

A SUSTAINABLE SOCIETY*

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*This is the text of Prof. Dr. John B. Cobb, Jr.'s lecture at The X. IPO which was held at The United Nations University in Tokyo, May 13-15, 2002—*TN*.

There is a tension between short-term goals and long-term goals. This tension is felt particularly by youth. There is great pressure toward gaining the approval of those of one's own age, and this often means acting in ways that will not support future success. Parents and teachers, on the other hand, emphasize the importance of considering the long-term future. Most of you, who have come here, have found a way to balance these and are concerned about the future. You also have concern not only for your personal future success but also for the future of humanity and, indeed, the whole world. People like you are the hope of the world.

The same tension, in other ways, affects our adult leaders in many fields. They may be aware of what is needed for the long-term, but they are under great pressure to deal with immediate issues. For example, in our highly competitive global economy, CEOs are expected to take those actions that will increase the value of the corporation's stock. They may know that in the long run other policies would be better for the corporation, for example, spending more money on research and development, or developing worker loyalty by maintaining their employment through thick and thin. But showing a larger profit in the immediate future is what those who hold their stock demand. Also, they themselves profit most from these short-term gains. Since most CEOs move on after a few years, the strength of the corporation ten or twenty years in the future is not likely to be their primary goal.

An extreme case of this focus on short-term gains in the value of stock on the New York Stock exchange is Enron. This corporation adopted policies that persuaded investors that it was very profitable. No doubt they went much further than most corporations in outright deceit, but they represent only an extreme case of widespread corporate policies. The officers of the company sold out while they were able to persuade others that the corporation was still growing and increasing its profits. Apart

from the current threat of legal suits against them, their policies paid off well. Obviously, in the long-term – not a very long long-term – they destroyed the corporation.

There have been exceptions to this focus on the price of the stock in the short term. In both Germany and Japan after World War II, governments and corporations worked together for the recovery of their national economies with much longer time-horizons. They became great success stories. I personally regret that these models are not now promoted for developing countries. Now these long-term oriented policies are losing out even in Germany and Japan.

National leaders face similar tensions. They have an obvious and proper interest in maintaining power. That requires adjustment to immediate pressures. They may know that in the long run what they do to satisfy these pressures will be harmful to the nation, but to act on this knowledge would lead to loss of office.

Consider a particularly difficult, almost insoluble, problem, that of Israel-Palestine. No Israeli leader can retain power without responding strongly to the Palestinian threats to the personal security of Israeli citizens. Israelis are, like the rest of us, extremely concerned about the personal security of their families and friends, and no expectation of their government is stronger than securing this. Also, when security is violently threatened, a government is expected to respond violently, just as the United States responded to the attack on New York and Washington. Those who attack us are felt to be villains, and our violent response is felt to be morally justified. No leader could survive whose response was perceived to be too moderate.

On the other side, the Palestinians understand themselves to be the victim of an alien conquest. They cannot resist the conqueror on the field of battle. Their only weapon is what we now call "terrorism". The more violent the Israeli response, the more hatred is engendered against their oppression. No Palestinian leader could survive who ceased to resist in whatever way is possible. The cycle is a vicious one.

Of course, there are Israelis and Palestinians who know that this cycle is a vicious one, destructive of both peoples and leading nowhere. They know that there are long-term solutions that will be better for both peoples. These solutions cannot please either party. Both must yield on major points. There is a question whether a leader of either side who made the necessary concessions could retain leadership. But for the sake of both peoples we must hope that, somehow, concern for long-term well being will triumph over the short-term pressures.

The issue of long-term versus short-term is basically the question of sustainability. A youth who continues to take drugs so as to become addicted is behaving in an unsustainable way. A corporation that for immediate profit takes actions that will weaken it in the future is behaving in an unsustainable way. Political leaders who respond to immediate pressures in ways that damage the long-term future possibilities for their people are acting in an unsustainable way.

II

However, the term "sustainability" is used especially in reference to how human actions affect the health of the natural environment. The primary meaning, in contemporary discourse, is ecological sustainability. This is because the degradation of our environment is the most comprehensive form of unsustainable human activity.

