

Outline of the Ethical Implications of Earth's Limits for Health Care

Andrew Jameton*

In addition to good medical services, all aspects of an economy must work together to ensure a high level of public health. However, the abundant economies of the North are contributing heavily to global environmental disaster, with increasing concomitant damage to human health. Environmental health problems result from toxicity (i.e., pollution), scarcity (i.e., poverty), and energy degradation (i.e., entropy). Common to these three factors in environmental demise are the limits of the Earth. Production has evolved to a point where the Earth is no longer safe from radical depletion. Therefore, simple living is a necessary feature of global public health. Rarely do readers of this journal see these limits first hand, but they are real. Our limited perceptions and efforts hinder our ability to understand how to reduce the impact of production on natural ecosystems. Contrary to standard media portrayals, growth and technology cannot solve our public health problems, because they are unequally distributed across the world and neither can they solve the problem of limits. The need for modest consumption in developed nations is an essential and almost completely ignored element of the answer to environmental and associated health problems. A radical and rapid change to public health is needed in order to avoid abysmal global health consequences during the next century. These changes involve a restructuring of our economy, including the health care industry. In the short run, this is an ethical demand. In the long run, this is an inevitability. The actual and appropriate role of bioethicists in championing these changes is unclear. (Abstract by Bruce R. Smith)

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Philosophy: “the art of reasoning from obvious truths by small and careful steps to complete nonsense.” As a philosopher, I worry that this definition is

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*Department of Preventive and Societal Medicine, University of Nebraska Medical Center, Omaha, Nebraska 68198-6075. E-mail: ajameton@unmc.edu.

starting to fit me. I have, judging from what I hear others around me in health care saying, a radically different view of health care. I think, for example, that the scale of American health care needs to be drastically reduced. Not just ten or twenty percent, but fifty percent or more. Despite the struggle at my own university and others for more resources, I persist in this view. My view derives not only from concern over the excesses and mistakes of medicine. It derives also from an environmental perspective on the U.S. economy as a whole. This view of the economy holds that one of the major environmental problems in the world today is the large scale of Northern economies, of which the U.S. supplies one of the most striking examples. In this paper, I give a brief sketch of my concerns. Although the arguments are complex, I believe that a simple outline, a walk-through, may be helpful. I start with my experience attending a national meeting of the American Public Health Association.

AT THE PUBLIC HEALTH MEETING

In November, 2000, I attended the American Public Health Association (APHA) meeting in Boston. The best session I attended was presented by Physicians for Social Responsibility and focused on the emerging health disaster intimated by global warming.¹ As it happened, the APHA meeting was held at the same time as an international gathering in The Hague which continued on-going negotiations over reducing global atmospheric carbon pollution.² I could not help but feel that in terms of raw numbers of death and disease, The Hague meeting was the more significant public health meeting, despite its overall failure.

The negotiations over global warming failed in large part because of the unwillingness of the United States—whose commitment to public health is widely questioned at APHA meetings—to limit its energy consumption, even modestly.³ Putting this failure of the U.S. into relief, the APHA meeting took place in seven large downtown hotels connected by an elevated, heated, indoor mall where attractive franchised consumer items dominated every vista. The mall and hotels were built at extraordinary expense over an interstate highway. Judging from the numbers of APHA lapel ID cards I saw floating in the shops, a lot of Christmas shopping was done at this meeting. I did a bit, too. Once in the big mall, it is hard to get out.⁴

PUBLIC HEALTH AND CONSUMERISM

Let us make the connection between shopping and public health. First, the great lesson of international public health is that health problems are intersectoral⁵—all major sectors of an economy have important effects on the prevailing level of public health. As APHA members are quick to point out, nations can't solve their health problems with good medicine alone. Neither are public

health services—vaccination programs, restaurant inspections, dietary education, smoking cessation programs, and so on—by themselves enough. Public education, women's equality, food security, safe transportation, adequate housing, and healthy occupations are also needed.⁶ Public health ultimately can't make its way without an overall economy that fosters health.

