Population, 'Lifeboat Ethics,' and Human Nature

An interview with Garrett Hardin

Garrett Hardin (1915–2003), an Emeritus Professor of Human Ecology at the University of California at Santa Barbara, was an educator, ecologist, and environmentalist, who devoted much of his work to a reconsideration of the ethical implications of population-related problems. Dr. Hardin is perhaps best known for his 1968 essay, "The Tragedy of the Commons." The Social Contract Press has reprinted some of his most important books.

The Garrett Hardin Society website (www.garretthardinsociety.org) includes more information, articles, photographs, video interviews, tributes, and biographical information.

Dr. Hardin was interviewed at his home in Santa Barbara on June 21, 1997, for *The Social Contract* by Craig Straub. Mr. Straub is an environmental scientist who completed a Ph.D. in Human Ecology at The Union Institute, Cincinnati, Ohio. His dissertation involves an application of Professor Hardin's methodology, outlined in his 1985 book *Filters Against Folly*.

The Social Contract: *Did you have any childhood experiences which had a major influence on your life?*

Professor Garrett Hardin: All the years that I was growing up, in the summer time and during vacations as well, we would go to the Hardin family farm, five miles from Butler, Missouri. So this was the one, fixed place. My own home, the home of my parents, kept moving all the time because my father kept moving from one place to another. The one stable place in my life was the farm in Missouri. After about my tenth birthday I spent all my summers there until I was about eighteen or nineteen. My workload was stepped up as I grew older. It had to be kept back somewhat because of my physical disabilities. But still, by the time I was eleven or twelve I was in charge of about 500 chickens, which I had to take care of — feed and water. And I had to kill a chicken every day for lunch.

This, I think, was a very important part of my education — learning to kill an animal. I regard this as an important part of everybody's education. I think the fashionable attitude is one of the many foolish things in this world. If you want to eat meat, somebody has to kill it. I think everybody ought to have to do it, and not just once but many times. Because one of the things that I was imbued with, by this farm family, was a horror of cruelty — not of killing, but of cruelty. If you are going to kill an animal, you have to kill it instantly and as painlessly as you can. It's a disgrace to do otherwise.

Killing is part of life, you see — one of the things that has to be done. I have always had very strong emotions about this matter, very negative emotions about so many people who claim to love animals. There were people in Kansas who had cats they didn't want. They would drive out from Kansas City and when they got out to the farms, they would let the cats out and drive on, because that way they weren't killing the cat. They weren't being cruel. They thought, "It will find a good home." I'm sure that was their attitude. Well, we were on the farm. Those cats wandered onto our farm, so what do you do? Well, the dogs would kill them. They distinguished between the visitor cats and the home cats. When they saw a visitor cat... particularly when our little fox terrier saw a strange cat, boy, he'd kill it if he possibly could. And he usually could.

I realized from the very beginning that death is a necessary part of life. I learned my first basic lessons about population and carrying capacity on the farm. All my life, I have been haunted by the realization that there simply isn't room for all the life that can be generated, and the people who refuse to cut down on the excess population of anything are not being kind; they

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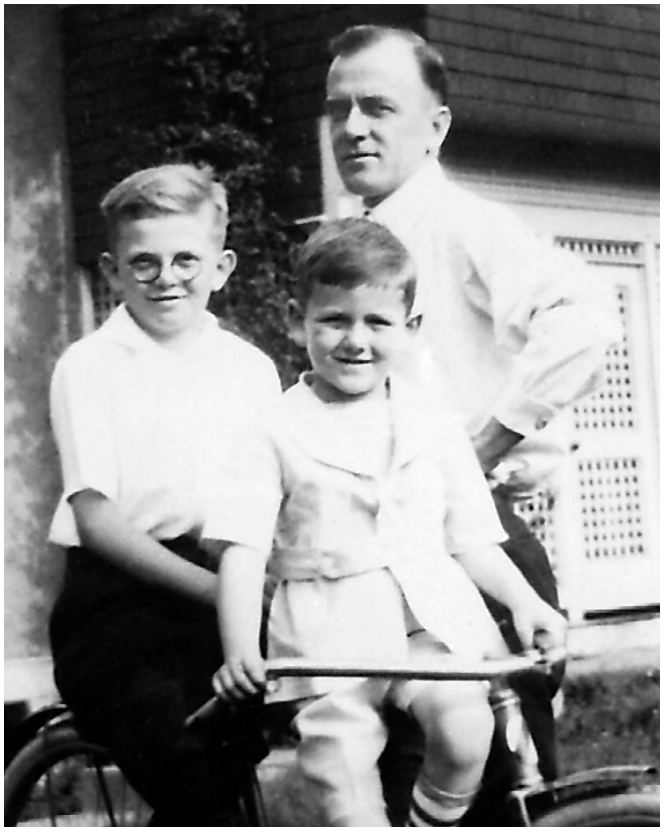
are being cruel. They are increasing the suffering in the world. So, I have a very low opinion of most so-called animal lovers who want to save every last animal.



Garrett with his brother John and father Hugh circa 1923.

In fact, I've asked in one of my essays, "Does God give a prize for the maximum number of human beings?" And I think this needs to be taken seriously. If we think he does, then, of course, I shouldn't keep that canary you hear singing in the other room, because that canary is eating seed that could be feeding people. Now it's true, it might require the seed from (I'm just guessing) five hundred canaries to keep a human being alive, in which case you could say that every five hundred canaries are depriving one person of life. The question is: "What sort of world do we want — a world with the maximum number of human beings, but no canaries?" I'd rather have a world with fewer people, but in which canaries are a part of the world.