Here, too, there is a great gap between what many leaders know is needed and what they can do. Consider the case of Albert Gore, the unsuccessful Democratic candidate for president. A few years ago he published an excellent book on the topic of sustainability. He made wise proposals about steps the United States could take to become a less unsustainable society. Everyone who has investigated the matter knows that our present use of petroleum is unsustainable. Slowing this use would slow global warming and give us more time to make the inevitable transition to a society not based on petroleum. In a market economy like the United States, the best way to reduce the use of petroleum is to tax it heavily. Other industrial countries do so. Gore proposed that we follow suit. Clinton was willing to take a small step in this direction.

But Gore discovered that Americans are addicted to cheap gas. Some who depend on their cars for their livelihood may be seriously hurt by high taxes. Most could afford to pay more, but just do not want to do so. Also the oil companies, for reasons I have explained, are more concerned to sell more gas now, than to support policies that would prolong the life of the petroleum-based society. The oil companies are extremely powerful politically in the United States. The result has been that we continue to have cheap gas and to use it at drastically unsustainable rates. In his campaign for the presidency, Gore downplayed his environmental interests. Through the election of Bush and Cheney, the oil companies virtually took over the administration of the country pressing for policies that are in no way sustainable. As a citizen of the United States of America, I regret to report that our administration no longer makes any serious pretense that it is interested in policies geared to slowing the degradation of the environment.

This victory of short-term thinking over the concern for sustainability is, I trust, temporary. There are many in the United States who do not support it. I hope that our voice will be heard again. Meanwhile, we can think more clearly about what is required for sustainability.

III

I have put the issue in terms of that between the desire for immediate satisfaction and the concern for long-term well being. I believe this is, indeed, the question before us. But those who seek immediate gain have on their side a theory that argues that there is no opposition between these two goals. This is the free market ideology called neo-liberal economics. In the United States and in much of the rest of the world this theory is in the ascendancy. It is the alliance of this theory with corporate, short-term interests, and the desire of many citizens to make no sacrifices that undergird the current unsustainable global system.

The commitment of corporations to short-term profits and of ordinary people to get ahead economically are facts of life with which those of us concerned with the sustainability of human society must contend. This is largely a moral issue, but not entirely so. Many are convinced by neo-liberal economic theory that the pursuit of corporate and individual profit also benefits the whole community. If the weakness of this ideology became apparent, moral concerns about the future would have some effect on individual behavior and even on that of corporations. Hence the reigning ideology is the most important point of engagement.

That beliefs can affect actions even on the part of persons of great wealth and power has recently been suggested by the change of climate in the annual meetings of world economic leaders that have been held in Davos, Switzerland, until this year, when the group met in New York

For many years these meetings simply celebrated the growth of the global economy. Recently, they have been open to discussion of the weakness and failure of the global system. Economic globalization has been extremely profitable for major transnational corporations, and it has also generated great wealth for some citizens of developing countries. Others in those countries, generally the middle class, have also benefited. But globalization was also supposed to benefit the global poor, and it is now widely acknowledged that it has not done so. This leads to the admission that some change is needed. There is some recognition also that the global economy is stressing the Earth's natural systems.

Unfortunately, at the same time that many world leaders are recognizing the limitations of the neo-liberal economic system, the United States government is even more fully committed to this than in the past. Through the Free Trade Agreement of the Americas it is forcing on the whole of Latin America an economic system that gives free reign to corporations to expand their quest for short-term profits at whatever cost to the people and resources of these countries. The argument in favor of this is that it will speed economic growth and thereby benefit all. The question of whether this argument is valid is crucial for the sustainability of human society.

I am sure you have understood that I think this argument is not valid. However, before attacking it, I would like to explain it, so that we may understand its power. If the argument lacked convincing power, there would be no need to give so much attention to it.

IV

In eighteenth century Europe, for the first time in history, people discovered that it was possible for the economy to grow continuously. Prior to that time, technological developments had in fact led to increased production per person from time to time. But these developments were occasional. In the eighteenth century Europeans found that

production could increase steadily and indefinitely. This took place because of the industrial revolution.

There were two main features of the industrial revolution that made possible this continuous growth. One was the organization of labor. In industrial production, each person performs a single repetitive function instead of working as a craftsman. Second was the use of machinery powered by fossil fuel.