At first, this position may seem to argue for economic development as an approach to public health problems. And billions of people in the world suffer from the lack of basic resources that could be supplied in part by economic activity. However, there is also such a thing as too much. "Too much" is also a major health problem; indeed, the shopping way of life, the way of abundance, is proving to be an environmental disaster. I think that many people are aware of this. Not only is excessive carbon output—which inevitably generates climate change and global warming—an important product of the consumerist life style, but so are deforestation, pollution, and habitat destruction. Without a healthy environment, people cannot stay healthy in the long run; the human ability to provide itself with food, shelter, immunity, and a toxic-free environment depends on the fundamental good health of the Earth.⁷ Even if we are not done in by chronic grief caused by loss of the wilderness with its magnificent sequoias, tigers, rhinoceri, and bears that once thrived in it, we depend on nature for a variety of health-related services—seed dispersal, soil renewal, pollination, waste decomposition, climate stabilization, water purification—that cannot be replaced, even by a thriving economy.⁸

The connection between shopping and the environmental health apocalypse is not obvious. A downtown mall is well insulated from the natural world; indeed, malls seem to demonstrate the capacity of humans to enjoy themselves well separated from nature. Few public health conventioners stepped outside into Boston's chill fall drizzle (and what social transformation of the natural world has made Boston's downtown Fenway a comparative wilderness?). The environmental costs of the mall are incurred in distant regions, mostly imposed on other classes (who are often clients of public health services), and charged against the future's budget.

Yet, when I shop, when American health professionals shop, when conventioners take a break from the public health meeting and wander in the mall picking out Christmas gifts to show love for our families, we each do our bit toward the suffering and shortened lives of our grandchildren. The connection is arithmetically overwhelming, inevitable, and deeply troubling.

THREE HORSEMEN

In order to appreciate the environmentally problematic nature of a consumerist society, we must review three horsemen of the environmental health apocalypse—toxicity, scarcity, and entropy.

Toxicity

Rachel Carson's 1962 *Silent Spring*⁹ represents a powerful and enduring message regarding the environmental and health dangers of pollution. She saw interconnected human and animal health problems arising from the use of DDT as a pesticide. More recently, Theo Colburn¹⁰ has reported burgeoning problems connected to estrogen-mimicking compounds like DDT. The Love Canal disaster inspired many environmentalists to consider health as an important factor in environmental concern.¹¹ And indeed, many cancers have their origins in exposures to environmental substances in the air, soil, and water, many of them by-products of agriculture and industry.¹² Although there are regions in which policies have improved air and water quality over the years, the trend appears to be toward the increased intensity and extent of exposure to risks from pollution, related to the increased intensity of world-wide economic activity and the general reduction in the capacity of the world's shrinking natural sinks to process human-produced chemicals.¹³ Types of pollution vary widely, including acid rain, garbage, trash, heavy metals, persistent organic pollutants, pesticides, fertilizer run-off, accidental toxic releases, sewage, and radiation. The quantities are enormous. The pesticide industry, for instance, releases about 2.6 billion kg. of active ingredients globally each year,¹⁴ with very incompletely assessed health consequences.¹⁵ Toxicological data exists for less than 1% of the roughly 65,000 industrial chemicals in common use.¹⁶

Scarcity

Nevertheless, Americans' concern with the health consequences of pollution seems obsessive. What seem to be tiny risks loom large in popular concern. The field of "environmental medicine" is by and large about pollution, not about scarcity or ecosystem decline; it often focuses on difficult-to-confirm allergies to tiny amounts of substances. But, if one were to weigh up all of the world's health problems, raw scarcity and poverty would probably account for much of the world's suffering from disease, injury, and death.

