   "Can Americans Be Well Nourished in a Starving World?"
         National Forum: The Phi Kappa Phi Journal 69/2:25-28.

1977d   "What Marx Missed." Pp. 3-7 in Hardin and Baden.

1977e   "Ethical Implications of Carrying Capacity." Pp. 112-125
         in Hardin and Baden.

1977f   "Denial and Disguise." Pp. 45-52 in Hardin and Baden.

1977g   "An Operational Analysis of Responsibility." Pp. 66-75 in
         Hardin and Baden.

1978a   Stalking the Wild Taboo. 2nd ed. Los Altos, Calif.:
         William Kaufmann, Inc.

1978b   "The Books that Shape Lives." Christian Century XCV/33
         (18 Oct.):994.

1979a   "The Ancient Wisdom of Primum Non Nocere." Pp. 25-35 in
         Finnin and Smith.

1980   Promethean Ethics: Living with Death, Competition, and
         Triage. Seattle: University of Washington Press.

1981a   "A Lamp Not a Bread Basket." The Smithsonian 12/2
         (May):162.

Hartley, L. P.
    1961   Facial Justice. Garden City, New York: Doubleday &
            Company, Inc.

Hartshorne, Charles
    1980   "The Ethics of Contributionism." Pp. 103-107 in Partridge.

Hayes, Harold
    1981   "A Conversation with Garrett Hardin." The Atlantic Monthly
            247/5(May):60-68, 70.

Heim, Werner G.
    1975   "Letter to the Editor." BioScience 25/3(March):146.

Hick, John
    1964   The Existence of God. New York: The Macmillan Co.

Holden, Constance
    1980   "Identical Twins Reared Apart." Science 207/4437
            (21 March):1323-1325, 1327-1328.

Jonas, Hans
    1972   "Technology and Responsibility: Reflections on the New Task
            of Ethics." Pp. 1-19 in James M. Robinson (ed.),
            Religion and the Humanizing of Man. Waterloo, Ontario,
            Canada: Council on the Study of Religion.

    1977   "The Concept of Responsibility: An Inquiry into the
            Foundations of an Ethics for Our Age." Pp. 169-198 in
            H. Tristram Engelhardt, Jr. and Daniel Callahan (eds.),
            Knowledge Value and Belief. New York: The Hastings Center.

Jones, Hardy
    1976   "Genetic Endowment and Obligations to Future Generations."
            Pp. 247-259 in Partridge, 1980.

Jones, Jack
    1978   "Depth Conservationism: A Post-Marxist Ideology?" Dissent
            25/2(Spring):209-218.

Kaufman, Gordon D.
    1972   God the Problem. Cambridge, Mass.: Harvard University
            Press.

Kavka, Gregory
    1978   "The Futurity Problem." Pp. 186-203 in Sikora and Barry.

Keefe, Donald J., S. J.
    1971   Thomism and the Ontological Theology of Paul Tillich: A
            Comparison of Systems. Leiden: E. J. Brill.

Kegley, Charles W. and Bretall, Robert W. (eds.)
    1952   The Theology of Paul Tillich. New York: The Macmillan Co.

Kelsey, David H.
    1967   The Fabric of Paul Tillich's Theology. New Haven: Yale
            University Press.

Leigh, Egbert G., Jr.
    1977   "How Does Selection Reconcile Individual Advantage with the
            Good of the Group?" Proceedings of the National Academy of
            Science USA 74/10(Oct.):4542-4546.

Lewis, C. S.
    1947   The Abolition of Man. New York: Macmillan Company.

Lloyd, William Foster
    1977   "On the Checks to Population." Pp. 8-15 in Hardin and
            Baden.

Lonergan, Bernard J. F., S. J.
    1957   Insight: A Study of Human Understanding. New York:
            Philosophical Library Inc.

Macklin, Ruth
    1980   "Can Future Generations Correctly Be Said to Have Rights?"
            Pp. 137-155 in Partridge, 1980.

