

HOW TO AVOID ECOCIDE¹

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ABSTRACT

We live in a world out of control, without integrated planning. Thermonuclear war, global ecocide, and increased poverty is our collective destiny unless we cooperatively guide the direction of history. This means our continuing education must include learning to design the future, planning transition steps, and undertaking social action so that theory and practice are tied together.

The education of people should now include a different kind of education and a new form of creativity. Our common survival cannot long continue in a world that plays Malthusian games of infinite expansion in a finite world, pre-ecological games of exploitation rather than cooperation with ecosystems, and pre-atomic war games instead of global peace keeping. The gap between the rich and the poor nations is widening and there is no progress toward economic justice within the United States. such a world requires not merely ad hoc crisis management but imaginative integrated planning to transform obsolete institutions and create new ones appropriate to this period of history. It requires a new form of education which includes continuous involvement in the planning of change.

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Our education has been a model of our pre-ecological economic system, stressing individual competition and self interest in ever greater acquisition and consumption. But our central problems are social and global, and education appropriate to the emerging age must switch from acquisitive individualism to common life affirming goals. Unless education is a process which includes all age levels, and unless it teaches people to participate in the design of appropriate social change, there seems to be little chance of making this epochal transition. If needed change occurs through totalitarian government, survival may be bought at the price of justice. Or if people want to wait until a major crisis galvanizes the survivors into action, they can plan to eliminate World War IV instead of World War III. Anticipatory democracy seems a better choice.

So we now need both democracy and education, but each needs to undergo transformation. "Democracy" need not be merely an election technique, it can be a philosophy of group creativity. If groups can create social change, and if the size of the groups and the scope of the process can be enlarged, we have the prospect of an unprecedented but crucially needed form of creative behavior where *people join collectively to guide the course of history*. The rest of this paper will focus on this expanded conception of creative action in which 1) we create the process by which we can create the future, and 2) we design preferred futures and produce change toward their realization.

I

To apply design to the world's future suggests a task that may first appear ludicrous, arrogant, and impossible. Any design task may appear too great at first, whether it be designing furniture, a house, a landscape, a city, or a new society. Yet isn't it really more startling to continue to assume that the future of the human race should continue to be accidental? Though we recognize that the human race is the dominant species to inhabit this planet and we are increasingly aware that we have the potentiality for reshaping the course of history, we ordinarily assume, however, that history must continue to be either unpredictable or subject to forces beyond human control. We teach ourselves to settle for being either a *spectator* or an *anticipator*; but not a *participator*. We seldom see that the role we have accepted in fact determines how the future is going to be created.

There is an enormous range of devices used by people to convince themselves of their impotence, and an enormous variety of compensatory mechanisms—driving big cars, making loud noises with motorcycles, building huge buildings, dropping big bombs—which provide the illusion of power. These compensatory games distract from an analysis of basic social power, which creates the future by directing the dynamics of change. Those who have special advantages under the existing order have a stake in the perpetuation of the mythologies of fatalism, pessimism, and impotence. The existing order is also sustained by

ignorance of the way social and natural systems affect human life and by the failure to examine alternative futures.

The dynamics of current change is based primarily on three factors; quantitative expansion of numbers of people, increases in applied knowledge and technology, and a hierarchical system of power within and between nations. This mal-distribution of power produces a mal-distribution of wealth and income which perpetuates the widening gap between the rich and the poor. The gap is exacerbated both by differential birth levels and by exponentially increasing consumption levels in the rich nations. Projections of current resources consumption trends and their pollution by-products provides virtually certain global ecocide within a relatively short length of time, twenty-five to fifty years. Economic inequality lays the groundwork for counter violence. The inequality is itself a form of violence, for the advanced industrial nations gorge themselves in an orgy of overconsumption of the non-renewable resources that constitute a common heritage of the entire human race. Meanwhile half the world lives in abject poverty.

“Adjustment” and “adaption” have been interpreted by virtually all institutions, including the schools, to mean that the individual should adapt to trends. “Adaptation” has, in the double-speak of 1984, become a way of reinforcing suicidal trends, which leads to Malthusian positive checks. Stability eventually takes place through starvation, predation, and disease. Either the species plans or nature plans. There is no other alternative.