TSC: *How do you define ethics?*

Hardin: To a biologist, so many things nowadays revolve around the insights of Darwin. He is absolutely essential in view of the world and human nature as far as biologists are concerned. A very old question which men have been aware of for centuries is to what extent is a person driven by selfish motives, (egotism), to what extent is he driven by unselfish motives (altruism), wanting to help other people.

The really original thing with Darwin was the idea of natural selection. He was excited after he realized that this explained almost everything about biology. He didn't make this as clear as he should have and for that reason it took 100 years for people to realize what he had done. The real change came about when, in recent times, in 1973, Richard Dawkins published *The Selfish Gene*. That was not entirely original, but Dawkins is an extremely insightful writer. He took the idea that had been circulating among biologists and other experts for the last ten years, and said: "Look everybody, here it is, this is what Darwin was talking about 100 years ago."

So what does this do for the problem of ethics? Well, if you look at an animal who fights for his life, kills another animal for food and so on, this is clearly an egotistical sort of thing to do, and you can see how this may account for a lot of an animal's behavior; it's egotistical. But if you try to have, as you say, a system to work solely on egotism — it can't be. A simple example: parenthood, particularly motherhood, in species where mothers tend their offspring. If mothers were egotistical, that would be the end of the species. A mother would eat the children one by one as they came out; she'd prosper, but there would be no species. On the other hand, at the other extreme, there are numerous examples of self-sacrifice among parents. In one species of crickets, the mother bears quite a few offspring, several dozen, I think, and then offers herself up as a meal to her offspring. They eat her up. Well, that helps the offspring get a good start in life, which is the whole point of it, but it doesn't do anything for the mother. It's a one-time sacrifice and that's it. Extreme altruism and extreme egotism: neither one can work by itself.

This is where Dawkins came in and said, "Look, here is one thing that will work if you focus, not on the individual, but on the genes of the individual, then you've got a single system that works all by itself. It's egotistical and that's fine. In the case of an individual eating another individual, it's obvious how it works: the genes that tell one animal to eat another will survive. On the other hand, the mother who sacrifices herself for her own children, her genes survive, and so again the system works. It's gene egotism that works and there are many different ways it can work. I think this is at the base of all ethical questions. The question is how can the gene ensure its own survival — by what set of actions, and do we call them egotistical, or altruistic? It's always essential for the mixture to work, because neither will work by itself. So that's the subject matter of ethics: what's the balance?

TSC: *What would you say are the major influences on the development of a person's ethics?*

Hardin: Well, certainly his parents. There's certainly no question about that because an animal so young is busy

learning what it should do and it learns what it shouldn't. What the parent does, it does. If a parent whops it, then it knows that it shouldn't do that. Parents, first of all; its litter mates secondly; its playmates; and then decreasing influences as you get farther and farther away from home base.

TSC*: What have been the major influences on the development of your own personal ethics?*

Hardin: Well, it hasn't been any different from anybody else's. I've done some thinking about this lately, looking back on my own life, and I realized that every period in my life there's at least one person who was keenly interested in my welfare. I'm very lucky; this isn't true for everybody. I've always had someone very close, a teacher, my wife, friends and so on. I've never been alone.

TSC: *You've addressed the consequences of assisting poor countries with food aid. For example, in some of these countries, they've increased the population in response to food. There are some who would argue that without the supply of food, you'll have malnutrition which results in the formation of new microbial strains in poor countries, which are then transmitted by the infected immigrants to a healthy U.S. population. How do you respond to this?*

Hardin: I think that's mostly malarkey. I think there are many barriers, including the barrier of distance between poor countries and rich countries, and between poor people and rich people. There are dreadfully poor people in India and Africa, but for the most part, our connection with them is a delusion. They can have all sorts of diseases, and we'll never get them. Now that we know the intermediate steps in the transmission of diseases from, say, Calcutta to Cincinnati, we can interrupt that along the way with fairly simple measures, and we do have various things that make it difficult for a person who's carrying the disease to get into the country. And if we don't, we can make very severe barriers. This means, in effect, poor people may get terrible diseases and suffer great loss, and maybe that touches your heart, but just don't let it touch your mind. Don't do something foolish because you think the trouble is going to get here in spite of yourself. It won't if you use your head.

TSC: *What does one need to consider when contemplating the idea of foreign aid?*

Hardin: Well, I think the basic point to make here is that every unit that claims sovereignty has to accept responsibility. In other words, if the unit says we want to run our own affairs, then say, that's fine, then you have to be responsible if they go wrong. And if your people are starving to death, it's because the unit that's claimed sovereignty is at fault, and you've got to find some way — because no matter how poor the country, at the right level of population the people there can live high on the hog. You know, for instance, India has nine hundred million people now. For centuries, they had one hundred million people. If they had one hundred million people now they would be very prosperous indeed. So that's really the problem and our position should be that national sovereignty implies national responsibility.

Now, if you want to go beyond that, then you have to say, well, in the real world we sometimes have to trim our sails and there might be times when we want to intervene. Notice, I didn't say, "help," but "intervene," from the outside in the hope that we could help. But the first thing to do is to keep our language clean and always say "intervene" and never "help." Because the value of "help" remains to be proven. Intervention is provable. So we intervene. We hope we can help. History shows that most interventions don't help. I mean, most well-meant interventions don't help, and that should make us very chary of doing very much. Only in exceptional circumstances should we intervene.