Most people—indeed, more people than were alive when I was born—live on less than \$2 a day. But the problem is not the money. It is about what that money can buy. Lack of money translates into the inability to buy food, and needed food translates into land area, topsoil, fertilizer, pesticides, machinery, seeds, wood for cooking, all of which pose immense environmental challenges. Needed housing translates into energy materials, heating, cooling, refrigeration, repairs, deforestation, mining, clean water, sewage, all of which must be provided and their environmental consequences mitigated on less than \$2 a day. The Electric Power Resource Institute estimated recently that in order to provide basic electric

services to everyone by 2050, the world would need to build two major generating plants every day from now until 2050.¹⁷

Scarcity primarily characterizes the experience of the developing regions, although as the Indian philosopher Rudolf Heredia¹⁸ points out, we also find the Third World in the First, as in our U.S. urban centers, and the First World in the Third. Globally, about a billion people are “absolutely poor,” living on less than a dollar a day. The health consequences of poverty are immense. Globally, about one-third of deaths arise from poverty-related conditions, such as communicable diseases, maternal morbidity, perinatal problems, lack of sanitation, and nutritional deficiencies.¹⁹

Entropy

Probably few of us at the APHA meeting could define “entropy.”²⁰ As a lay consumer of scientific information, I understand entropy to be the law of thermodynamics that says that every time you use energy in an organized way, you reduce that energy to a less organized, less useful state. Entropy is why it is harder to get the cream out of the coffee than to put the cream into the coffee.

Entropy links scarcity to pollution—in a world of scarcity, intensive production inevitably yields chaos. Although Americans may seem obsessive about pollution, they are probably right to focus on it. Pollution is a feature of scarcity. Rivers, for example, often become polluted as a result of deforestation for lumber. When there is not enough water, we get polluted water. Or, a producer may choose the cheaper toxic mode of production because of the limited supplies of cleaner materials. Indeed, many consumer goods work best with toxic materials—try making electronic circuits without lead, computers without toxic solvents, or fluorescent lights without mercury. So, the more goods we buy, the more toxic materials our corporate suppliers deploy in making them.

Indeed, many environmental problems are related to high-entropy, hard-to-fix problems. These are what I like to call “small molecule” troubles—acid rain (hydrogen pollution), the dead zone in the Gulf of Mexico (nitrogen pollution), and the granddaddy of them all, global warming (carbon pollution). Global warming is the entropy cost paid out billions of times in tiny amounts each time we run an electric motor or start the car.

Bill McKibben recently referred to climate change as “the public policy problem from hell.”²¹ Entropy is like Franz Kafka’s giant gatekeeper standing before the door into salvation; you can’t get past it, ever.²² If you imagine that we can maintain a materially intensive economy by recycling consumer goods, you come before the guardian entropy: recycling goods takes lots of energy. This high energy consumption strategy will only intensify global warming and pollution. If

you believe you can get clean and fresh water by desalinization, you must again face the entropic consequences of the energy costs of this technology.

As the tendency toward chaos, entropy is a physical concept, but our experience of society suggests, whether metaphorically or actually, increasing environmental problems are likely to increase social chaos. Scarcity is a chronic cause of conflict and migration, and with these come further environmental and health problems.²³ As environmental problems become more challenging, our need for ingenuity in addressing these problems increases, but at the same time, our capacity to educate ourselves and increase our ingenuity also declines under environmental pressure—education requires scarce books, paper, nutrition, lighting, classrooms, and so on.²⁴

LIMITS AND THE ASPIRATIONS OF ETHICS

All three horsemen warrant an extended conversation, but they have in common the problem of limits, the limits of the Earth. It was strange to mull over limits while racing from hotel to hotel, session to session, through the great mall. Isn't the future we want a world in which everyone can afford to stay at downtown hotels and shop at the big mall? Conscious of cultural diversity, ethicists will rightly note that not everyone wants to live this way, not even all those attending the APHA meeting. But behind this ethical sensitivity stands the problem of terrestrial limits, the situational and material obstacle to the wealth agenda.

The problem of limits has changed radically since the beginning of the industrial revolution. The ancient experience of limitedness was that of winning basic materials and energy from nature so as to meet human needs—and long hours of human and animal labor were required to produce enough to live on. The Protestant virtues of frugality and hard work were key ethical elements of the struggle for production. Scarcity was immediately evident in the daily lives of everyone but a small aristocracy (which, by the way, tended to dominate ethics writing).