Species planning is radically multilateral. Schools usually emphasize *individual* planning, if they teach any planning whatsoever. The parable cited by Garrett Hardin in the well known article, “The Tragedy of the Commons,” points out the basic fallacy of individual or unilateral planning, as a central planning strategy. As the story goes, each of a small number of farmers grazed a cow on the commons, providing subsistence for their families. Then one farmer decided to maximize his advantage by getting another cow, and the others did the same to compete. As this process continued, the commons was soon overgrazed and all the cows died. This is a parable of the group in relation to finite resources and it is basic to species planning on planet earth. The *absence* of a structure for multilateral planning within nations and between nations pre-determines a global tragedy of the common resources of the planet. The alternative should be clear.

Unless people understand the dynamics of change and make systemic analysis of the components of change, they do not have the “basics” for a better future or even for species survival. Education must not fragment and atomize; it must integrate. Disconnected fragments of information and separate intellectual skills are merely grist for the present techno-structure. Our continuing education should include macro-systems, macro-ecology, macro-economics, and macro-politics. Unless people are helped to develop a world perspective focusing on the structures that sustain life and will determine the quality of life in the future,

they are being distracted from the kind of education they need, processed by the system to play out the tragedy of the cows on the commons.

Designing the future requires not only knowledge of baseline trends but also models of preferred futures. It requires models of collective rather than individual preferred futures, for reasons previously stated. Here we shift from science to aspirational *values*. We become artists. As we imagine a preferred future, stimulated by the imagination of others, we then must make compromises between what we consider *desirable* and what is *possible*. If we can also provide the rudiments for a strategy of transition—how to move from here to there—we have the outline for a proposal for social change.

Another educational tradition is likely to be an obstacle at this point. The design of futures might be a tolerable violation of sacred pedagogical traditions, but the creation and the testing of the model is likely to be fundamental sacrilege. Yet social action is the means of learning the attitudes and skills that enable us to achieve social goals. The separation of theory from practice is merely one way in which schools preserve the status quo. Under the traditions of mind-body dualism students are taught to disconnect means from ends, thought from emotions. Why should we want to design futures if we do not also increase our power to help realize those goals?

All this is merely another way of talking about relevant citizenship, a topic remarkably obscured by those who say schools should not be political. They fail to distinguish between partisan politics and the “politics” in its generic sense. It is precisely the involvement in community which is central to an education that is humanistic and morally committed. Moral neutrality permits a person to be merely a technician. The problems of common survival, human equality, and environmental quality are not examples of partisan politics, nor are they examples of neutrality. Unless education helps people use intellectual processes as instruments to serve world interest goals they will continue to invert means and ends, providing either distraction from basic common problems or else teaching intellectual technique to serve an economy already out of control.

II

Continuing education should help people learn to analyze current planning processes. Most governmental corporate planning is based on the assumption that we should anticipate trends and then use technology to adjust to the trends. Power companies are predicting a hundred per cent increase in energy consumption within ten years. They urge appropriate political and economic response, so that when they build the new power plants (at whatever price to pollution and the world’s resources) they can reinforce rising consumption levels and in ten years show that they are prophets and saviors who have confirmed

their prediction. Unless futurists understand the role of self-fulfilling prophecies they are part futurist and part menace—primarily the latter.

Most of the ways in which futures are now being created may appear Machiavellian to the spectator. The elite actors on the stage of history appear to have a wide range of alternatives, choosing so often to retain a conspiracy of power against the trapped audience. But Devil theories provide the easy explanation, useful not merely to American presidents, but to other moral determinists. It is far more likely that those decision makers who have the power to create history are as much a victim of the mythologies that lock them into the past as are the majorities who are affected by the decision. Myth and ignorance provide the cohesion and stability for the present world order. The schools are a major perpetuator of the selective ignorance which once was called the essential wisdom. What passes for truth in one period can be the plan for suicide in the next.

For example, nationalism has been the secular religion of the twentieth century and is still on the upswing in newly developing countries. In the pre-atomic, pre-ecological world of the early twentieth century, nationalism was an integrating force. Whatever one's tribe, the nation melted him into a national, either by democratic or totalitarian means. The significant point is that the world is really one ecologically; it has a life support system that knows no national boundaries. And if the world is to be one morally, it can have no national boundaries on social justice.

The world has been and will continue to be one ecologically. It is not yet one social-moral-political system operating under common law. Unless the political order can plan with respect for the world's ecological life-support system, man will have his nationalism at the price of extinction.

Now in the atomic age, national defense is no longer possible, yet nations cling to an old system which is called national defense but is actually a mutual annihilation system. "Defense" is created by semantics, and "anti-ballistic missile systems" are developed which meet the semantic requirement though not the performance requirement. Such symbolic madness occurs because people are habituated to expect technological solutions rather than change of political systems.