Now, possibly one of those times — and this is debatable, but for the sake of argument — was in India in 1965 and 1966 when they had serious crop failures both years. And we did send ten million metric tons of grain to India each of those years. In effect we kept fifty million Indians alive who otherwise would have died. I think that's a fair historical summary. But, when President Johnson, at the end of 1966, privately gave notice to the rulers of India there would be no similar gift in 1967, I think he was behaving quite properly. In other words, this can't go on year after year. You've got to pull yourselves up by your bootstraps. And I think that was the right thing to do. In other words, when we do intervene in what's called a crisis, insist that a genuine crisis lasts only a short time. Otherwise it becomes chronic, and we're not in the business of chronic help, because that creates perpetual beggary. So, a certain amount of trimming of the sails, perhaps, should be done, but not much and always very reluctantly and in the full knowledge that you may be doing more harm than good.

Each sovereign nation should live within the limit of its resources, whatever they are — they can modify this somewhat if they have some special skills. Maybe they can make statues out of ivory that other people can't. Then they can sell those things and use that money as foreign exchange for buying things they don't have. I mean Cuba can, for example, buy snow machines and create some ski runs on its little mountains, if it wants to spend the money that way. But it shouldn't expect the rest of the world to furnish the money. Iceland or Greenland, say, could put up some hot houses and use artificial illumination, grow a few palm trees and have some of their people lie under palm trees, if they really want to. But that's their decision. They shouldn't expect to be

given a section of tropical beach elsewhere, just because they don't have it. In the same way, I don't think the landlocked nations should expect to be given seafood. If they can buy it with some foreign exchange, fine. But I don't see that they should have any right to it.

TSC: *You've also written an essay entitled "Lifeboat Ethics," which describes the choices one must make in a world that is becoming overcrowded. What are the ethical implications of lifeboat ethics for those who already consider the U.S. to be overcrowded?*

Hardin: Well, the simple thing to say to anybody who wants to make a sacrifice for distant people is this: "Go ahead and do it if that makes you happy, it's all right with me." But it may or may not help the distant person, because we have so many chances for sacrifices to be made, and in the end, they often do more harm than good. It's very hard to make intelligent sacrifices: we often make the situation worse by trying to help others. So if you're really concerned with distant people, your first question should be an intellectual one, "What's the argument; what's the evidence that this particular sacrifice will help them?" Most of the time it doesn't. Liberals tend to think that if my heart is pure, and I make a sacrifice, it'll do some good. Conservatives seem to think there's so many ways of doing things wrong, and I have enough trouble managing my own life, what makes me think I can manage other people's lives?

The unfortunate thing about the lifeboat image is that there are really two lifeboat problems. I'm speaking now of real lifeboat situations. In the case of a lifeboat that is already loaded up to capacity, if the people on the lifeboat refuse to take on any more, they are never charged, or successfully charged, in a court of law with having done anything wrong. It's accepted that that is the nature of the situation and they don't have to take on extra passengers. However, in the case of a lifeboat which is already loaded, perhaps over capacity, and somebody starts throwing people off, that's another problem, legally. And there is a famous case of the ship John Brown off the coast in about the time of Lincoln's administration, as I recall. One of the sailors took it upon himself to throw people overboard saying they were simply overloaded and that was it. He just threw people over until he got down to a number he felt there should be. They got into port and this sailor was charged with murder and convicted. The judge said that in such a case, if people volunteer to go overboard, that would be all right, but no one should take it upon himself to be the judge. Therefore this man was a murderer. There were mixed feelings about this as you can imagine. And, as I recall, after about six months, either the governor or the president — I can't remember which — pardoned him.

I think there is a general feeling that this was probably a good solution. He should have been convicted of murder, but he also should be pardoned. People have mixed feelings about this. But you see, it's a different problem when you throw overboard people who are already on board. And about that, I don't think we can say the law is really clear. There have been very few cases.

Whereas with the other lifeboat problem I think the law is quite clear. You are not compelled to commit suicide by taking more people on board. And basically what I am talking about when I use the lifeboat as an image for the national situation, I'm thinking of the case in which the lifeboat is not yet overcrowded, and I'm urging that we not overcrowd it — that we do not take on board more people.

TSC: *What is the difference between lifeboat ethics and triage?*

Hardin: Well, they're just two ways of looking at the same thing. They're both taking account of the fact that you have limited resources. And then the second question is, if you have limited resources, how should you dispose of them? All agriculturalists have known since long before writing was invented that the only rational way to dispose of them is to invest in the winners and throw the losers out the door. And this is what you do. Your good livestock you save; your poor livestock you have for supper. And the same way with the seed, and so on. With only a limited number of acres to grow things on and a limited time to gather grain, you're silly if you grow poor grain. You're silly if you grow poor livestock. This idea is thousands of years old and wasn't even put into words or into a philosophy. One just knows it naturally.

Then, in the late eighteenth century, as I recall, this term "triage" was introduced. I believe it was introduced into the sorting of coffee beans. I believe that was the first place this occurred. This is a commercial enterprise with people dividing the beans into three groups: the oversize, the right size and the undersize. I think that's where the word "triage" comes in. From there it went into medicine. Under battle conditions, one of the surgeons under Napoleon introduced this system. I think he also introduced the word "triage" also. If he didn't, it was done soon after. He gave an explicit definition making the point that we have limited resources: we cannot save all these wounded men. Which ones shall we save? He said they should be divided into three groups. From Napoleon's time it went into military medicine, and nobody questioned it. However, I read an interesting survey of military medical literature and it seems that an English military man said, "Oh, we never practice triage — that's terrible." Then he proceeded to describe what they did do and it turns out they were using triage. But he was not going to use the word.