Making these changes required investment. The incentive to invest is profit. It turned out that the desire for profit increased not only the wealth of the investor but also that of society as a whole. Goods became cheaper, and what before that only a few rich people could enjoy, came to be available to most of the people.

The system worked better as the markets grew larger. Factories produced more goods than could be consumed locally. In any case, if there were only one manufacturer of a particular produce, such as shoes, the owner would keep the price high. Competition was crucial to make the system work for the common good. Hence the region served must be able to support several shoe factories. Later, for goods such as automobiles and elevators, a much larger market was required. It was concluded that the larger the market the better balance could be achieved between competition among producers and economies of scale for each one. This logic leads to a single global market.

It was also found that any effort on the part of the government to set prices or otherwise control market operations was an impediment to the efficient functioning of the market. Of course, government was needed to provide law and order, to enforce contracts, and to require honesty on the part of the market actors. Also, where the nature of the business was such that competition could not be effective, the government should either operate the needed services or supervise the monopoly that did so. Until recently this applied almost universally to utilities, postal services, and roads. But the main point was that, wherever possible, corporations should be free to act for the sake of maximum profit. In this way, it was seen, the economy grows fastest and there are the most goods and services to go around.

Most people like the idea of the increasing availability of goods and services. But they have other concerns as well. One of these has to do with the poor. Observers of the market in the eighteenth century saw that the lot of the poor was very bad. They were paid barely enough to live on and for a long time benefited very little from the increased supply of goods. Meanwhile, they were forced to work longer hours at less satisfying work under less healthful circumstances than before. Even young children were put to work in the factories. In the new global economy much of global production is taking place in similar circumstances.

Those who celebrate the market point out that over the generations the lot of factory workers has greatly improved. In the First world, they now take for granted much that even the rich did not possess in the eighteenth century. This is certainly true, and no doubt it could not have occurred apart from the great increase in production. But it

occurred also because of government laws protecting workers from extreme exploitation and from the organizing work of the employees themselves. In the United States, as government control has been relaxed and labor unions have been weakened, wages have fallen. The market by itself does not maintain the standards that have been attained. Thus far, where the global market has been given free reign, wages have sunk to extremely low levels and working conditions are very poor. Unfortunately, there is no global government to enforce standards, and when labor organizes successfully in one place, capital typically moves to another.

V

It may be the case that when the economy of the planet becomes sufficiently large, prosperity will filter down to the poor. We do not know. But when we raise that kind of hope, we come up against the question of limits. Let's consider two types of limits. One is social, the other ecological.

A world in which the rich grow vastly richer while the poor barely subsist may not be a sustainable one. As long as the poor have real hope that they will soon share in the new affluence, they may endure their poverty and work hard for the good of the whole society. But will they accept continuing, degrading poverty for generations? As the promise of participation in the new wealth loses credibility, the sustainability of such a society becomes more and more doubtful.

VI

Second, what about the limits of the natural environment? The economists whose thought was shaped by the industrial revolution argue that there are no limits or, at least, that any limits there may be are so remote as to be irrelevant. They point out that when one natural resource is exhausted, technology comes up with ways to use the scarce resources far more efficiently. It also produces substitutes. Today, for example, there is concern about the exhaustion of petroleum resources within a few decades. But already we know that we can accomplish our purposes with far less energy than we now use and that other means of fueling cars and heating homes are being developed. Most economists encourage us not be particularly concerned about shortages. When the scarcity of petroleum causes its price to rise, the market will respond by more efficient use and with substitute sources. Hence, the free market will generate a sustainable economy.

This is where the great debate about sustainability takes place. It is clear that the optimistic economists have much evidence on their side. Environmental alarmists have often been proven wrong. Malthus, for example, believed that food supply could not keep up with a growing population. In fact for two hundred years food production has increased faster than population. As certain minerals have grown scarce and expensive, plastics have been developed to take their place. More recently, the ecologist, Paul Ehrlich, wagered the economist, Julian Simon, that the prices of natural resources would rise. In fact, they dropped.

Nevertheless, those who observe what is happening to the natural environment are not persuaded by the economists' arguments. They continue to believe that we are coming to limits, and that already some limits have been crossed, locally, and even globally. Continued economic growth of the sort now taking place only hastens the crossing of these limits.