But there is nothing in human potentiality to prevent us from learning to transform social institutions so that they serve people. People have been taught to serve their institutions, a cruel irony of history, based on the common sociological principle that means tend to become ends. Again we have a task for education.

the principle that learning must begin where the child is experientially. Therefore planning-education for first graders will probably take account only of the classroom or the school ground environment. Children may re-design the walls of their classroom. Additional growth in the student's experience should

permit him to be involved in regional and even state planning by the time he is in high school. Adults should be directly involved in planning integrated futures and appropriate transition steps. As the circle of experience moves outward it will be seen that local planning cannot occur independent of global planning. Plan New York without planning the U.S. and you have misplanned. Plan the U.S. without coordinated world planning and you've fiddled while the world prepares to burn.

But world planning is risky business. What about the danger of totalitarian control? Wouldn't we avoid a global 1984 by pursuing the policy of "the best government is the least government?"

This is a small planet with an expanding technology and an increasingly vulnerable biosphere. Transnational organizations are developing rapidly, and common means for managing a world economy and international violence increasingly are seen to be necessary, with pilot models developing rapidly through regional organizations such as the European Common Market. Since world authority is evitable, the only question is whether it will occur before or after global collapse such as World War III or global ecocide. Therefore the question is not really whether world authority will develop but *when* and *how*, serving what *ends*, by means of what system of *control*?

Change under the present "system" of non-world-order occurs primarily by reinforcing random and accidental dynamics of change. This process is exemplified by the role of the schools, which have their main effect on the future by *not* teaching planning. If we do not teach people to be involved in social planning, we reinforce the dynamics of existing systems by default. It is an implicit rather than an explicit philosophy of education, which reinforces the status quo.

History is made by what we do and what we fail to do. Our continuing education should be evaluated on the basis of its response to the problems of the world, and we need a theory for identifying the basic problems. If we continue to believe, as some power companies do, that economic trends are inevitable therefore good, schools will continue to provide intellectual skills to help individuals add to the efficiency of existing economic systems and they will be rewarded for doing so. If people are not taught to examine alternative futures and to select and realize the most morally responsible future, the forces of technology, market place economics, and hierarchical power will lock in existing trends.

It is important to recognize that we cannot actually predict a particular future. Scenarios of alternative futures, such as those in *The Limits to Growth* are hypotheses. Hypotheses are "if so, then so" relationships. History is a set of causal connections, but people can change and initiate new causes. The reason it so often seems that we can predict the future is that we do not change the "if so" conditions. When the conventional inputs occur, the expected results take place. But we have the choice of retaining or altering inputs.

Nothing is more influential in creating a false sense of inevitability than the belief in *determinism*, which causes us either to reinforce directly the existing dynamics of history or to do nothing and reinforce them by default. Alienation and identity crisis are largely by-products of social systems that obstruct the development of community. A pathological social structure produces alienation, anomie, and de-politicization, which feeds back to perpetuate the social structure and locks in the system. Education should be an instrument for breaking the cycle, but its mode of analysis has been too psychological, too pre-committed to a belief that the disease is in the patient. Counseling or guidance has usually been a band-aid operation for individual symptoms, adjusting the individual to the system, exacerbating the social pathology.

Futurist education should not be an escape from the present. Quite the opposite, it should be a way of deciding what is really worth doing *now* by deciding where the action should lead. It is presentism that consists of romantic escape, for it ignores the reality of time. One's life should balance both *being* and *doing*, but if one is doing something significant the two processes are combined.

The reason for planning the future is not merely to raise the probability of getting and experiencing what you really want, it also involves the obligation that we have as humans. We are *custodians* of the future. It is not only immoral but obscene for us to sell out our children and the yet unborn. In a period of cataclysmic conflict between expansive trends and a finite earth, the absolute minimum that any education should dedicate itself to is *awareness of trends* and *exploration of alternatives*. No child should be the victim nor the perpetrator of violence resulting from mis-planning or no-planning.

Accountability requires that one be aware of alternatives, and the failure of education even to try to achieve such a goal becomes a moral crime. In the backwash of our old legal system we have not yet made such a distinction, but if the *right* to the preconditions of life is to be codified into law, denial of such rights becomes criminal. As educators we have always honored the "right to know" as an abstract principle. Now we have a basis for identifying what it is we have a right to know.

