

The ecologist's basic question of "And then what?" runs all through human affairs. Different stages in the development of a nation may evoke different answers. For example, in this country, there was a time when Kit Carson, traveling across the prairies, would shoot a buffalo, cut out the tongue for eating, and leave the rest of the carcass to rot. "What a waste!" we say now, but the lonely horseman had no refrigerator with him; and for him to interrupt his journey to build a fire (with what fuel?) and smoke-dry the extra carcass would involve wastes of other sorts. "Waste" is defined by circumstances.

The ecologist's "And then what?" needs to be applied to one of the most ancient of the commandments in the Bible: "Be fruitful and multiply." The rabbi who wrote this was living in a

village, and it was a village version of morality that he was calling for. In a world of many separate villages, tribes, and ethnic groups, vigorous reproductive competition arises naturally. (If you do not believe that, read the Old Testament.) Other things being equal, fast multipliers win out over slow ones.

Circumstances have changed now, but most ethnic groups continue to follow the biblical advice just cited. We are thus laying the ground for the great tragedy that would follow from transgressing the carrying capacity of the earth, unless we somehow find the wisdom and ability to come to grips with the situation. There may not be much time, but we do not have too many other choices.

As you can see, ecological analysis is not for the faint of heart. ■

# There Is No Global Population Problem

by **Garrett Hardin**

Almost two hundred years have passed since Malthus disturbed the world's slumber with his celebrated *Essay on Population*. Today, the world has more than five times as many people in it, and the rate of population increase is nearly four times as great as it was in Malthus's day. Each year, the globe must support 90 million

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more people. Population control is needed.

Many plans have been proposed, and some have been half-heartedly tried. Out of these trials has come the realization that we are caught in what novelist Joseph Heller called a "Catch-22" situation: *If the proposal might work, it isn't acceptable; if it is acceptable, it won't work.*

Unacceptable schemes to control numbers are easy to find. We could elect a dictator and let him shoot the excess population. But we won't. Such a solution would "work" only in a theoretical, beyond-politics sense. (*Homo sapiens*, the political animal, as Aristotle called the human, does not live "beyond politics.") Or we might take no action while waiting for gross

overpopulation to produce its own cure in the form of starvation and mass disease. But who is willing to call such inaction a "solution?"

Looking at the other fork of the population Catch-22 is more productive. When we understand exactly why acceptable proposals fail, we may be able to correct them. Humanists, committed to the rational analysis of problems, are in a favorable position to ferret out workable solutions. But a real solution to overpopulation may be as painful to humanists as to others. An effective solution will not be obvious, for, as Freud taught us, the preconscious mind protects its peace by blocking off painful avenues of thought.

The simplest defense against dangerous thinking is to presume a natural self-correcting

mechanism. Such a presumption worked pretty well in economics in Malthus's day. Hitherto, some governments had fixed prices to keep greedy merchants from fleecing their customers. Unfortunately, price-fixing caused more harm than good. Leaving prices free to fluctuate — "laissez-faire economics" — worked better. Merchants who were too greedy got less business; some of them went broke. Overall, laissez-faire benefitted the consumer by producing low prices.

Reasoning by analogy, some optimists in the twentieth century have argued for a laissez-faire approach toward population growth. They postulate a "demographic transition" process that automatically stops population growth before it hurts. Since European fertility fell as Europeans became richer, it was argued that all we need to do to help today's poor countries is to try to make them rich. The past half-century has shown that a laissez-faire approach toward population growth fails. The needy poor greatly outnumber the charitable rich, and the poor breed faster. Africa's numbers are increasing more than ten times as fast as Europe's.

The argument that greater prosperity produces lower fertility has some support in rich countries, where the industrialized, urbanized way of life leads many couples to prefer a better automobile to another child. In poorly industrialized, rural nations, an increase in income translates into more medicine, less infant mortality, and a faster

rate of population growth. The ancient saying, "The rich get richer and the poor get children" has more wisdom in it than does the demographic transition theory.

China may have found a way out of the population trap. What is China doing and what can we learn from its experiments? We must begin by acknowledging that we don't know as much as we would like to about that huge country. China's population is four times as great as that of the United States. Government policy seems not to be very stable; outsiders need almost daily quotations to know what is going on there. Nevertheless, some parts of China are governed in such a way that ultimate population control looks like a possibility.

In the large industrialized cities, an important decision-making unit is the "production group" — individuals who work together in the same factory. In attempting to control population, the government has assigned a key role to female members of the production groups. The central government tells each group what its budget is for the next year — how many bags of rice, for instance, as well as how many babies the group as a whole can produce. It is made perfectly clear that exceeding the baby budget will not result in any increase in the food budget, either then or later. It is left to the local group to decide which of its members will be allowed to have babies in a given year.