MacLeod, Alistair M.
    1973   Paul Tillich: An Essay on the Role of Ontology in His
            Philosophical Theology. London: George Allen & Urwin Ltd.

McPherson, Archibald T.
 1975 "Letter to the Editor." <u>BioScience</u> 25/3(March):147-148.

Messick, David M.
 1973 "To Join or Not to Join: An Approach to the Unionization
   Decision." <u>Organizational Behavior and Human Performance</u>
   10/1(August):145-156.

Meyers, Charles J.
 1975 "An Introduction to Environmental Thought: Some Sources
   and Some Criticisms." <u>Indiana Law Journal</u> 50/3:426-453.

Miles, Rufus E., Jr.
 1970 "Whose Baby is the Population Problem?" <u>Population
   Bulletin</u> 26/3(Feb.):3-36.

Mitchell, B. and Huntley, H. Maureen
 1977 "Analysis of Criticisms of International-Fisheries-
   Organizations with Reference to 3 Agencies Associated
   with Canadian West-Coast Fishery." <u>Journal of Environ-
   mental Management</u> 5/1(Jan.):47-73.

Murray, John Courtner, S. J.
 1964 <u>The Problem of God</u>. New Haven: Yale University Press.

Narveson, Jan
 1978 "Future People and Us." Pp. 38-60 in Sikora and Barry.

Nell, Onora
 1975 "Lifeboat Earth." <u>Philosophy and Public Affairs</u> 4(Spring):
   273-282.

Netting, R. M. C.
 1976 "What Apline Peasants Have in Common -- Observations on
   Communal Tenure in a Swiss Village." <u>Human Ecology</u>
   4/2:135-146.

Neuhaus, Richard
 1971 <u>In Defense of People: Ecology and the Seduction of
   Radicalism</u>. New York: Macmillan Company.

Niebuhr, Reinhold
 1932 <u>Moral Man and Immoral Society</u> [1960 reprint]. New York:
   Charles Scribner's Sons.

Novitski, Edward
 1977 <u>Human Genetics</u>. New York: Macmillan Publishing Co., Inc.

Odum, Eugene P.
    1971   Fundamentals of Ecology. Philadelphia: W. B. Saunders
            Company.

O'Keeffe, Terence M.
    1982   "The Metaethics of Paul Tillich: Further Reflections."
            Journal of Religious Ethics 10/1(Spring):135-143.

Owens, Owen D.
    1974   "Salvation and Ecology." Foundations XVII/2(April-June):
            106-122.

Paolino, Albert
    1971   "Letter to the Editor." Science 174/4014(10 Dec.):1077.

Partridge, Ernest
    1980   Responsibilities to Future Generations: Environmental
            Ethics. Buffalo, New York: Prometheus Books.

Passamore, John
    1980   "Conservation." Pp. 45-59 in Partridge.

Perrin, Norman
    1974   The New Testament: An Introduction. New York: Harcourt
            Brace Jovanovich, Inc.

    1977   The Resurrection according to Matthew, Mark and Luke.
            Philadelphia: Fortress Press.
Pianka, Eric R.
    1974   Evolutionary Ecology. New York: Harper & Row, Publishers.

Pielou, E. C.
    1974   Population and Community Ecology. New York: Gordon and
            Breach Science Publishers.

Pletcher, Galen K.
    1980   "The Rights of Future Generations." Pp. 167-170 in
            Partridge.

Potter, Van Rensselaer
    1971   Bioethics: Bridge to the Future. Englewood Cliffs, New
            Jersey: Prentice-Hall, Inc.

Pruitt, Dean G. and Kimmel, Melvin J.
    1977   "Twenty Years of Experimental Gaming: Critique, Synthesis
            and Suggestions for the Future." Annual Review of Psycho-
            logy 28:363-392.

Ramsey, Paul
    1950   Basic Christian Ethics. New York: Charles Scribner's Sons.