III

There are two different kinds of future-creating forces, convergent and probabilistic, which need to be taught. A time predictable event, such as starvation based on population increases, is an example of the linear convergence of two variables, in this case, food and people. The cataclysmic models of *Limits to Growth* are of this type, using the interrelationship between four variables: population, pollution, resource depletion, and capital investment.

Probabilistic change is more difficult for people to understand, for it is statistical and not revealed by direct experience. The war system is probabilistic.

It does not provide us with a date at which an event such as an atomic World War III will occur. Like rolling the roulette wheel, we don't know when 00 will come up. There are remote odds that it might never come up, however we maximize our chances of prediction by assuming that there are fixed odds built into the system. We may not win if we follow such odds, but we raise the chances of winning and reduce the chances of losing if we follow the odds. War systems are similar. By placing nuclear armament within political units (nations) capable of unilateral use of such weapons, we play nuclear roulette with the world. We can alter odds either by juggling the equipment on the world roulette wheel or by playing a new game. A new political game, removing anarchy and unilateralism from the international political game, could dramatically alter the probabilistic odds for war.

A probabilistic war system in the atomic age provides assured genocide, but we don't know when. We can, however, estimate the safety-failure probabilities and make a rough estimate of the chances of surviving each year. If we do survive another year, those who fail to understand the nature of the system begin to trust it saying, "We haven't had atomic war so far, therefore the system must work." But the actual probabilities for having war may continue to be the same. Like driving full speed through a city at night without lights, we had better make one of two kinds of decisions: 1) that we are apparently immune to accident, because we have not yet had one, or 2) that we are damn lucky to have gotten this far and we'd better slow down and turn on the lights. Entire national foreign policies are built on the confusion between probabilistic and convergent systems. The American "defense" system is thought by many to be an "effective deterrent" because during the period in which a weapons system called a "deterrence" system was in operation World War III did not occur. But having a "deterrence" system provides an excuse for retaining the war system, and if you don't have war while you have a war system it is in spite of the system rather than because of it.

IV

A general planning formula might include both minimal and maximal goals. For the next one hundred years the most likely threats to life are war, ecocide, and absolute poverty. Minimal goals are first priority goals, necessary to preserve life and provide at least the minimum conditions of social justice. But it is not enough merely to minimize threats to the continuity of life. It is necessary but not sufficient, so a decision must be to achieve minimal goals as urgently as possible, setting a specific time goal. On a larger time scale, planned change should be used to achieve maximal goals. Minimal and maximal goals might be as follows:

Prevent cataclysmic war

Create global cooperation and
world community.

- | | |
|--------------------------|--|
| Prevent ecocide | Manage the world economy
ecologically (steady state recycling). |
| Prevent absolute poverty | Create equitable sharing of resources. |

Clearly the goals on the right could not be reached in ten years. However, the goals on the left might be reached in ten or twenty years. Therefore trade-offs need to be made. In the design of preferred futures, are the values on the right included as preferential values? If so these values optimize, while the values on the left are sufficient merely for survival. Should we abandon optimum goals, take half a loaf and settle for the enormously improved but less than optimum world on the left side? Or should we use the goals on the right as preferred world goals to be achieved by the mid-21st century, while the first stage in the transition planning would target on the minimal goals on the left. Wouldn't this order our priorities and permit practical time sequences during the transition period?

The minimal values are all *survival* values. The values on the right include survival and social justice values. The next objective would seem to be the planning of environmental *quality*. This means there are three goals: 1) survival, 2) equality, and 3) quality. We may want to maximize all three, but we would have to be ready for trade-offs when there was no other choice, and I would maximize them in the order listed.

Notice I have not listed *economic goals*. Planning involves making cost/benefit predictions, and economic costs and benefits cannot be omitted. A central dilemma of the modern world, however, is the fact that "development" has come to mean economic development. Quantitative GNP indicators have been used as indicators of "progress" through the maximization of gross economic units—whatever grotesque combination of goods and services they might produce. In market-based economic systems, *social values* are secondary to economic values, and *ecological values* come third, if at all.

In order to plan rationally there must be an estimation of economic, social, and ecological costs and benefits. And these values must also be weighed in order of priority. Since ecological values represent the life support system, it would follow that they should be first, since they establish the parameters and constraints under which an economic system must operate. But for what end? Surely human community and social justice are the highest goals for which we can plan. If so, social justice is more important than merely maximizing gross national products by placing economic values at top priority.