VII

Limits are of two kinds. One kind is the limit of sustainable use. For example, how many trees can we cut down without reducing the forest resources of the world? We are already exceeding limits in this respect since global forests are receding. But that does not create an absolute shortage of forest products. We can continue to use our forests to supply our needs for some time before we reach another limit, that is, the actual shortage of forest products globally. Our present practices can be sustained until we have exhausted global forests.

Those who think in economic terms tend to mean sustainability in this latter sense. When forests and their products become absolutely scarce, then prices of their products will rise rapidly. Technology will find ways to grow forest products more rapidly and to use them more efficiently. More use will be made of wastes from sawmills, and used lumber and used paper will be recycled to a much greater degree. Many present uses of forest products will end with substitutes used for buildings. In short the market will adjust to the scarcity of what is now plentiful. The unsustainability of the present rate of use of forest products is not important.

Actually the sustainability to which many people shaped by economic thinking are committed is sustainable growth. There is now more recognition than in the past that shortages and pollution pose an obstacle to the continued growth of the global economy. Accordingly, more attention is now given to reducing pollution and slowing down the exhaustion of resources.

VIII

Those who think in ecological terms view matters quite differently. They want to see us live sustainably in the first sense. They would like to see us leave to future generations a world that has resources comparable to those with which it is now endowed. This cannot be true of nonrenewable resources, where the goal can only be to use them as frugally and efficiently as possible. But it is possible in principle with renewable resources such as forests.

People who think in this way see forests as having many functions other than supplying the market with cheap products. They are habitats for many species of animals, so that biodiversity will be drastically reduced as we reduce forest cover. They see forests as having a beneficial effect on weather and agriculture, the value of which can hardly be estimated. Forests play an important role in preserving our supplies of fresh

water. Forests are also essential to the way of life of many fourth world peoples. Their recreational, aesthetic, and spiritual values for human beings are of great importance.

IX

The example of forests can be used to illustrate another very important point. What we now call economic growth is becoming increasingly costly. Our present calculations count as growth all the money expended on cutting down trees, transporting them, turning them into lumber and paper, and selling the products. But when we speak of growth of Gross Domestic Product we do not subtract the negative effects on weather and water supply or the loss of recreational, aesthetic, and spiritual values. Indeed, if we spend additional money to counter the effects of changing weather and loss of water supplies or erosion of agricultural land, all this expenditure is added to the GDP. In other words, the part of the cost of growth for which we pay is considered to make us more prosperous! It should be subtracted if we have any interest in actual economic improvement. If we subtracted also the losses about which nothing is done, we would find that the costs of many of our unsustainable forestry operations are nearly as great as the benefits! Of course, the benefits accrue to forestry industries and the costs to the general public.

Economists are more ready to recognize that the costs of pollution should be included in their calculations, even though thus far they are not. Thus far, if industrial pollutants blacken buildings, the cost of cleaning them is counted as part of growth. If the rising ocean levels caused by global warming force us to build dikes and relocate people away from delta regions, that, too will add to what we measure as Gross Domestic Product. Economists know that that is not right. But the advice given by leading economists to the United States government has been to emphasize policies that lead to economic growth so that we will be in position to pay the costs of global warming as they arise. Our current administration is clearly following this advice. It refuses to accept any agreement that would reduce the profits of the corporations or curtail economic growth.

Those oriented to ecological concerns, of course, view matters quite differently. Rapid global warming will have complex effects on plant and animal life that cannot be predicted in detail. The anticipated increase in frequency and ferocity of storms cannot simply be valued in terms of physical damage inflicted. The delta regions, from which people will have to be moved, are densely populated and many of them are in countries where alternative habitat is scarce indeed. The loss to the inhabitants of islands that will be flooded can hardly be valued in dollars. And the uncertainties are still greater. There is the possibility of a change in the Gulf Stream that could dramatically alter the climate of Europe, for example. To argue that we should proceed with the economic growth that hastens the global warming in order to pay the costs of response rings completely hollow in ecological perspective.

