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The Tragic Success of the Human Species

We often hear that we face an environmental crisis. Do we? Try this thought experiment: imagine that suddenly, poof all the humans disappear but leave behind the buildings, roads, shopping malls, stadiums, factories, skyscrapers, automobiles, ships, planes, and so forth. Now imagine that three or four centuries pass. What will have happened? Buildings will have crumbled, vehicles will have rusted and fallen apart, plants will have grown into and broken up roads and parking lots, much of the land will have been recolonized by forests. Water, air and soil will have gradually cleaned up, endangered species will once more flourish. Nature, you see, will thrive splendidly without us.

That experiment makes it clear that we do not have an environmental crisis. We have a crisis of human civilization. It was not until we became civilized and took more and more of the biosphere to serve our exclusive needs that we began to reproduce and consume at epidemic rates. Just in this century, human numbers will have doubled twice, from one and a half billion to three billion, to six billion. Still another doubling would carry us beyond twenty billion. But *that* is impossible.

Our use of resources and discharge of wastes more than doubles with each doubling of human population. Those growth rates simply cannot continue for two reasons: first, there simply will not be sufficient resources for all those new humans, even at present per capita consumption rates.

Even more importantly, the emission of greenhouse gases like carbon dioxide, methane, nitrous oxides, and chlorofluorocarbons are beginning to change the way the biosphere works. Scientists estimate that the earth will warm three to nine degrees Fahrenheit in the next seven decades, perhaps sooner. That will be sufficient to change climate patterns. We cannot be sure that the climate will change gradually and then settle down into a new pattern. It may oscillate unpredictably and bring unexpected catastrophe. Climate change and loss of the ozone

layer will injure ecosystems all over the planet and reduce their productivity at the very time all those new humans will be looking for sustenance.

Equally devastating, climate instability will destroy the confidence people need in order to invest. Entrepreneurs would have little confidence that their business could get supplies or that their goods would have a market. Investors would fear that their stocks, bonds and loans would become worthless. If the climate begins to oscillate, we will become victims of our own thrust for economic success. Be forewarned, climate change means economic catastrophe.

By just doing what we have been doing everyday, we are unintentionally conducting a giant planetary experiment to see how far we can perturb biospheric systems before they change their patterns and drastically change everything about our lives. By being single mindedly successful at doing what society expects of us, we have created a civilization that is headed for destruction. We should change the direction of our society now before we forcibly find out the answer to that experiment. Either we learn to control our growth in population and in economic activity or nature will control it for us. Remember, nature's solution is death.

What Can We Do?

Not only has modern society created this crisis, in my judgment, it is not capable of producing a solution. It is disabled by the values it pursues. Think of the values upheld as good in contemporary political discourse: economic growth, consumption, efficiency, productivity, jobs, competitiveness, taking risks, power, winning, being on top. Societies pursuing those goals cannot avoid depleting their resources, cannot avoid degrading nature, cannot avoid spreading poisons, and cannot avoid upsetting biospheric systems. Will we thoughtfully transform our society to a sustainable mode, or will we stubbornly refuse to change and have change forced upon us by the collapse of society's fundamental underpinnings? Resisting change will make us victims of change. I repeat, for emphasis, resisting change will make us victims of change.

But how do we transform from our present unsustainable society to a new sustainable society? We all know that both societies and people resist change. No leader, not even the most powerful dictator, can simply order change and get people to follow. My answer, I believe it is the only answer, is that we must learn our way to a new society. But, can we learn in time?

We all know that most social learning is slow and painful, but not always; sometimes we cross a threshold and learning comes about astonishingly swiftly. Who among us, using what theory of social change could have predicted the sweeping changes that occurred in Eastern Europe in the fall of 1989? How many foresaw that dissolution of the Soviet Union with hardly a shot fired? When a society has no choice but to change, it does no good to look to the past for guidance. We cannot predict the future from the past in these circumstances. Nature, and the imperatives of its laws, will be our most powerful teacher as we learn our way to a new society.