So the word "triage" from an early day has had

unfortunate connotations. People don't like it, even if they practice it. Many people are so dishonest. Now, coming down to the present, I was appalled when I discovered in reading for the lectures I was giving at the University of Washington, Seattle, (which eventually ended up in the book *Promethean Ethics*) — I discovered a little paper in a philosophical journal in which the individual was explicitly coming out against triage on philosophical grounds because it isn't fair. People should be chosen fairly regardless of the consequences. So, I really should have written a short paper to send to that journal so it wouldn't be lost, but I didn't. I just wrote it up in the book and pointed out I had worked on the mathematics of this and showed how, under all plausible situations, this led to fewer people living than if you used triage. I said, "That's a curious defense that you consciously use the system that sacrifices the most life." I wouldn't have believed that anybody would have explicitly come out for that, but this philosopher did (he was up in Stanford at the time). I found it incredible that a person could have such a high regard for what he called fairness that he's willing to sacrifice lives so that everybody has the same chance.

TSC: *How do you respond to Paul Ehrlich's perspective that we cannot survive on an island of affluence in an ocean of misery.*

Hardin: I think his statement is simply false. I think you have to look at one issue after another to see the extent to which we're bound together into one world. But as for his basic statement, "You can't live on an island of affluence in an ocean of misery," I think human beings have been living this way since Hector was a pup. Now, there is a certain amount of instability in it. Every now and then there's a revolution; and somebody invents a guillotine and a lot of heads roll, and so on. And then a new island of affluence develops, living in an ocean of misery, and life goes on. This is the way human life is. It may be that you don't like this or don't think it should be true, but in fact, it is true. And as far as the survival of civilization is concerned, I think that now we have essentially licked the diseases that took care of excess numbers of people, we should want to make it possible for this to happen because it's the only possibility for keeping civilization going. These various things we label as civilization — the art, the music, and so on — these are the offspring of affluence and can be maintained only by affluence.

The people in the slums of Calcutta are not maintaining any of it, and won't and shouldn't and can't — any verb you want to use. Just can't be done. So, you can feel as bad as you want to about the fact that you're comfortable and somebody else is uncomfortable, but I think it's very foolish to try to eliminate that aspect of life — that is, the unequal distribution of things. If you're going to eliminate unequal distribution, you should work at the other end by reducing the number of people who are living a miserable life, which means reducing the number of people who are alive in the next generation. That's the thing to work on. And don't have a bad conscience about your prosperity now.

TSC: *You have stated your position on abortion as pro-choice. When do you consider life as being human?*

Hardin: Whenever we all say it's human. This is a matter of definition, and we should define it so as to cause the minimum of disruption to society. One of the things we have to consider, and this has been known now for forty years, is that fifty percent of all the zygotes that are produced, human zygotes, perish without coming to birth. Fifty percent of them. But it's done at such an early stage that the woman doesn't know it. She thinks she's missed a period, and then it comes 5 or 8 or 10 days later, and she says, "I just had a late period, that's all." She's had an abortion — a spontaneous abortion — and she doesn't even know it. Once the woman knows it, when she stops to think about it, she says, "It doesn't matter, it really does not. I can't possibly have all those children that I could have if every egg survived, so this is normal." Of course, it's very easy to see with a species like rats where you have a litter started within a week after intercourse. If you count the number of little embryos that are started, you'll get a number that's twice as great as the average number in litters born. Half of the embryos degenerate during pregnancy, and only half are born. So, the general principle is this: we cannot make an ethical advance until we realize that numeracy is a part of ethics. If the number of spontaneous abortions is fifty percent, it doesn't matter. Now, if it was ninety-nine percent, then we should start being concerned. Put another way, however you assign values, the value of an early stage is only a fraction of value at a later stage, and I'll use as an example to bring that home, too. If you saw a man busy with a whole bunch of acorns in the driveway, pounding those acorns to death with a hammer, how would you feel about a public official coming along and trying to prosecute him for deforestation? People who say that all the stages are equally valuable are saying that there's no difference between an acorn and a hundred-year old oak tree. How wrong can you be? — there's a huge difference; and the same principle applies to all species of animals and plants, including humans. The value of a tiny zygote is just about zero; forget it.

TSC: *How do you respond to the church and the Right to Lifers on the accusation of murder? Can you be righteous in the eyes of God and be pro-choice?*

Hardin: The first thing is to be righteous in the eyes of human beings and do your library work. If you do your

library work, you will discover that the Hebrew language for the Sixth Commandment is not "Thou shalt not kill." No, no, it is "Thou shalt not murder," and that's utterly different. Because the minute you say thou shalt not murder, you're acknowledging that killing is not necessarily murder. Then you have to settle on when do we want to call it murder. Killing is an objective fact, murder is an interpretation. When do we want to call killing murder? So, the idea that this is the way the Sixth Commandment goes is based on bad scholarship. We ignore the fact that Bibles that have been produced in the Twentieth Century, almost without exception, say "Thou shalt not commit murder." The King James version mistranslated the Hebrew.