Those who advocate sustainability in the sense of using renewable resources only at the rate at which they can be reproduced are not necessarily opposed to economic growth. They are opposed, however, to measuring growth as we now do by Gross

Domestic Product. As noted above, many expenditures in GDP are actually costs of the present system of economic activity. Some of us have shown that in recent decades in the United States, when all the costs of growth are subtracted, there has been little or no real improvement in the sustainable economic well being of the nation. To pursue policies that impoverish the Earth without real benefit to its human inhabitants seems foolish. To export these policies all over the planet seems immoral.

X

You will understand by now that I consider the shift from our present, unsustainable, economy to a sustainable one of the greatest importance. Unfortunately, it is not clear how that shift is to be achieved. Those of us who want a sustainable human society rather than sustained economic growth have much work to do to show how humanity can move in this direction. If your generation does not make this shift, it may well be too late.

You do not need to begin at zero. I commend the many publications of World Watch Institute to your attention. They identify hopeful trends whenever they can, but on the whole they are forced to report continuing decline in the condition of the planet. Again and again they indicate the kind of policies that could move us in the right direction.

The first step, I believe, is to stop the expansion of the present system. This system owes its inception to Ronald Reagan and Margaret Thatcher in the early 1980s. The United States government greatly influences the policies of the World Bank and in the International Monetary Fund, and together with these it formulated the Washington Consensus. The main point was that whereas, prior to this, governments and international organizations bore the main burden of economic development, from then on the responsibility would be shifted to the private sector, specifically, to transnational corporations. In other words, the new policy was to put an end to national economic development in favor of a global economy. This was the beginning of the shift from an international economy to a global one. In general, we may say, the eighties paved the way, and in the nineties, the goal was achieved.

XI

Let me explain the nature of a national economy and the changes required to make it into a part of a global economy. In a national economy, most of the businesses are owned and operated by citizens. The government protects local production and services from external competition at least until they are well established. Money for development is borrowed by the government chiefly from other governments or from international organizations like the World Bank. The government may itself own and operate a good many businesses. It sets minimum wages and working conditions and is free to protect natural resources from excessive exploitation. A national economy engages in trade, but the government can influence what is exported and what is imported. Trade is primarily designed to acquire what cannot be produced locally.

I have described this in somewhat ideal terms. In fact, most national economies have been more or less corrupt. Governments have favored their friends and punished their enemies. Those in power have deposited much of their money in banks outside the country as insurance against local problems. Money borrowed by governments has been spent on unproductive projects.

Nevertheless, many national economies grew at satisfactory rates during the period from 1950 to 1980 when they were in vogue. In many countries the lot of the poor improved somewhat. The heavy indebtedness that became a crisis around 1980 was due, not so much to the failure of the system as to the rapid increase in the cost of oil and the abrupt rise in interest rates. Those national economies that were more independent and self-sufficient suffered less.

The global economy is based on the mobility of capital. The owners of capital invest where national policies and situations make such investment most attractive. This requires that nations open themselves to ownership of their business and resources by transnational corporations. They also compete with one another to attract investment by keeping wages low and workers docile. They do not enforce environmental standards that might make investments by outsiders less profitable. Typically they privatize publicly-owned businesses, making them available for purchase by foreign capital. They abolish tariffs and other means of controlling what comes into the country and emphasize the production of whatever can be produced most competitively. They become increasingly dependent on imports for necessities.

XII

You may wonder what persuaded most of the nations of the world to abandon their national economies in favor of becoming part of the one global economy. The answer is twofold. First, there were the theoretical arguments of neo-liberal economics. Second, there were the pressures of the Washington Consensus. These pressures were exercised chiefly by the International Monetary Fund and the World Bank. The policies of these institutions changed from supporting national economies to insisting that nations liberalize and open up their economies.

Specifically, the change was implemented through Structural Adjustment Policies. Most developing nations were heavily indebted and unable to pay for the petroleum they needed to import at the high interest rates brought about by U.S. policies at the end of the seventies. The World Bank and the IMF required debtor nations to open up their economies to transnational corporations as a condition of assisting them to avoid bankruptcy. These policies were also supported by a series of General Agreements on Tariffs and Trade and the World Trade Organization that grew out of them.

As it now functions, this global economy encourages the intensification of socially and ecologically unsustainable practices. Those who are committed to

sustainability in the strong sense have two choices. We can try to modify the global economy. We can oppose it altogether.