As the industrial revolution progressed, the problem of limits changed. With systems of machines, organization, and supply, it is no longer as difficult to win a life from nature. And the places where it is still difficult are for the most part displaced from the trim and clean lives of health workers and ethicists.²⁵ For early production, the difficulty arose from our limited ability to convert natural materials to our own use and convenience. Now, the natural world is no longer safe from us.

Indeed, the human transformation of the natural world has been so profound, that the old, great, natural world is not quite itself any more. In every regional ecosphere, species and the organization of nature are challenged and suffering.²⁶ Fisheries are being rapidly depleted while huge trawlers ply arctic waters. Forest is

being lost rapidly and clear-cutting continues; everyone who knew the Northwest U.S. and Canada just 30 years ago has been shocked by forest losses, endless mountains shaved and bare. Many countries are water scarce, and many more will become so soon.²⁷ And if you are water scarce, you cannot without extraordinary social commitment and cooperation, maintain good public health, since you can neither prevent the spread of infection nor dispose of waste cleanly. Species are dying off at the greatest rate since the extinction of the dinosaurs.²⁸ Human dominance is generating the Earth's sixth great extinction; the meteor, as it were, has landed.²⁹

The problem of limits thus remains even for those most likely to be reading this article. (The billion or so people who face limits starkly encounter moral challenges, but who in academic bioethics circles writes from this point of view? What does a refugee of African conflicts think of life-extension research? How universal is ethics supposed to be, really?) The salient features of the natural world in the immediate visual purview of *JMH* readers are most likely to be a potted plant, squirrel, or domestic cat (or, the reader's own body, the mites at the roots of our hair, the air we breathe). The increasing limitedness of the natural world has receded into the distance, has come to seem abstract. It is hard to believe in scarcity or nature if you move in a world of opulence every day, as do most who work in academic health care centers and shop in malls.

Most of us would probably prefer to have a light impact on nature and lead a materially ample life at the same time. But this is probably an impossibility. On one side lies the inability of the Earth, with present productive technologies, to support six billion people and more at a conventioner's level of consumption. On the other lies our limited knowledge of how to invent and distribute technologies that can produce consumer goods while significantly reducing the impact of production on natural ecospheres. This is what Schumacher meant by opening his book *Small is Beautiful*³⁰ with the assertion that the problem of production has not yet been solved.

In a review of several pre-industrial philosophies and religions, Alan Durning³¹ found that a number of philosophies of life emphasized the importance of conducting a frugal life and carefully conserving resources. Because the problem of production has not been solved, and may be insoluble, this same moral advice must apply to those who live materially ample lives. To liberal, modern ears, this old principle sounds stingy, but if you understand the world as it is and probably must be, frugality represents something deep and important about the nature of moral obligation: in part, morality tells a story of liberation; but it also tells a story of responsibility and limits.

Since the problem of scarcity has changed, so must the concept and practice of frugality. In the old idea, one had to produce as much as possible, work very hard, and gratefully limit one's consumption. One also participated fully in society's effort to maximize production and to build material wealth. The new frugality

requires us to simplify, to reduce consumption and production, protect nature, save for the needs of the young, and allocate resources more equally. One may work more or less hard, but one must use materials very efficiently to one's ends. Individually, we need to resist pressure for more. Some ends (e.g., automobile racing, night football, and urban sprawl) are probably so wasteful and morally trivial that they cannot ethically be practiced widely.

The illusion of Northern-style economic success for everyone relies on ignorance of Earth's limits. According to one estimate, three Earths, maybe five or more, are needed to keep all six billion of us in the style to which most Americans have become accustomed.³² We ethics conventioners have a choice: either we endorse injustice and short-sightedness, or we commit to limiting consumption savagely. This is the bottom line of a thousand environmental essays; the global poor, nature, and future generations cannot be saved if the developed nations fail to limit their consumption. In order to produce for human well-being while respecting nature, those who have more stuff need to learn to live lightly on Earth, to respect nature, to be concerned for all life and future generations. Simple living is a necessary feature of global public health.

