

## **A Moral Code for a Finite World** **by Herschel Elliott and Richard D. Lamm**

What if global warming is a reality, and expanding human activity is causing irreparable harm to the ecosystem? What if the demands of a growing human population and an expanding global economy are causing our oceans to warm up, our ice caps to melt, our supply of edible fish to decrease, our rain forests to disappear, our coral reefs to die, our soils to be eroded, our air and water to be polluted, and our weather to include a growing number of floods and droughts? What if it is sheer hubris to believe that our species can grow without limits? What if the finite nature of the earth's resources imposes limits on what human beings can morally do? What if our present moral code is ecologically unsustainable?

A widely-cited article from the journal *Science* gives us one answer. Garrett Hardin's "The Tragedy of the Commons" (1968) demonstrated that when natural resources are held in common freely available to everyone for the taking the incentives that normally direct human activity lead people to steadily increase their exploitation of the resources until they are inadequate to meet human needs. The exploiters generally do not intend to cause any harm; they are merely taking care of their own needs, or those of others in want. Nevertheless, the entire system moves inexorably to disaster. Everyone in the world shares in the resulting tragedy of the commons.

Today, our standard of living, our economic system, and the political stability of our planet all require the increasing use of energy and natural resources. In addition, much of our political, economic, and social thinking assumes a continuous expansion of economic activity, with little or no restraint on our use of resources. We all feel entitled to grow richer every year. Social justice requires an expanding pie to share with those who are less fortunate. Progress is growth; the economies of developed nations require steady increases in consumption.

What if such a scenario is unsustainable? What if we need an ethics for a finite world, an ethics of the commons?

It is not important that you agree with the premise. What is important is that you help debate the alternatives. An ethics of the commons would require a change in the criteria by which moral claims are justified.

You may believe that current rates of population growth and economic expansion can go on forever but debate with us what alternative ethical theories would arise if they cannot. Our thesis is that any ethical system is mistaken and immoral if its practice would cause an environmental collapse.

Many people assume that moral laws and principles are absolutely certain, that we can know the final moral truth. If moral knowledge is certain, then factual evidence is irrelevant, for it cannot limit or refute what is morally certain.

Our ethics and concepts of human rights have been formulated for a world of a priori reasoning and unchanging conclusions. Kant spoke for that absolutist ethical tradition when he argued that only knowledge that is absolutely certain can justify the slavish obedience that moral law demands. He thought he had found rational grounds to justify the universal and unchanging character of moral law. Moral knowledge, he concluded, is a priori and certain. It tells us, for example, that murder, lying, and stealing are wrong. The fact that those acts may sometimes seem to benefit someone cannot diminish the absolute certainty that they are wrong. Thus, for example, it is a contradiction to state that murder can sometimes be right, for, by its very nature, murder is wrong.

Many human rights are positive rights that involve the exploitation of resources. (Negative rights restrain governments and don't require resources. For example, governments shouldn't restrict our freedom of speech or tell us how to pray.) Wherever in the world a child is born, that child has all the inherent human rights including the right to have food, housing, and medical care, which others must provide. When positive rights are accorded equally to everyone, they first allow and then support constant growth, of both population and the exploitation of natural resources.

That leads to a pragmatic refutation of the belief that moral knowledge is certain and infallible. If a growing population faces a scarcity of resources, then an ethics of universal human rights with equality and justice for all will fail. Those who survive will inevitably live by a different ethics. Once the resources necessary to satisfy all human needs become insufficient, our options will be bracketed by two extremes. One is to ration resources so that everyone may share the inadequate supplies equally and justly.

The other is to have people act like players in a game of musical chairs. In conditions of scarcity, there will be more people than chairs, so some people will be left standing when the music stops. Some the self-sacrificing altruists will refuse to take the food that others need, and so will perish. Others, however, will not play by the rules. Rejecting the ethics of a universal and unconditional moral law, they will fight to get the resources they and their children need to live.

Under neither extreme, nor all the options in between, does it make sense to analyze the problem through the lens of human rights. The flaw in an ethical system of universal human rights, unqualified moral obligations, and equal justice for all can be stated in its logically simplest form. If to try to live by those principles under conditions of scarcity causes it to be impossible to live at all, then the practice of that ethics will cease. Scarcity renders such formulations useless and ultimately causes such an ethics to become extinct.

We have described not a world that we want to see, but one that we fear might come to be. Humans cannot have a moral duty to deliver the impossible, or to supply something if the act of supplying it harms the ecosystem to the point where life on earth becomes unsustainable. Moral codes, no matter how logical and well reasoned, and human rights, no matter how compassionate, must make sense within the limitations of the ecosystem; we cannot disregard the factual consequences of our ethics. If acting morally compromises the ecosystem, then moral behavior must be rethought. Ethics cannot demand a level of resource use that the ecosystem cannot tolerate.

The consequences of human behavior change as the population grows. Most human activities have a point of moral reversal, before which they may cause great benefit and little harm, but after which they may cause so much harm as to overwhelm their benefits. Here are a few representative examples, the first of which is often cited when considering Garrett Hardin's work:

\* In a nearly empty lifeboat, rescuing a drowning shipwreck victim causes benefit -- It saves the life of the victim, and it adds another person to help manage the boat. But in a lifeboat loaded to the gunwales, rescuing another victim makes the boat sink and causes only harm -- Everyone drowns.

\* When the number of cars on a road is small, travel by private car is a great convenience to all. But as the cars multiply, a point of reversal occurs -- The road now contains so many cars that such travel is inconvenient. The number of private cars may increase to the point where everyone comes to a halt. Thus, in some conditions, car travel benefits all. In other conditions, car travel makes it impossible for anyone to move. It can also pump so much carbon monoxide into the atmosphere that it alters the world's climate.