    1961   War and the Christian Conscience. Durham: Duke University
               Press.

    1962   Nine Modern Moralists. Englewood Cliffs, N. J.: Prentice-
               Hall, Inc.

Randall, John Herman, Jr.
    1952   "The Ontology of Paul Tillich." Pp. 132-161 in Kegley
               and Bretall.

Rawls, John
    1971   The Theory of Justice. Cambridge: The Belknap Press of
               Harvard University Press.

Rees, Mina
    1971   "A Humane Approach to Population Problems." Science 173/
               3995(30 July):381.

Renshaw, Edward F.
    1978   "Net Energy, Population and the Common Property Resources:
               What Should Society Maximize?" Journal of Enviornmental
               Education 9/3(Spring):35-39.

Reville, Roger
    1974   "The Ghost at the Feast." Science 186/4164(Nov.):589.

    1976   "The Resources Available for Agriculture." Scientific
               American 235/3(Sept.):164-178.

Ricoeur, Paul
    1967   The Symbolism of Evil. Boston: Beacon Press.

Rolston, Holmes
    1975   "Is There an Ecological Ethic?" Ethics 85/2(Jan.):
               93-109.

    1980   "The River of Life: Past, Present, and Future." Pp. 123-
               132 in Partridge.

Routley, Richard and Routley, Val
    1978   "Nuclear Energy and Obligations to the Future." Inquiry
               21(2):133-179. Abridged version on Pp. 277-301 of
               Partridge.

Sahlins, Marshall
    1976   The Use and Abuse of Biology: An Anthropological Critique
               of Sociobiology. Ann Arbor: The University of Michigan
               Press.

Sampson, Edward E.
    1977   "Psychology and the American Ideal." Journal of
            Personality and Social Psychology 35/11(Nov.):767-782.

Sax, Karl
    1971   "Letter to the Editor." Science 174/4014(10 Dec.):1077.

Scarff, James E.
    1977   "The International Management of Whales, Dolphins, and
            Porpoises: An Interdisciplinary Assessment." Ecology
            Law Quarterly 6/3:571-638.

Schelling, Thomas C.
    1971   "On the Ecology of Micromotives." The Public Interest
            25(Fall):61-98.

Schoeck, Helmut
    1966   Envy: A Theory of Social Behaviour. Translated by Michael
            Glenny and Betty Ross, New York: Harcourt, Brace & World,
            Inc.

Schwartz, Thomas
    1978   "Obligations to Posterity." Pp. 3-13 in Sikora and Barry.

Selk, Eugene E.
    1977   "Toward An Environmental Ethic: Royce's Theory of Com-
            munity and Obligation to Future Generations." Transactions
            of the Charles S. Peirce Society 13(Fall):253-276.

Shinn, Roger L.
    1969   "Paul Tillich as a Contemporary Theologian." Pp. 55-77 in
            James R. Lyons (ed.), The Intellectual Legacy of Paul
            Tillich. Detroit: Wayne State University Press.

Sikora, R. I. and Barry, Brian (eds.)
    1978   Obligations to Future Generations. Philadelphia: Temple
            University Press.

Silvert, W.
    1977   "The Economics of Over-Fishing." Transactions of the
            American Fisheries Society 106/2(March):121-130.

Singer, Peter
    1978   "Survival and Self-Interest: Hardin's Case against
            Altruism." Hastings Center Report 8(Feb.):37-39.

Skinner, B. F.
    1953   Science and Human Behavior. New York: The Free Press.

    1971   Beyond Freedom and Dignity. New York: Bantam Books.

Soroos, Marvin S.
    1977   "The Commons and Lifeboat as Guides for International
            Ecological Policy." International Studies Quarterly 21/4
            (Dec.):647-674.

Surber, Jere Paul
    1977   "Obligations to Future Generations: Explorations and
            Problemata." Journal of Value Inquiry 11(Summer):104-116.

Tamarin, Robert H. (ed.)
    1978   Population Regulation. Stroudsburg, Penn.: Dowden,
            Hutchinson & Ross, Inc.