THE MASS MEDIA CHALLENGE

This point of view asks a lot of us. My informal experience with the good people I know is that the conversation about limits tends to be a quick one. Acquaintances offer conversation-stopping objections, which they would, I believe, recognize on further reflection as involving great weaknesses. In the next sections, I consider some of these objections and make brief replies to them. Depending on their source, these reservations tend to be different. I will first consider objections I often see in the mass media. I am unsure how many people actually believe things said in the media, but I hear these objections so often, it is worth mentioning them. Next, I will reply to some concerns I hear, or expect to hear, from philosophers and ethicists. The media objections I most often encounter are that growth is good and that new technology will always save us from ourselves.

Growth and Limits

To speak of limits is to attack growth. An honest and sympathetic advisor said, "Don't talk about limits; it scares people too much. Stay with growth. Talk instead about spiritual expansion, about the growth of community, about enhancing non-material values." I think I understand the strategy; we must do ethics optimistically, and growth and optimism are bound together. As Bertrand Russell said, the bigger your ideas, the bigger you are. Tacitly, we assume that it is good to be big.

Careful philosophers don't say that growth is necessary; people do, advertisers do, economists do, businessmen do, pharmaceutical manufacturers do, medical school deans do. Is "growth" a moral value? It certainly seems to be one, in the way it is praised incessantly in the media, while any economic contraction is regarded as bad news. Many people feel that if we just keep shopping, the problem of production will be solved. All will be able to have a world of plenty without anyone having to shop any the less. The idea of growth obscures the problem of scarcity: if we have growth, then all will be well off some day.

In reply to these objections, I believe that the advice to foster non-material goods, such as spiritual and community life, is sound. However, this advice also suggests that we should not attend to, nor be conscious of, the problem of limits. But, if we don't think carefully about limits, we are likely not to reduce the material costs of our spiritual and communitarian lives. Given global scarcity, we need to attend to these costs; if we want to see non-material aspects of our lives grow, we must also think consciously about limiting and reducing the material costs of communitarian and spiritual lives.

Some note that growth is an economic necessity and worry what people will do for a living if we don't keep on building houses, highways, and malls. This is a legitimate and important question, but its priorities are reversed. The concern should not be how we need to live in order to serve the economy; instead, we should be concerned about how to redesign the economy so that people can lead good lives at a low material and energy cost.³³

Some defend growth because they want to help the poor of the world to prosper. They think that economic development is the solution to the world's problems of poverty. I agree that people in undeveloped regions need better sanitation, more secure food supplies, better housing, better schools, better medicine, and the like. My intention is to limit the anti-growth argument to the billion or so in the world who have more than they need. However, the version of the "growth for the poor" argument that I see represented in the media supports a neo-liberal economics that applies U.S. style economic practices universally in the presumption that corporate capitalism will eventually bring wealth to everyone.³⁴ Proponents of growth find confirmation of their strategy in noting that those doing averagely well in developing regions are dependent for their jobs on conventioners shopping in distant places like Boston; workers are busy making shoes and computer chips, and hacking sugar cane for a few dollars a day. Those who lack these jobs are worse off.

Why am I unconsoled by this economic theory that everything will eventually work out without any change in the lives of the world's billion wealthy? One reason, as I have been pointing out, is that Earth's resources are limited. But also, when I see televised news programs of hideous, protracted, and fratricidal conflicts in developing regions, these seem to be conducted on dusty streets and among fragile concrete buildings. I wonder how much of this evident poverty is related to dust

and heat worsened by global warming, a product of traveling to conventions and shopping in places like Boston. Will wealth really ever flow to everyone by a means of a program of making goods as cheaply as possible for the markets of developed nations and the islands of wealthy consumers in the undeveloped world? Why would anyone think this is true when the flow of commodities, money, and products has for the most part in the last several centuries been from the poor areas of the world to the wealthy? Wealth means having all that stuff, and how could the wealth flow to the economic periphery if those living there are sending most of the stuff and money here?³⁵