\* Economic growth can be beneficial when land, fuel, water, and other needed resources are abundant. But it becomes harmful when those resources become scarce, or even when exploitation causes ecological collapse. Every finite environment has a turning point, at which further

economic growth would produce so much trash and pollution that it would change from producing benefit to causing harm. After that point is reached, additional growth only increases scarcity and decreases overall productivity. In conditions of scarcity, economic growth has a negative impact.

\* Every environment is finite. Technology can extend but not eliminate limits. An acre of land can support only a few mature sugar maples; only so many radishes can grow in a five-foot row of dirt. Similar constraints operate in human affairs. When the population in any environment is small and natural resources plentiful, every additional person increases the welfare of all. As more and more people are added, they need increasingly to exploit the finite resources of the environment. At a certain point, the members of an increasing population become so crowded that they stop benefiting each other; by damaging the environment that supports everyone, by limiting the space available to each person, and by increasing the amount of waste and pollution, their activity begins to cause harm. That is, population growth changes from good to bad. And if the population continues to expand, its material demands may so severely damage the environment as to cause a tragedy of the commons - the collapse of both environment and society. Those cases illustrate the fact that many activities are right - morally justified - when only a limited number of people do them. The same activities become wrong immoral when populations increase, and more and more resources are exploited.

Few people seem to understand the nature of steady growth. Any rate of growth has a doubling time the period of time it takes for a given quantity to double. It is a logical inevitability - not a matter subject to debate - that it takes only a relatively few doublings for even a small number to equal or exceed any finite quantity, even a large one.

One way to look at the impact of growth is to think of a resource that would last 100 years if people consumed it at a constant rate. If the rate of consumption increased five percent each year, the resource would last only 36 years. A supply adequate for 1,000 years at a constant rate would last 79 years at a five percent rate of growth; a 10,000-year supply would last only 125 years at the same rate. Just as no trees grow to the sky, no growth rate is ultimately sustainable.

Because the natural resources available for human use are finite, exponential growth will use them up in a relatively small number of doublings. The only possible questions are those of timing. When will the resources be too depleted to support the population? When will human society, which is now built on perpetual growth, fail?

The mathematics makes it clear: Any human activity that uses matter or energy must reach a steady state (or periodic cycle of boom and bust, which over the long run is the same thing). If not, it inevitably will cease to exist. The moral of the story is obvious Any system of economics or ethics that requires or even allows steady growth in the exploitation of resources is designed to collapse. It is a recipe for disaster.

It is self-deception for anyone to believe that historical evidence contradicts mathematical necessity. The fact that the food supply since the time of Malthus has increased faster than the human population does not refute Malthus' general thesis that an increasing population must, at some time, need more food, water, and other vital resources than the finite earth or creative technology can supply in perpetuity. In other words, the finitude of the earth makes it inevitable that any behavior causing growth in population or in the use of resources - including human moral, political, and economic behavior - will sooner or later be constrained by scarcity.

Unlike current ethics, the ethics of the commons builds on the assumption of impending scarcity. Scarcity requires double-entry bookkeeping: Whenever someone gains goods or services that use matter or energy, someone else must lose matter or energy. If the starving people of a distant nation get food aid from the United States, then the United States loses that amount of food; it also loses the fertility of the soil that produced the food. To a point, that arrangement is appropriate and workable. Soon, however, helping one group of starving may well mean that we cannot help others. Everything that a government does prevents it from doing something else. When you have to balance a budget, you can yes to some important services only by saying no to others. Similarly, the ethics of the commons must rely on trade-offs, not rights. It must specify who or what gains, and who or what loses.

Indeed, in a finite world full of mutually dependent beings, you never can do just one thing. Every human activity that uses matter or energy pulls with it a tangled skein of unexpected consequences. Conditions of crowding and scarcity can cause moral acts to change from beneficial to harmful, or even disastrous; acts that once were moral become immoral. We must constantly assess the complex of consequences, intended or not, to see if the overall benefit of seemingly moral acts outweighs their overall harm.

As Hardin suggested, the collapse of any common resource can be avoided only by limiting its use. The ethics of the commons builds on this idea that the best and most humane way of avoiding the tragedy of the commons is mutual constraint, mutually agreed on and mutually enforced.

Most important, the ethics of the commons must prevent a downward spiral to scarcity. One of its first principles is that the human population must reach and maintain a stable state a state in which population growth does not slowly but inexorably diminish the quality of, and even the prospect for, human life. Another principle is that human exploitation of natural resources must remain safely below the maximum levels that a healthy and resilient ecosystem can sustain. A third is the provision of a margin of safety that prevents natural disasters like storms, floods, droughts, earthquakes, and volcanic eruptions from causing unsupportable scarcity.

Not to limit human behavior in accordance with those principles would be not only myopic, but also ultimately a moral failure. To let excess human fertility or excess demand for material goods and services cause a shortage of natural resources is as immoral as theft and murder, and for the same reasons. They deprive others of their property, the fruits of their labors, their quality of life, or even their lives.

The ethics of the commons is a pragmatic ethics. It denies the illusion that human moral behavior occurs in a never-never land, where human rights and duties remain unchanging, and scarcity can never cancel moral duties. It does not allow a priori moral arguments to dictate behavior that must inevitably become extinct. It accepts the necessity of constraints on both production and reproduction. As we learn how best to protect the current and future health of the earth's ecosystems, the ethics of the commons can steadily make human life more worth living.

As populations increase and environments deteriorate, the moral laws that humans have relied on for so long can no longer solve the most pressing problems of the modern world. Human rights are an inadequate and inappropriate basis on which to distribute scarce resources, and we must propose and debate new ethical principles.

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