XIII

The effort to modify the global economy and the problems with this approach can be illustrated in the history of the World Bank. Prior to the nineteen seventies it paid little of no attention to environmental issues and little to social ones. But this changed dramatically. It began to consider the environmental effects of the projects it supported. This was particularly important with respect to large dams, and the Bank listened more and more to its critics. By 1990 its standards were quite high, and it pulled out of the more damaging projects it had once supported or for which it had been asked for help.

However, by 1990 the policies adopted through the Washington Consensus made the Bank's high standards largely irrelevant. These policies opened the doors to the investments of transnational corporations. These corporations were not inhibited in supporting projects by their environmental destructiveness. No international organization was in position to influence their investments.

Those who want to move toward sustainability within the global economy urge either that existing organizations be required to accept responsibility in this regard or that a new global organization be created with some power of enforcement. The latter is quite difficult to envisage. Currently the one global organization with effective enforcement power is the World Trade Organization. Thus far its role has been to overturn laws designed to protect the environment when these are seen to be in restraint of trade. But the WTO might be given a new mandate – or so it is hoped. Skeptics, and I am one, doubt that this will work. The WTO was created to promote the increase of trade and to punish nations that undertake to protect themselves against the ravages of the global market. Its bureaucracy and the whole pattern of its life are set up with indifference to the consequences to society or to the environment of the trade it promotes. Even those in the WTO who recognize that ecological sustainability is important do not want responsibility for it. Nevertheless, this is an important direction to explore.

XIV

Those who believe that the global economy as such should be abandoned are typically ridiculed as wanting to turn the clock back in impossible ways. It is often argued that the advance in technology necessitates a global economy. A global economy is, many argue, a given. Our task is to make it work.

If the point is only that no part of the world can exist without relations to other parts of the world, this is, of course, true. We all live together on a single planet. Global warming, the loss of forest cover, the decrease of biodiversity, and many other things affect the entire planet. The airplane and the internet have brought us close together. Only catastrophe of unimaginable proportions could reverse these developments. We live in one world.

But the global economy is only one way in which economic life can be organized. Many persons shaped by ecological ideas favor a bottom-up economy rather than the present top-down variety. The goal would be that people would be self-sufficient in as many of their needs as possible at a local level. That means especially that essential food supplies be produced as near as possible to where people live. Of course, there are many foods that cannot be produced everywhere. There would be no objection to Scandinavians importing oranges from Mediterranean nations and Italians importing herring from the Scandinavians. But Italy could produce most of what Italians really need to survive, and the same is true of regions within Italy.

This would reverse the trend to huge monoculture plantations producing for export. It could encourage the renewal of family farming where that has drastically declined. It would make possible the strong encouragement of ecologically sound farming methods and increasing freedom from petroleum products.

XV

There are two major objections raised against moving in this direction. First, food would become more expensive, and second, the variety available would be reduced. These objections must be considered seriously. If one supposes that the present direction in the global economy can continue indefinitely, one may well regard these objections as decisive. If one believes that present policies are leading us to catastrophe, then the price paid for the sustainable alternative will seem quite small.

Consider first the question of cost. In the United States food in the grocery store is cheap in terms of dollar costs. But this is because agriculture is heavily subsidized by the government. What we pay for chiefly is the petroleum that goes into the production and distribution of food, and the price of petroleum is kept low. If petroleum were priced in terms of its total cost in pollution and with its scarcity in view, food prices would soar. We know that this system cannot continue indefinitely. Our method of growing food is also exhausting our aquifers and salting our irrigated lands. These are also unsustainable practices. Finally, we are using up our topsoil. Our natural resources are still great, and if we shifted now to sustainable patterns, we could feed ourselves indefinitely. The longer we wait, the more difficult a transition will be. Hence, the argument that food would cost more is not convincing. To make sure that all are fed, we would need to develop policies for the alleviation of poverty that are not now in place, but that is another matter.

Consider next the question of variety. We have become accustomed to getting all kinds of food in all seasons. When they cannot be grown in the Northern Hemisphere, they can be imported from the Southern Hemisphere. Depending on local production would greatly reduce this. We could do more than we now do with hothouse production, but the point remains that the luxuries to which we have become accustomed would be reduced. The issue is only how important this sacrifice is to be considered when set against the costs of the present system. There may even be some gains in becoming once

again more sensitive to the seasons and the weather and the specific nature of our local environment.