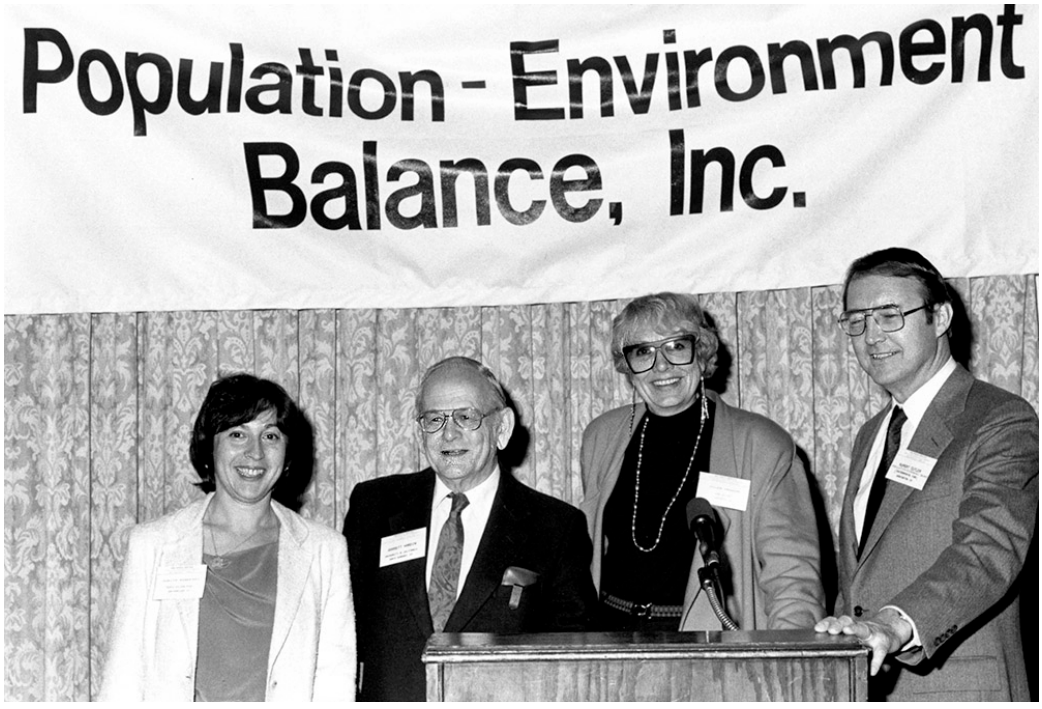
TSC: *As a biologist, how do you view the issue of birth control?*

Hardin: The essential part of this is that a biologist will never speak of the immense preciousness of life, or the sanctity of life, because the biologist sees no problem in "producing life" as we say (although, you don't produce it, you just pass it on). The problem is getting rid of excess life. This is a problem for every species. The problem is solved for most species by predators. Predators save a species from the problem of evolving intrinsic methods of population control. The reason we have a human population problem is because we got rid of our macro-predators about eight thousand years ago. As for the micro-predators, the disease germs, we've done a pretty good job of getting rid of those in the last two hundred years. This leaves nothing to curtail our numbers except ourselves. That's the problem.

There's no way that an animal can get rid of all its predators and avoid committing suicide as a species. All that has kept all species going has been the existence of predators, enemies. We see this in many partial ways whenever we have a pyramid — a food pyramid, as we call it — where the carnivores feed on the herbivores, and then the carnivores feed on the secondary carnivores, and so on. Finally we get to the top and find, say, a lion. Well, if you look at the populations of animals in such a pyramid — the mice down at the bottom, and maybe something a little bigger above that, and then the lions at the top you hardly ever see a starving mouse. The mice are sleek and fat at all times. But you often see starving lions. The lions have no enemies; the mice do. And the rule in all predation is that the predators are great economizers. They want to get their food with the least effort. They look around and see which animal is lagging behind; either because it's sick or it isn't getting enough food, or something. That's the one the predator chooses. He goes after the easy meat. Predators constantly cull the prey-animals that are boderline cases. Predators are a blessing to the species they prey on. They keep the prey from becoming overpopulated.

So you see, a biologist knows that there's just more life than we can manage, so he never speaks of the sanctity of life or anything of that sort. From the beginning, biologists have been with me.

TSC: *Lynn White, Jr. has suggested that the historical roots of our ecological crisis stem from Christianity. White asserts that western culture has been shaped by reading the Bible to form the hierarchical view of human beings as dominant and separate from all other creatures. To what extent, if any, can Christianity be blamed for the current immigration problems of the U.S.?*



Judy Kunofsky (president, Zero Population Growth, 1977-1980), Garrett Hardin, Helen Dolores Graham (executive director, Californians for Population Stabilization), and M. Rupert Cutler (Director, Population and Environment Balance, 1983-1987). Hardin once noted that "Logic would have it that if we fail to bring about a benign transition to zero population growth by conscious human intervention, nature may, of its own accord, bring about a malignant transition by increasing the death rate to meet the birth rate.... The quality of life and the quantity of it are inversely related."

Hardin: Well, there's a large literature, you might say, on Dr. White. He made a lot of people write essays. I'm not really familiar with these, so I'll get at it a different way, and maybe not the way that most people do. If you think of the development of an adapted organ, and you think of a situation that caused that development: which one comes first? The answer is, stress has to come first, then the development. If you want somebody to do something, you have to say, "I won't give you a reward first." No. They make the appropriate action, then you give them the reward. As for "reward first, then action," one gets away with this in a family because the relationship that has developed within the family is such that it turns out you can give a child ten cents now because you expect him to go over to the neighbor's house and offer to walk the lady's dog for her, and the child will take the ten cents and go walk the dog. Reward first, then action works in a small population, but it doesn't work with large populations, and yet we constantly try to make it work. People say, well if we only make these poor people rich enough they'll stop having so many children. This is absolutely wrong. You have to, in effect, say to them, "stop having so many children, and we will then give you a reward." In this sense, I think Christianity is responsible for a great deal of suffering in the world. Now, of course, it isn't just Christianity, most religions act this way, because most religions are simply an extension of the family. Religion developed before there was much development of science, and before there was much appreciation of the importance of numeracy — that numbers matter, that size matters. With a small group you could make a system work, when that same system will not work with a large group. Religions don't recognize that. They say, "we're going to be all one great big happy family living the way families do." It can't be done.