These arguments are complex. Indeed, these arguments are like the evidence regarding global warming. No one indicator, no one scientific discipline, provides conclusive evidence of global warming. But the vast accumulation of good evidence from a wide variety of sources comes to a determined and inevitable conclusion.³⁶ If one must think that human-caused global warming is not yet scientifically confirmed, one must still face the epistemically obvious point that the problem of human-caused global warming is a great deal better confirmed than is the claim that a high level of consumption is necessary for human health and happiness.³⁷

Technological Progress

If the conversation is not halted by the need for growth, it is sure to be bulldozed away by the prospects of technological innovation to provide wealth for all. It is argued that technology has always stepped in to save us from scarcity. Without technological progress, great misery would have been encountered sooner and more widely. After all, technology always surprises us.

I am not opposed to pleasant surprises, but the argument that technology will protect us from limits is weak. We must consider whom technology is supposed to have saved or is going to save. If the intention is that a few humans will be able to travel in space elsewhere (thus ensuring the survival of the solar system's most dangerous predator), this solution hardly addresses the public health problems of the billions who remain here. And technology has so far not saved the billion or so abjectly poor and starving. By my count, this gives us at least a billion counterexamples to the claim that "technology will save us," unless we restrict "us" to far fewer humans than any decent theory of ethics can sustain.

I am hopeful that technology can help with the problem of limits. As we stand now, the Earth's sustainable rate of energy use is primarily limited by what can be produced from solar energy in the green spaces of Earth's ecospheres.³⁸ This rate of production limits us to perhaps a doubling of a 1990 level of material and energy consumption, if we allow nature to be entirely dominated by our needs.³⁹ In order to use energy and materials sustainably and to preserve what we need of

nature, we will certainly need much more efficient technologies; indeed, without new technology, prospects are bleak indeed.⁴⁰

But the needed technologies are not necessarily those actually being developed. For example, I have yet to hear a biomedical scientist support her or his work not on the grounds that it will save more lives but because it will reduce the environmental cost of saving lives. To present a lurid, but I think thought-provoking contrast, consider the potential of molecular biology to reduce human suffering. Some scientists are working on the problem of life extension. However, extending human lives will only worsen problems of environment and justice.⁴¹ Moreover, as genetic diagnosis and control increase, we see hints in the press of a future commercial positive eugenics; parents will want to bear children enhanced in IQ, beauty, height, and athleticism. But for the needs of future generations, we should probably be thinking of a eugenics that reduces size, fertility, aggressiveness, and food consumption.

There may be excellent new technologies on the horizon, but they must do more than be invented, they must also attract investment and be widely distributed; this may take decades, more time than public health can likely spare. Furthermore, entropy tells us that there is likely no technological fix to the problem of scarcity. There are limits to the potential efficiency of machines, and if we look more deeply into proposed solutions, they often have obvious drawbacks. For example, the electric car is cleaner than the gasoline version. But, it will likely derive its power from fossil fuels (about 70% of U.S. electricity is generated from fossil fuels). Since there is an extra step compared to just burning the fuel in the first place, the electric car is likely to be less efficient than present automobiles. To consider a related case, if the power for electrical generation is going to be drawn ultimately from current biomass, then there must be less room for agriculture, forest, living space, or other species.

In short, although a case can be made for certain kinds of growth and technology, the dominant forms of growth and technology fail to address the problem of limits. Radically different approaches are needed.

PHILOSOPHICAL CHALLENGES

I am somewhat uncomfortable discussing these issues with my colleagues. What has been interesting to me in the past few years has been the struggle to take a more global view of the problems of health care. Yet, most of the work I see my bioethics colleagues doing involves complex and subtle dialogues between traditional moral theories and new health care problems. I admire this sort of work, and so worry that my arguments will appear to be simple, that I will face the charge of being “simplistic” or “unsophisticated,” a charge more damning than being wrong. Professional ethicists say sophisticated things, not blunt things.