I characterize the new society that we must create as sustainable; but, what do I mean by sustainable? A sustainable society does something more than keep people alive; living is more than merely not dying. It is a society in which people conduct their lives so that nature can cleanse itself and reproduce. It husband nature and resources so that future generations of people, and other creatures, can enjoy a life of decent quality. More concrete manifestations of a sustainable society are spelled out in the following contrasts.

Contrasting Characteristics of A Sustainable Society vs. Modern Industrial Society

Contrast in Goals:

1. Life in a viable ecosystem must be the core value of a sustainable society. That means all life, not just human life. Ecosystems function splendidly without humans but human society would die without a viable ecosystem. Individuals seeking quality of life require a well functioning society living in a well functioning ecosystem. That logic tells us that we must give top priority to our ecosystem, second priority to our society; only when the viability of those two systems is assured is it permissible to go our own way. In contrast, leaders in modern society equate material consumption with quality of life and allow our vital systems to deteriorate as we are encouraged to pursue wealth.
2. A sustainable society affirms love as a primary value. It extends love and compassion not only to those near and dear but to people in other lands, future generations, and other species. In contrast, modern society rewards power, competitiveness and domination over others. A sustainable society emphasizes partnership rather than domination; cooperation more than competition; love more than power.
3. A sustainable society affirms justice and security as other primary

values. Modern society professes to pursue those values but it often fails because those soft values are always under assault from persons seeking wealth and power. In my judgment, modern society will not find peace until it eliminates the contradictions in its value structure.

4. A sustainable society encourages self-realization as the key to a fulfilling life. It would help persons to become all they are capable of being rather than encourage wealth and consumption -- as is done in modern society. Work should be redefined to become a means to self-realization and not merely a pawn in economic competition. In our thinking we should distinguish work from employment. Persons doing their own work, or non-paid contributors to family and society, should be valued as much as those highly paid. Self-esteem should not be linked to employment but should derive more from skill, artistry, effort, and integrity.

Reconsideration of Our Focus on Economics

1. Economic growth is a means and not an end, it cannot be our top priority. A viable ecosystem must be society's top priority. Our current misplaced emphasis on growth must give way to a recognition that there are limits to human population growth and to economic growth. If we don't do that, society will lose other more highly treasured values, such as: the continued good functioning of global biogeochemical systems, the viability of ecosystems, the continued availability of vital resources, and the health of all creatures.

2. Recognizing limits to resources and to the ability of natural systems to absorb pollutants, as sustainable society would make quality products to be loved and conserved for many years. Products would be designed to be safely disposed when their useful life is finished. Modern society fails to recognize that urging everyone to sell and consume creates a culture that will lead to its own painful demise.

3. A sustainable society would utilize both *planning* and *markets* as basic information systems that supplement each other. Both are needed to guide economic activity and public policy. It would recognize the fundamental inability of markets to anticipate the long-term future and to adequately assign social value to public goods such as clean air and parks. Unrestrained markets, in contrast, encourage wasteful and harmful goods, ignore pollution, demand public subsidies, and demand favorable laws and regulations.

4. A sustainable society recognizes that public goods (schools, parks,

environmental protection, etc.) are just as important for the quality of life as private goods. It turns to government and other public agencies to provide them. In contrast, emphasizing market solutions in modern society encourages people to seek private wealth and results in public squalor.

Science and Technology in the Service of Society

1. Our current belief that science and technology are value-free gives the ability to direct those forces, and to collect their benefits, over to those who can pay for specialized talents and equipment. Therefore, science and technology serve the values of the establishment. While continuing to value further development of science and technology for the good they can do, a sustainable society would anticipate their potential for evil and learn to develop social controls of these powerful forces.

2. Powerful new technologies can induce sweeping changes in economic patterns, lifestyles, governance, and social values. They are even more powerful than legislation for inducing change; we can repeal legislation but not a powerful new technology. Therefore, a sustainable society would not allow deployment of new technologies without careful forethought regarding their long term impact. It would learn how to design and enforce social controls of the deployment and use of technologies.