TSC: *You've indicated your favorite portion of the Bible is the third chapter of "Ecclesiastes." Could you elaborate on how this chapter provides biological implications toward human population?*

Hardin: Well, that chapter, as I recall, says there is a time to be born, there's a time to die, there is a time to kill, and all these things are seen as both good and bad. They are all part of life; this is the realism as I see it of this passage. Now "Ecclesiastes" is, in the minds of most so-called Christians, not one of their favorite books. You seldom hear it recited or referred to in churches. Instead they refer to the softhearted part of the New Testament, where it builds up the idea of reward first, then behavior. "Ecclesiastes," if it does anything at all, says "No. Behavior first, then the reward."

TSC: *Could you expand on the idea of carrying capacity?*

Hardin: Carrying capacity falls under the heading of the conservative principles. For the animals other than human beings, which most people just call animals, the carrying capacity causes no essential trouble, no arguments. The carrying capacity for deer of a piece of land can be determined with considerable exactitude by the experts, who can look over the situation, make measurements, and so on. They'll come up with a figure. They'll say the carrying capacity of this square mile of land is seventy-five deer, say. And maybe it's seventy, maybe it's eighty. But it's about seventy-five. Now they acknowledge that there will be differences from year to year, but by the official carrying capacity they mean the safe carrying capacity. In other words you have to allow for bad years as well as good years, and keep the number down to the bad-year level so that you have a safety factor. Just as you have the carrying capacity of a bridge, you have a safety factor there. In the same way. But with that qualification, carrying capacity is a very sharp idea with non-human animals.

When we come to human animals, aside from the safety factor consideration, we run into some other factors that cause considerable trouble. Do you have in mind that people have meat in their diet, or are they going to be on a vegetarian diet? If they're going to eat a vegetarian diet, somewhere between five and ten times as many people can live on the same piece of land, and that's quite a difference. Are people going to live a luxurious life or a very simple life? Are they going to ride around in expensive automobiles, or are they going to ride buses and trains, or walk and ride bicycles, and so on? All of those figure into the carrying capacity. In other words, the quality of life — the physical quality of life.

And the simplest way to put this is in terms of energy. This isn't the whole story but it is a very quick way to grab hold of the problem. We require 3,000 kilocalories a day per person simply to live, and nothing more. Actually, Americans, at the latest reckoning, use 211,000 kilocalories a day per person. That's the quality of our life. When you come to countries like India or Bangladesh, they use, say, something like 30,000 to 40,000 kilocalories a day. Let's say 30,000. In other words, they use ten times as much energy as they need for food alone. But what do they use it for? Well, they use it for their clothing. They don't need as much in a tropical climates as one would in a colder one, of course. And they have some automobiles. They have some buses, and machines of various sorts, and these use up some of the energy. But they live on a much smaller energy diet than we do. So, if you ask what is the carrying capacity for any piece of real estate, you have to specify at what level of living. There is no unique answer for carrying capacity. Asking that question immediately raises the problems of value. What quality of life do you have in mind? The higher the quality of life, in the physical sense, the lower the carrying capacity, and vice versa.

TSC: *Thomas Malthus has been criticized for being wrong about the issue of human population and carrying capacity. What can be gleaned from the work of Malthus?*

Hardin: It is standard in certain quarters, particularly literature and sociology quarters, to decry Malthus as if this is something that has been completely disproved and all a bunch of nonsense. This is like saying that the idea that two plus two equals four is an old-fashioned idea that we've outgrown. It just isn't true.

The population situation is actually very complicated. The point is: Malthus did make mistakes. And if you look on his work as a prediction of what was going to happen in the immediate future, then, of course, he was very wrong, because he was saying that if there is any further population growth in England there would be massive poverty as a result of it. And that was not true. Before he died the population of England had increased a great deal, and there was no question but that people were wealthier than they had been before. So, what happened was exactly the opposite of what Malthus had predicted.

But that isn't really the heart of Malthus. The heart of Malthus is that there are limits to the world. Now even this assertion is under attack by certain people, such as Julian Simon, who says there are no meaningful limits. Well, there I part company with Simonians. I think there are meaningful limits and we've got to live with them.

TSC: *How is the U.S. addressing population control?*

Hardin: Oh, there's no population control in the United States at all because we don't agree we're overpopulated. Overpopulation is always someplace else. Planned Parenthood, a couple of years ago, tried very neatly to get people to see this. I think it was very good. They got out a bumper sticker that said, "Trouble parking? Support Planned Parenthood." This is good because the way in which we see the effects of overpopulation are not the classic instances of starvation. They are these other things such as no parking space. From an educational point of view, those of us who think population growth is important, we have to get people in America to see that the signs of overpopulation here are quite different from what they are in, say, Africa. And you have to interpret those signs rightly. Don't interpret the lack of parking spaces to be a matter of malfeasance on the part of political leaders.