Moreover, since little theoretical work is required, obvious moral wrongs are not supposed to interest ethicists. The problem is a raw one, a gross one, an important one, and so I have resigned myself to searching for direct and simple arguments. Still, two philosophical considerations deserve brief comment.

But Is This Philosophy?

Philosophical bioethicists, I think, would rightly question what portion of these concerns, if any, belongs to the discipline of philosophy. Much of the argument for limits is factual, empirical. Also, many of the problematic philosophical ideas, such as that of growth, predominate in newspaper editorials and weekly magazine articles, not serious philosophical texts. This divergence between philosophical and public discussion raises a doubt whether this discussion really belongs in professional ethics. For example, is it part of the work of the ethicist to critique the national commitment to economic growth? Growth is not an explicitly moral ideal or a moral obligation in any philosophical theory that I can think of. Nor would any careful scholar give an open-ended endorsement to the concept of growth as a basic value (it is easy to give counterexamples, such as, "Cancer is growth; cancer is thus good." Or, "The quantity of estrogen-like compounds in our bodies is growing, so that is good.").

The conversation about growth could be rescued for ethics by showing that the problem of out-of-control growth is a product of bad ethical theory. In a way, global warming is an outcome of utilitarianism. Every new machine in the last century or so has been welcomed as a good, a benefit, a happiness-making convenience for human-kind. Yet every machine paid a small tax in entropy, carbon pollution, global warming. That rationally negligible cost weighed in as virtually naught in every utilitarian calculation. That tiny cost, the same type of cost each time, repeated billions of times has grown into a great whirlwind.⁴²

Now, utilitarianism as a theory can probably be saved from this charge: if they had known of this cost, rational utilitarians might have chosen differently. But, isn't the point of ethics to save the world, not the theory?⁴³ Don't we need moral theories that are more active, that can help us to say clearly how unethical it is to support practices that endanger the health of our children and grandchildren?

These issues can probably be included in philosophical work in two ways. First, we can argue that the work of ethics is not simply to apply and interpret existing theories. Creating new theories and vocabulary to support action to cope with a changing world is also a task of philosophy. If our assertions don't press for radical action, they must be in some important way incorrect. Second, philosophers can perform a public service by engaging with common ideas that seem philosophically problematic, a sort of philosophical public health service.⁴⁴

Justice

Unfortunately, some environmentalists are not egalitarians. And, as some political scientists have pointed out, environmental politics often partakes heavily of the politics of elite and professional groups; environmental groups often lack the feistiness and personal sense of injustice that motivates vulnerable populations seeking wider allocation of resources. In contrast with environmentalism, much concern in bioethics has been for assuring that vulnerable populations—the disabled and uninsured—receive equal and adequate attention.⁴⁵ When I talk about leading a simple life, and thus aspiring to less health care, these philosophers worry that environmental concerns will unjustly discriminate against the vulnerable.

But a wealthy, consumerist life-style discriminates against the vulnerable. As Jeffrey Sachs puts it, “As the rich countries fill the atmosphere with increasing concentrations of carbon, it looks ever more likely that the poor tropical countries will bear much of the resulting burden.”⁴⁶ Moreover, U.S. health care spends over 40% of all the dollars spent in the world on health care.⁴⁷ At that level of expenditure, it is hardly imaginable that more equality can be achieved by increasing U.S. health care expenditures.

The greatest reproach to modern medicine derives from a concern about worldwide poverty. The kind and honest people at the APHA meeting want everyone in the world to enjoy the medical care 85% of Americans have insured access to every day. They think the poor should have the same health care as the rich. On my view, combining both the ideas of justice and environmental sustainability, the rich should have only the same health care as the poor. Since half of the world lives on \$2 a day, it is clear that the world cannot afford U.S.-style health care. Even if the world's income were equally shared, this might give everyone an income on the order of \$14 a day. Since U.S. health care costs on the order of \$10 a day, I think we would still be challenged on this income to build an adequately healthy and just world.