There is no talk in China of a woman's "right" to reproduce or of married couples' "right to

privacy." Decision-making is the right of the production group because the whole group has a budget to meet. The women of a production group meet together and decide as a group who shall and who shall not have babies during the year. Can you imagine such a scheme working in the United States?

In China it works, apparently pretty well. Chinese traditions and cultural ideals make it easier to put the good of the group ahead of individual desires. A woman who gets pregnant without permission is pressured by her sisters to have an abortion. Westerners react with horror to this, but such coercion in the East should be compared to forcing a Westerner to pick up the litter he or she has dropped on the ground in a public park. In both instances, the environment is seen as the possession of the group; littering it (with anything) is not a right of the individual.

Why are Chinese women controllable by coercion? The answer, in a word, is *shame*. A truly socialized individual is ashamed to go against the expressed wishes of the group he or she lives and plans with. Shame is an effective control, *provided the number in the group is small*.

That numbers play a role in shaping human behavior we know from the experiences of the Hutterites on our own continent. This hard-working religious group lives by the Christian-Marxist ideal expressed so well by Karl Marx in 1875: "From each according to his ability, to each according to his needs." Two

centuries of experience have taught the Hutterites that this ideal works only within small groups, 100 to 250 as a maximum. When the number of the operating community is small, backsliders can be shamed into behaving better. When the number goes beyond 150, non-cooperators destroy social unity. Hutterites respond to this threat by constant, amoeba-like fissioning of their communities, thus minimizing the numbers involved in decisions.

The combined experiences of the Chinese and the Hutterites tell us that a voluntary system of population control, when it is *not* backed by legal sanctions, can work only with small groups of people who are intimately involved with one another daily. Shame works when “everybody lives in everybody else’s pocket.”

So, what are the chances that American society as a whole can achieve population control by voluntary means? Essentially zero, at present. We have nothing like the Chinese production groups to build upon. If we cannot or do not want to evolve in the Chinese direction, we will have to find a means of population control that builds on the traditions of our own society.

Let’s look again at the Chinese system. I don’t know whether the Chinese language has any equivalent for the word *coercion*, but if it does I see a way the Chinese could acknowledge the propriety of their population control without cringing at the word *coercion* as we Westerners do. Each woman in a production group must realize that the others

need to be controlled by the coercion of shame and that she herself can be no exception. The control of all is achieved by *mutual coercion, mutually agreed upon*. Mutuality removes the sting that would come from being singled out of the group.

Can such coercion be generated in our society? Of course it can. In fact, it has been from time immemorial. “Mutual coercion, mutually agreed upon” is an apt description of *any* restrictive law passed by a democracy. I might want to rob banks, but I certainly don’t want *you* to do so. So, since I know of no way to keep all others voluntarily from robbing banks, I will help pass a law that keeps everyone — including myself — from doing so.

Does mutual agreement have to be unanimous? Certainly not. Only a majority is required to pass a coercive law. In some cases, however — remember Prohibition — a very large majority may be required. But to demand unanimity would be to abandon all hope of a workable democracy.

By what means will Americans achieve real population control? We don’t know yet. Americans are too comfortable to try hard to find an answer; poor countries — more strongly motivated — may beat us to it. Whatever methods prove effective must be grounded in human nature, as China’s method is. Individuals must be rewarded for actions that benefit primarily the group (which includes all individuals). In China, freedom from shame is an effective reward. In America, we

shall probably have to offer monetary rewards for relative sterility. For instance, we might limit the dependency deduction on income tax to two children, or maybe only one. Or the government might give an allowance to every female between the ages of twelve and twenty so long as she does not get pregnant. Ingenuity is called for.

In the meantime, one large step toward population control is already necessary and may be possible: *We must bring immigration virtually to an end and do so soon*. In the absence of immigration, present trends in fertility, if continued unchanged, would bring America to zero population growth in about fifty years. If needed then, the government could offer incentives to parenthood, thus producing population stability. But all that is so far in the future that there is no profit in trying to spell out the details.

It is more important that we know what continued immigration will do to America. For perspective, let us begin with a few facts. First, the United States takes in more immigrants than all the other 180-odd nations combined. Second, the United States has the highest population growth rate in the developed, industrialized world. Third, immigration to the United States is increasing, not decreasing. Fourth, when immigration is added to “natural increase” (births minus deaths), the resultant population increase shows *no sign* of leveling off before we are impoverished. All worries about

the dangers of a decline in population are vacuous.

In recent years, the United States has taken in over a million immigrants a year. Any suggestion that we might put an end to immigration is met with the anguished cry, "But we are a nation of immigrants!" *But so is every nation.* The natural history of a nation is simple: First, outsiders move into a land virtually vacant of people; the land fills up; congestion is felt; then, the residents close the gates. Unrestricted immigration characterizes a new nation; restrictions are the mark of a mature nation.