Here in Santa Barbara there has been a series of letters objecting to the fact that it's being proposed that they charge for parking down near the beach. Some people have written in to say, "I like to park there. I'm retired. I like to park there and stay all day." What the writer doesn't see is there are only so many parking spaces. What are we going to do? You've got to allocate them one way or another. If you allocate them on a first-come/first-served basis then the early risers get the spaces and the late risers don't. Maybe that's the best system. But it's got to be allocated on some system, and that's a consequence of population growth. If we had only half as many people in Santa Barbara, we wouldn't have to raise this issue of parking meters at the beach. But people don't see the connection.

TSC: *What are the main differences between your approach to population stabilization and the Ehrlichs' approach?*

Hardin: Well, the Ehrlichs' approach is infected too much with this Christian, liberal fallacy — the idea that you can get what you want by being infinitely gentle with people and rewarding them in advance for appropriate behavior. I just don't think they're sufficiently hard-nosed about this. I favor Bertrand Russell's approach (in 1949) in which he said: even if we could create this one world that people dream of, it would soon shatter because the moment you have one world, it starts dividing into groups who fight with each other. But if, in fact, you think Russell is right, then stop trying always to push things in an impossible direction. Say, "well, we're going to have to continue to live with our enemies." How do we do it?

TSC: *The Ehrlichs promote the concept of living within limits, but they're soft on the restriction of immigration. Does this confuse the issue of carrying capacity and population control for the U.S.?*

Hardin: It sure does. The Ehrlichs are such a good influence in many respects. It's too bad that they are apparently irretrievably hopeless on this issue. If you're going to have to have separate countries, the only way to have separate countries is by having barriers between them. Whatever you call them, there have to be barriers and the Ehrlichs don't want that, they don't want barriers, they want one big happy world. This is a common fallacy among scientists and scholars of all sorts, and I think it comes about when they're not thinking clearly enough about their own exceptional situation. The fact is, if you are a scientist, you can go to any place in the world and walk into a good laboratory and be at ease. The people there are doing the same thing you're doing back home. The same is true of musicians. This gives you a false impression of the unity of humanity. But this is true only for the scholarly community. It's not true for a politician. Think of the sort of thing we've seen in Central Europe in recent years. My gosh, just try as you will to get these people to sit down at the same table and they'd rather cut each other's throats. This is the way most people are, and scientists and scholars have to get used to it. In Central Africa, there isn't a chance of having a unified country in the lifetime of anyone now living or even ten lifetimes.

TSC: *Environmental organizations promote conservation and the preservation of natural resources. However, most*

of these organizations will not express their position on population. Do these organizations actually do a disservice to their cause?

Hardin: The environmental people consist of two groups, one of which thinks that is a very fundamental principle to follow and another group which refuses to do it. And I would just give as an example, The Sierra Club. They have had person after person write them letters, lecture them, and say, "for God's sake, do something about population, do something about immigration." The Sierra Club will not raise a finger. You see, it's afraid of losing members, and so what they're doing is useless because they can't possibly save the world they want, this world of natural beauty, if there's no control of population. If they won't face that, they might as well give up, go home, get drunk, because they have no purpose in life. The bigger organizations are usually the worst because they are established and they don't want to give up their established clientele. The same thing can be said for the Audubon Society. ZPG, Inc. (Zero Population Growth) is actually a small organization, but it got started on the wrong foot, and they came out early for open immigration, open borders. Absolute insanity.

TSC: *Is that a matter of financial support do you think?*

Hardin: Yes, but in an indirect sense. They realize the moment they change they're going to lose immense financial support. If ZPG, Inc. changed now, and said, "we're absolutely for closed borders and controlling people from coming in," they would lose ninety percent of their membership. But so what? Their membership is on the road to ruin. The Sierra Club is in the same position; likewise, the Audubon Society. They will not face facts because they don't want to lose any members.

TSC: *Some restrictionists believe that immigration has bound them to the replacement level fertility in the U.S. of either 2.1 or 2.3 children per family. They justify having more than 2 children because immigration has infringed upon their rights to have 3 or 4 children. Their position is that by restricting immigration to the U.S., the replacement-level fertility would increase and allow them the freedom of having more than 2 children if they desire. Is this justified?*

Hardin: Sure, in terms of the argument. If they will settle for zero-growth population, and if they will restrict immigration, by arithmetic reasoning the average family size could be greater. But I think there are other reasons for restricting immigration that are more powerful. My position is that this idea of a multiethnic society is a disaster. That's what we've got in Central Europe, and in Central Africa. A multiethnic society is insanity. I think we should restrict immigration for that reason. Having done that, then we can ask, are we having enough children or not? If our population is decreasing ten percent every year, we might decide we're better off by ten percent every year. Or on the other side, we say, "we've got to stop it at some level." When that level is reached, we can offer community rewards for those who will have more than the usual number of children. This can be subject to a reward system.

TSC: *Has your essay, "The Tragedy of the Commons," been misconstrued?*

Hardin: Yes, yes. On some of these ideas I try to correct people over and over again, because like every subtle idea, it acts as a sort of Rorschach test and people see in it what they want to. If I had written more carefully, maybe I could have avoided that, but maybe not. If I were doing it over again I would summarize the idea more carefully somewhat along the following lines: that "in a crowded world, an unmanaged commons cannot possibly work." In the original, I did not refer to a "crowded world," but that's an essential part of it. Also the term "unmanaged" — I didn't put that in initially. That was the implication, but I didn't put it in. The omissions have caused people to misunderstand the meaning. We have people on the right sometimes thinking I'm giving a defense of the left position; people on the left think I'm defending the right position. I try to tell them I'm not defending either position.