Consider this example. A patient in the U.S. has his or her temperature taken with an electronic thermometer. The circuit inside the thermometer was likely made in a factory, say, in Taiwan. The workers in the factory probably have access to health care, but lack access to health care like that of the U.S. patient. Can they even afford to use the thermometers that they are making? Justice suggests that all those who work to provide health care should also have access to a similar level of health care. Otherwise, we are maintaining our health through exploiting and undermining the health of others on whom we depend.

The left worries that if we speak for “less,” there are advantaged parties out there ready to exploit this approach in order to claim more for themselves. This is one reason that an economic philosophy of private profit is coming to the end of its utility. For the good of all, economies must contract materially. This can probably only happen in a stable and egalitarian manner if policies are established

that allow non-market and non-investment methods to dominate the allocation of resources. The great moral challenge of this century is to build a world that is red all over and green all over at the same time.

A DIFFERENT HEALTH CARE

Simplicity and modesty are not *the* answer to environmental problems. We must also struggle for justice and to improve the lives of most people materially; we must protect natural ecosystems. But for the developed nations, the need for modest consumption is an essential and almost completely ignored element of the answer. An immediate implication of reduced consumption is a much scaled down system of health care.⁴⁸ Part of the job of health care ethics is to make plain the need for this radical change.

According to anthropologists, culture—and morality is a central element of culture—helps human social groups to survive in their environments. While attending the APHA meeting, I was thus wondering why, if anthropologists are right about the functions of culture, all major civilizations have come to an end. If their morality were working properly, wouldn't it have led to adaptive changes in practices as environments changed?

A good answer provided during the APHA meeting by my landlady is this: The moral rules of a society are generally functional. What is remarkable is that societies survive their environments as long as they do, and they do so partly because of their moral rules. But, when societies begin to exhaust the resources on which they are founded, they are unable to change their mores fast enough.

And this is the current environmental predicament of ethics: We must change to a society that can find new stability in the changed global environment, and we must change fast. How can we have an ethics of stability (green all over) and an ethics of revolution (red all over) at the same time? Moreover, many of the old principles of ethics are sound and have endured several civilizations; perhaps, we should not be changing the ethical rules; instead, we should be recognizing their new implications in our changed circumstances.⁴⁹

I wonder what future ethics philosophers in the late twenty-first century will say about present trends in bioethics. I hope that they won't all be philosophers of the desert and of dust. But if, like Socrates, they are scraping their views in the sand with a stick, I expect that they will be very critical of the failure of the field of bioethics to address the problem of limits.

Even if ethicists cannot change their theories, they will still need to change their practices. As Jessica Pierce and Mary T. White⁵⁰ have suggested, one thing we in bioethics can do is to hold greener meetings—less paper; traveling by train; fewer meetings; cheaper hotels; geographically centralizing meetings; sharing rooms; recycling meeting materials; honoring our best by taking from them

materially; and so on. The answer probably is as much in what we do as ethicists as in what we say.

If this need for limits is to be fully recognized in our daily lives, those of us in the developed nations will have to change radically the material and energy features of every phase of our lives. In the short run, this is an ethical demand. In the long run, it is an inevitability. It is easy to become discouraged, to feel isolated and powerless. The problem of production has been barely addressed. We know that we should live lightly on the Earth, but how should more than six billion of us do so? Production must be redesigned from the bottom up, and hardly anyone knows how to do it.⁵¹

However, it is helpful to remember that millions of people are working every day on behalf of change. There are lots of good, new ideas to be found out there with regard to practically every aspect of life. In health care, many organizations are working on the environmental aspects of health and health care. These include Health Care without Harm, Physicians for Social Responsibility, Physicians for Human Rights, the Lowell Center, The Green Health Center Project, and many others. Ethicists can do much to bring these creative ideas into the conversation of professionals and patients in policy and at the bedside.

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