Tarlock, A. Dan
    1975   "A Comment on Meyers' Introduction to Environmental
            Thought." Indiana Law Journal 50/3(Spring):454-471.

Taylor, Gordon Rattray
    1974   Rethink: Radical Proposals to Save a Disintegrating World.
            Baltimore, Maryland: Penguin Books.

Tavard, George, H.
    1962   Paul Tillich and the Christian Message. London: Burns &
            Oates.

Teilhard de Chardin, Pierre
    1964   The Future of Man. Translated by Norman Denny, New York:
            Harper & Row, Publishers.

Thayer, Lee
    1971   "Man's Ecology, Ecology's Man." Main Currents in Modern
            Thought 27/3:71-78.

Thomas, George F.
    1952   "The Method and Structure of Tillich's Theology."
            Pp. 86-105 in Kegley and Bretall.

Thompson, Thomas H.
    1980   "Are We Obligated to Future Others?" Pp. 195-202 in
            Partridge.

Tillich, Paul

1940   "Freedom in the Period of Transformation." Pp. 123-144 in
        Ruth Nanda Anshen (ed.), Freedom: Its Meaning. New York:
        Harcourt, Brace and Company.

1945   "The Redemption of Nature." Christendom X(Summer):299-306.

1948   "Nature and Sacrament." Pp. 94-112 in The Protestant Era.
        Chicago: University of Chicago Press.

1951   Systematic Theology, Vol. I. Chicago: University of
        Chicago Press.

1952   The Courage to Be. New Haven: Yale University Press.

1954   Love, Power, and Justice: Ontological Analyses and Ethical
        Applications. London: Oxford University Press.

1956   The Religious Situation. Translated by H. Richard Niebuhr.
        New York: Meridian Books.

1957a   Systematic Theology, Vol. II. Chicago: University of
        Chicago Press.

1957b   Dynamics of Faith. New York: Harper & Row, Publishers.

1959a   Theology of Culture. Oxford: Oxford University Press.

1959b   "Is a Science of Human Values Possible?" Pp. 189-196 in
        Abraham H. Maslow (ed.), New Knowledge in Human Values.
        Chicago: Henry Regnery Company.

1963a   Morality and Beyond. New York: Harper & Row, Publishers.

1963b   Systematic Theology, Vol. III. Chicago: University of
        Chicago Press.

1963c   The Eternal Now. New York: Charles Scribner's Sons.

1968   "Paul Tillich and Carl Rogers: A Dialogue." Pastoral
        Psychology 19(February):55-64.

1971   Political Expectations. Edited by James Luther Adams,
        New York: Harper & Row, Publishers.

1977   The Socialist Decision [orig. 1933]. Translated by
        Franklin Sherman, New York: Harper & Row, Publishers.

Turnbull, Colin M.
1972   The Mountain People. New York: Simon and Schuster.

Warren, Mary
1978   "Do Potential People Have Moral Rights?" Pp. 14-30 in
        Sikora and Barry.

Watzke, G. E., and others
1972   "An Experimental Study of Individual Vs. Group Interest."
        Acta Sociologica 15/4:366-370.

White, Lynn, Jr.
1967   "The Historical Roots of Our Ecologic Crisis." Science
        155(10 March):1203-1207.

Williams, Mary B.
1978   "Discounting Versus Maximum Sustainable Yield" Pp. 169-185
        in Sikora and Barry.

Wilson, James A.
1977   "A Test of the Tragedy of the Commons." Pp. 96-111 in
        Hardin and Baden.

Winter, Gibson
1958   Love and Conflict: New Patterns In Family Life. Garden
        City, New York: Doubleday & Company, Inc.

1966   Elements for a Social Ethic: Scientific Perspectives on
        Social Process. New York: The Macmillan Company.

Woodruff, Philip
1975   "Conservation of Man." The Medical Journal of Australia
        1/25(21 June):769-772.

Worster, Donald
1977   Nature's Economy: The Roots of Ecology. San Francisco:
        Sierra Club Books.