What this means is a 180 degree reversal of the priority of economic values of most Western developed nations:

- | Present | Future |
|---------------|---------------|
| a. economic | a. ecological |
| b. social | b. social |
| c. ecological | c. economic |

When economics is subsumed under ecological planning, a steady state economy results. All economies must be steady state (sometimes called no-growth) eventually. The planning problem is to plan and create a post-Malthusian world rather than submit to the positive checks of starvation, pollution, resource depletion, disease, and war. "No growth" is not really a good term, for an ecologically stabilized recycling economy requires selectively planned expansion, contraction, and stabilization. The service area of the economy permits the greatest expansion while the goods economy, at least in industrialized countries, requires selective stabilization and reduction. When a steady state economy is planned on a world basis (and the sooner the better) it should be done along with a redress in the mal-distribution of wealth and income. Americans, Canadians, and other overconsuming nations are likely to feel threatened at first, but a new education can help affect not only the process of planning but also the transformation in personal values and life style. The meaning of "standard of living" requires transformation from quantitative to qualitative criteria.

The great hazard in reduced consumption education is that it often encourages a life style and an ideology based on political anarchy. But it is precisely the lawlessness and the anarchy of the present world that permits the "tragedy of the commons." If there is to be common control of the commons, including a global peace keeping system, unilateralism and individualism must operate only within the constraints of social and ecological planning. It is clear that atomistic individualism must give way to democratic world community if participation and representation rather than hierarchy and coercion are to define the world system. Not that a democratic political system can operate without some coercion. If population expansion continues, the range of unilateral freedom will be proportionally diminished under both a democratic or an autocratic world system. But a participatory system offers the greatest assurance that social justice will be realized and that the rules we must live by are equitable.

In brief, if I were to sketch an outline of a futurist theory of education applicable to beginning and continuing education at all levels, it would look as follows:

A FUTURIST EDUCATIONAL MODEL

From (Current trends)	Toward (Preferred future)
1. Survival	
<ul style="list-style-type: none"> a. population expansion b. a war system c. pollution of the biosphere d. waste of natural resources 	<ul style="list-style-type: none"> a. population control b. a peace-keeping system c. termination of pollution d. conservation-recycling

2. Social Justice

- | | |
|-------------------------------|-----------------------|
| a. economic disparity | a. economic equality |
| b. inequality of human rights | b. equal human rights |

3. Experiential Quality

- | | |
|------------------------|----------------------------|
| a. an ugly environment | a. a beautiful environment |
| b. identity given | b. identity created |

This theory of education is based on the following assumptions:

1. Education cannot be neutral. Teachers should be honest and try to be accurate.
2. Schools help create the future by intent or by default.
3. Schools usually reinforce obsolete institutions that have become inadvertently pathological.
4. Schools should help to reconstruct the society.
5. The curriculum should be problem-centered.
6. The problems should be primarily problems of survival, social justice and experiential quality.
7. Schools should emphasize participation in planning the future.
8. The focus should be global; planet earth and the human race.
9. The above broadly stated "preferred future" goals are supported by a sufficiently large informed consensus to warrant their use as social-educational goals.
10. The central task of research, inquiry, experimentation, and teaching should be to identify the means of moving from current trends toward more precisely defined preferred futures.
11. Knowledge and social action should be connected: students should participate in social change.
12. Whenever possible, planning and social action should be based on group processes.

The model provides a feed-back loop for reflection, planning, and social action. It can be psychologically sound if it begins where the student is and helps him participate in planning at his own level of experience, at first in the classroom then in the school community, then in the local community, and outward as rapidly as possible until he has a world perspective and can think of himself and behave as a member of the human race.

There is little value in having continuing education become merely a supermarket for buying obsolete knowledge and for accumulating course credits to get jobs that produce a vested interest in the old order. Our education should

include designing plans for new work. The right to work in an ecologically responsible, socially useful job at a liveable wage should be a central goal. Unless we can transform our own economic system so that our work is a contribution to human needs rather than a predatory and exploitative activity, our theoretical planning will be merely an academic exercise.

On the one hand we are victims of our own experience, and so history establishes the mold of the future. Yet we are now in a period of history where we have learned enough to begin inventing the future. Each stage prepares us to apply even more creativity to historical change, thus increasing our creativity and generating new power that can provide an enormous increase to human freedom. No longer must man be a victim of the past, acting out habits over which he has no control. This new power to create new futures arrives at a fortunate time, for most of the old habits are not merely obsolete but suicidal. Clearly the mandate to education is to help facilitate this planning process, not merely for a better future, but in order to help assure that there be a future at all.

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