Social Learning as the Dynamic of Social Change

1. Societies have always learned but we can elevate social learning to a conscious societal policy. No one has the power to order a society to change. Meaningful and permanent social change occurs when nearly everyone learns the necessity and the wisdom of accepting the change. Therefore, a society hoping to survive and thrive would emphasize social learning as its best strategy for evolving sustainable modes of behavior that also lead to quality in living. In contrast, modern society, driven by power and using market signals as its guide, cannot look ahead to deal with problems until they become powerful immediate threats; whereas foresighted learning could anticipate problems and avoid crisis policy making.

2. A sustainable society must cultivate new ways to thinking. Ecological thinking is different from thoughtways in modern society. Amazingly, most people in modern society do not know the fundamental laws of nature such as the first and second laws of thermodynamics. For

example, environmentalists derive four key maxims from the first law which says that matter and energy can neither be created nor destroyed, they can only be transformed: *1) everything must go somewhere, 2) everything is connected to everything else, 3) we can never do merely one thing, and 4) we must continually ask, 'and then what?'*

These maxims are routinely violated in contemporary thinking and discourse. Every school child should learn them, yet, almost none of them are given this instruction. A sustainable society would reaffirm and act on the belief, one held in primitive societies, that a knowledge of nature's workings is basic to being educated. It would act on that belief by requiring environmental education of all students as it now requires every student to study history.

3. Ecological thinking recognizes that the geosphere and biosphere are systems. If people wish to properly understand the world, they must learn how to think systematically, holistically, integratively, and in a futures mode. Everything is connected to everything else. We must learn to anticipate second, third and fourth order consequences for any contemplated major societal action. Modern society, in contrast, emphasizes simple cause-and-effect mechanistic thinking; it structurally encourages narrow expertise and planning in the short term. A sustainable society must correct that distortion and accord esteem to those who practice ecological thinking.

4. A society learning to be sustainable would redesign government to maximize its ability to learn. It would use the governmental learning process to promote social learning. Enlisting the learning of the entire society, would, in turn, aid governmental learning. In contrast, modern society takes a short range perspective, prides itself on being immediately 'practical,' disavows the visions of 'impractical dreamers,' and is constantly scrambling to deal with crisis after crisis that it did not anticipate.

5. The era when governors commanded and citizens meekly obeyed has passed, if it ever existed. A learning sustainable society affirms the inherent value of persons by requiring that governors listen to citizens. A sustainable society not only would keep itself open for public participation but also would cultivate mutual learning between officials and citizens as the central task of governance. Modern society, in contrast, routinely turns to experts, who are presumed to know better, to undertake action without consulting the public.

6. A sustainable society would recognize that we are part of, and

strongly affected by, global systems. It would strive diligently to build an effective planetary politics. It would encourage transnational social movements and political parties. It would seek common cause with movements and parties in other countries to nurture planetary social learning, leading eventually to a world society with a world government.

Learning Our Way to a Sustainable Society

Learning our way to a new society not only is the preferred way, it is the only way -- in my judgment, there is no shortcut. Fundamental relearning cannot occur, however, until people become aware of the need for change. So long as contemporary society appears to be working reasonably well, and leaders keep reaffirming that society is on the right tract, the mass of people will not listen to a message urging change. For that reason, life systems on our planet probably must get worse before they can get better. Nature will turn out to be our most powerful teacher. We probably will not be able to listen until it becomes much more evident that biospheric systems no longer work the way they used to. After a shock to wake us up, in times of great systemic turbulence, social learning can be extraordinarily swift.

Our common journey promises to be challenging and exciting, even though difficult. It will be much easier, and more likely successful, if we face it optimistically with a deep understanding of the pace and character of social transformation. We humans are special, not because of our reason, other species can reason, rather it is our ability to recall the past and foresee the future. We are the only creatures that can imagine our extinction. That special gift of understanding places a unique moral responsibility on humans. Once we have contemplated the future, every decision that could affect that future becomes a moral decision. Even the decision not to act, or to decide not to decide, becomes a moral judgment. We humans, given the ability to anticipate the consequences of our actions, will become the conscious mind of the biocommunity, a global mind, that will guide and hasten societal transformation. Those who understand what is happening to our world are not free to shrink from this responsibility.

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