In 1979 I finally prepared a one-page summary, together with a sort of a box in the middle where I summarized things, and then some words to go along with it in which I tried to set down exactly what I thought it meant. I pointed out that if the world is not crowded, a commons may in fact be the best method of distribution. For example, when the pioneers spread out across the United States, the most efficient way was to treat all the game in the wild as a commons, an unmanaged commons ("Just fire away") because for a long time they couldn't do any real damage. Whereas, if they tried to set up some sort of management scheme, they would have had the cost of managing. So, in an uncrowded world a commons is fine. But as soon as it starts getting crowded, then it doesn't work because each person, seeking his own self-interest — even though he sees that the result is bad for all of them — is trapped into mistreating the commons if it is unmanaged, if the rule is "help yourself." At that point you have to have some other rule.

There are two possibilities. Either you set up a commons manager (which is what you do under socialism) or you divide up the territory and assign it to individuals for each to manage as his own (private property). That can work, too. Either system may work: privatism or socialism. They may not, but they may. There's a chance. Whereas the unmanaged commons hasn't a chance of working once the world is crowded. Everything I've said

now is really implicit in the original article, but I didn't make it as clear as I should have.

TSC: *On the concept of "the tragedy of the commons," do you believe there is a danger with constantly presenting the threat of doom to people such that they become insensitive and unmotivated as to the consequences?*

Hardin: Oh, yes. Sure. This is a persistent danger, and I don't know what the answer to it is. It's a matter of temperamental differences no doubt built on education, that some people, defensively, simply don't want to hear unpleasant news, even if it's true news. Of course, I'm one of the people sometimes called a doomsayer, so you might ask: what's my defense? Well, I find my conclusions not gratifying, but somehow pleasing — somehow acceptable and profound, with the attraction of an idea of tragedy. This appreciation is largely missing from our society, partly because of the immense progress of science and technology and the dominance of the idea of progress. If anything goes wrong, there must be a solution to it. So we think.

We're a rather exceptional civilization in this way. The Greeks had a very keen idea of tragedy. There are many things that just can't go right. In all the stories of tragedy, the hero is told in advance what is going to happen, and then he tries to avoid his fate, switching to left and switching to right. But no matter what he does tragedy eventually hits him anyway.

This occurs among the Greeks; it occurs in the folktales of Europe, and so on. It's only in the last 200 years that the taste for that sort of story seems to have disappeared. I think we may be passing through a transition now when a new appreciation for tragedy may come back again. I'm afraid this appreciation will come back to us only after considerable pain and suffering. I would prefer to see it come back without so much suffering, in other words through just sheer intellectual understanding.

I agree with Whitehead that the idea of tragedy played an essential part in the development of science. Tragedy brings a feeling of the inevitable, a feeling that something is inescapable; and that is the idea of a scientific law. You may not like the thought of people dying because they happen to fall off the third story of a building, and they don't always die when they fall off the third story, but most of the time they do. And if not the third, the fifth. And there are some exceptional occasions — there's one occasion of a guy falling out of an airplane at 2,000 feet and living. But still, behind the confusing facts there is the inescapable law of gravity. So that's it. And Whitehead said this idea of inescapability, which is almost a religious idea, is essential to science.

That's the only way to put it.

TSC: *What will be the condition of the U.S. going into the twenty-first century if current population trends and immigration policies continue?*

Hardin: In reading the trends remember what DuBos said: "Trend is not destiny." If you really read the trend correctly, you may decide to change it. You don't have to do what the trend says. But reading the trend right now we see that we're moving toward a larger society, faster growing, more diverse, more multicultural, and less peaceful. We're moving toward a state of steady civil war between the various groups that we're encouraging to come here. I see nothing but disaster ahead for us if we continue chasing after multiculturalism.

TSC: *You're in your eighties and you've just written another book. Do you have other goals you're pursuing? How do you plan to devote your time?*

Hardin: Doing what I'm doing now. I have a lovely life. Right now you're here when I'm in one of my rare inactive moods. I decided I'm not going to work this summer. I've been working hard for five years and enough's enough! So I'm straightening up the study. I've got to get things in better order; but I'm just enjoying myself. My day is this: I get up at 6:30, dress, shave, make my bed, eat breakfast at 7:00, and read *The Wall Street Journal*, because I like the major stories. I'm not making money off it, but they have some good stories that most of the newspapers don't have. It's good journalism, in my opinion. At about a quarter of eight, I come out to the study, and I work through the morning, 8:00 to 12:00. Have lunch, then a nap, then a swim. It takes me an hour for my swim, but I don't think I'd be alive today without that swim; it's just wonderful. The rest of the day I read the paper, play cards with my wife, various things. It's really quite an easy life. I used to work an eight-hour day or more. Now I work just four hours, which is appropriate for a person my age, and I wouldn't want anything better. I'm fortunate that I have enough retirement pay to be able to do this ... no debts.

TSC: *A last question: how would you like to be remembered?*

Hardin: I find that I'm known most widely for two things. One is my paper, "The Tragedy of the Commons." This is in the literature permanently. It's part of economics. That suits me fine. I'm proud of that. The other paper — which had as a theme the phrase which I didn't coin, but it caught people's attention — is "Lifeboat Ethics." Ours is a limited world, and we have to find out how to dispense the goodies. We have to find the method of triage when there aren't enough goodies to go around. Many people damn me as "heartless." But the world is limited.

TSC: Well, thank you. It's been a pleasure. ■