Someone asks, "But is not variety a necessary component of a healthy nation?" Before we answer hastily, we should note that Japan admits essentially *zero* immigrants per year — and what American would be so bold as to say that the Japanese are not doing very well in the modern world? They don't admit new bodies, but they do admit new ideas — from everywhere. With modern methods of communication, ideas no longer have to be brought into a country wrapped in human bodies. A wise nation admits just the ideas, leaving the bodies to be taken care of by the nations that produced them. This is the way of survival. Patriotism is rather unfashionable in our time, but can a conscientious humanist be contemptuous of the survival of the people with whom he or she associates daily?

Lastly, someone cries, "But the

population problem is a *global* problem. We need global solutions!" Before panicking, let us look at the word *global*. Some problems are certainly global. Take acid rain. Take the greenhouse effect. Both cases involve the atmosphere, which is forever distributed and redistributed over the entire globe. Admittedly, it will be difficult to produce the global cooperation that is needed to solve such global problems, but no lesser solutions will work.

Now, let's look at the potholes in the streets. There are potholes all over the civilized world, but is that any reason for setting up a global pothole authority to fix our potholes? Would the pothole in your street be filled sooner if we globalized the problem?

The moral is surely obvious: *Never globalize a problem if it can possibly be solved locally.* It may be chic but it is not wise to tack the adjective *global* onto the names of problems that are merely widespread — for example, "global hunger," "global poverty," and the "global population problem."

We will make no progress with population problems, which are a root cause of both hunger and poverty, until we deglobalize them. Populations, like potholes, are produced locally and, unlike atmospheric pollution, remain local — unless some people are so unwise as to globalize them by permitting population excesses to migrate into the better-endowed countries. Marx's formula, "to each according to his needs," is a

recipe for national suicide.

We are not faced with a *single* global population problem, but, rather, with about 180 separate national population problems. All population controls must be applied locally; local governments are the agents best prepared to choose local means. Means must fit local traditions. For one nation to attempt to impose its ethical principles on another is to violate national sovereignty and endanger international peace. The only legitimate demand that nations can make on one another is this: "Don't try to solve your population problem by exporting your excess people to us." All nations should take this position, and most do. Unfortunately, many Americans seem to believe that our nation can solve everyone else's population problems.

I have presented no more than a sketch of "the population problem" but this is surely enough to show that humanists have some hard thinking to do in the near future. Humanism, like science, is a self-correcting system. Humanists should not cling to error merely because it is traditional. With deeper insight into the nature of the world, humanists must reexamine their past attitudes toward rights in general, universal human rights, the primacy of the individual, coercion, the imperatives of the environment, human needs, generosity, and our duty toward posterity. The inquiry will be painful, but faith in the power of reason can give us strength to do what has to be done. ■

# The Tragedy of the Commons

by **Garrett Hardin**

At the end of a thoughtful article on the future of nuclear war, Wiesner and York<sup>1</sup> concluded that: "Both sides in the arms race are...confronted by the dilemma of steadily increasing military power and steadily decreasing national security. *It is our considered professional judgment that this dilemma has no technical solution.* If the great powers continue to look for solutions in the area of science and technology only, the result will be to worsen the situation."

I would like to focus your attention not on the subject of the article (national security in a nuclear world) but on the kind of

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conclusion they reached, namely that there is no technical solution to the problem. An implicit and almost universal assumption of discussions published in professional and semi-popular scientific journals is that the problem under discussion has a technical solution. A technical solution may be defined as one that requires a change only in the techniques of the natural sciences, demanding little or nothing in the way of change in human values or ideas of morality.

In our day (though not in earlier times) technical solutions are always welcome. Because of previous failures in prophecy, it takes courage to assert that a desired technical solution is not possible. Wiesner and York exhibited this courage; publishing in a science journal, they insisted that the solution to the problem was not to be found in the natural sciences. They cautiously qualified their statement with the phrase, "It is our considered professional judgment..." Whether they were right or not is not the concern of the present article. Rather, the concern here is with the important concept of a class of human problems which can be called "no technical solution problems" and, more specifically, with the identification and discussion of one of these.

It is easy to show that the class is not a null class. Recall the game of tick-tack-toe. Consider the problem, "How can I win the game of tick-tack-toe?" It is well known that I cannot, if I assume (in keeping with the conventions of game theory) that my opponent understands the game perfectly. Put another way, there is no "technical solution" to the problem. I can win only by giving radical meaning to the word "win." I can hit my opponent over the head; or I can drug him; or I can falsify the records. Every way in which I "win" involves, in some sense, an abandonment of the game, as we intuitively understand it. (I can also, of course, openly abandon the game — refuse to play it. This is what most adults do.)

The class of "No technical solution problems" has members. My thesis is that the "population problem," as conventionally conceived, is a member of this class. How it is conventionally conceived needs some comment. It is fair to say that most people who anguish over the population problem are trying to find a way to avoid the evils of overpopulation without relinquishing any of the privileges they now enjoy. They think that farming the seas or developing new strains of wheat will solve the problem — technologically. I try to show here