Of course, food is not the only commodity that should be produced locally. The same is true of building materials and clothing. This would change construction practices in some areas, but with respect to home construction it would not be of great importance. It is important that new home construction take into account the use of fossil fuels for heating and cooling. We now know that homes can be efficiently built in such a way that passive solar energy alone can meet all their requirements.

The more difficult issues arise when we consider the steel needed for large-scale construction. Clearly that cannot be produced in every town! But that does not mean that we need a global market in order to produce steel efficiently. Actually, most industrial countries even now protect their own steel mills against the competition of imports. They recognize the importance of steel for their national interests. They are willing to pay more for steel for this purpose. In larger countries such as the United States, steel production could be more decentralized than it now is.

Automobiles are another necessity in our world. They are also a major problem from the perspective of sustainability. This is not only because of their use of petroleum, but also their demand for space for roads and parking and the overall costs of their production and disposition. As we move toward a sustainable society, we need to envision a world in which private automobiles are not needed and could become scarce without impoverishing the quality of life.

This is not difficult. There are many cities now in which public transportation is so effective that most people do not use private cars most of the time. New cities could be even better constructed to reduce the need for public transportation as well. Paolo Soleri has envisioned three-dimensional cities in which transportation needs are so reduced that they could all be operated by passive solar energy.

If automobiles become luxuries, then the question of local production becomes less important. Obviously it would be very inefficient to try to produce automobiles in every city. As economists have pointed out, we need more than one producer in every market to maintain effective competition. It takes a fairly large population to support several carmakers. But it does not take a global market. Perhaps quality would suffer somewhat if competition is reduced by smaller markets, but the decline would be slight in comparison with the ecological advantages of increased localism.

I will not pursue the details of what would be involved in shifting to a bottom-up economy. It would make possible bringing production under the control of governments representative of the people. The people could decide how to balance wages and costs. Are they willing to pay more for goods so that the workers who produce them can be better paid? Are they willing to pay more if that will insure clean air and water? Those concerned for sustainability hope that the answers will be affirmative.

XVII

Obviously there are many issues to be worked out in order to envision a bottom-up economy. How will the various localities, now with more self-determination, be related to one another? How will they deal with issues that are global in scope? My own hope is that we may order our world into a community of communities of communities. The Catholic church has long taught the principle of subsidiarity. What can be decided locally should be decided there. But clearly much can be dealt with only at regional and global levels. We need political structures to deal with these issues as well. That requires some kind of global government with enforcement powers. It also requires that these powers be limited and checked by the powers of regional and local bodies.

Although this may sound utopian, it is not totally disconnected from patterns of government that now exist. Some European countries still have strong partly autonomous regions with them. They are then organized together as the European Community. Beyond this is the United Nations. Much work would be required to achieve the ideal balance of power at these various levels, and the ideal relationships between them. But even in their present form they point the way for much of the rest of the world.

XVI

The great problem today is that the global economy disempowers governments at all levels. A government that has little influence on the economic life of its people is very inadequate. However democratic the government may be, the people cannot use it to deal with many of the issues that are most crucial to them. Also, the extreme power of the corporations means that they have undue influence on governments at all levels. The public grows cynical about politics. In the United States, most people do not bother to vote. Democracy and citizenship in general is seriously eroded.

A sustainable society will have to reverse this tendency toward alienation from the political processes. It will need to create institutions that can draw forth the highest ideals of its people, their commitment to the common good. It will need also to help people understand the importance of developing sustainable practices even while the continuation of unsustainable ones is possible and convenient.

My generation has envisioned the sustainable society but has failed to implement it. On the contrary, we leave to you a world that is madly heading for catastrophe. Your generation may well be the last that has the possibility of averting such catastrophe. The need for change will become yearly more apparent. That fact is both frightening and hopeful. Perhaps it will open masses of people to the urgency of change. May you succeed in implementing the needed changes where we have failed!

Prepared for International Philosophy Olympiad Conference in Tokyo, May 13-15, 2002.