

# Industrial Society as Hubbard's Pimple

Is This The Unabomber's Manifesto?

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## **Abstract:**

This paper is not about the Unabomber; it is about his indictment of the entire techno-industrial enterprise as expressed in his 35,000-word “manifesto” published under threat of further mail bombings by The Washington Post in joint arrangement with The New York Times. The Unabomber’s claim is that as it grows exponentially, the industrial engine that technology drives creates the myth of empowering human life. With the exception of elites, the reality, he says, is exactly the opposite. While many, if not most, practitioners-the experts whose livelihoods and careers depend on continuing technical/industrial evolution-would acknowledge it has produced some unfortunate side-effects, environmental degradation being the most salient and recognized, the progress of technics, on balance, is a positive force. It enriches and empowers far more than it enslaves, disenfranchises and degrades. The system certainly needs guidance and tweaking-sometimes extensive-not dismantling, even if it were possible, which it is not. The Unabomber says no, the system cannot be tweaked, corrected or reformed. Out-of-Control Technics has turned into a virus that is killing its host. To get his message across, he mailed 16 bombs over a period of 17 years that resulted 3 deaths and 23 injuries. If he’s wrong, no real problem: business as usual. But, if he’s right, what if anything can be done? Can an anti-virus be found before time runs out?.

“He who can see truly in the midst of general infatuation is like a man whose watch keeps good time, when all clocks in the town in which he lives are wrong. He alone knows the right time, but what use is that to him? for everyone goes by the clocks which speak false, not even excepting those who know that his watch is the only one that is right.”

Schopenhauer

## **Introduction**

“To the Editor:

Although I deplore the criminal acts of the suspected Unabomber, I also find myself in begrudging admiration.

If Theodore J. Kaczynski is indeed guilty of the crimes that he is believed to have committed, he is a murderer and should be severely punished. But having said that, I also believe we should listen to what he has to say.

To have evaded the Government’s pooled technology and manpower for so long is a feat in itself. But the Unabomber seems a prophet, albeit a misguided one, a Thoreau gone berserk, emitting a hi-tech yell in the desert.

I read the manifesto, first published in The Washington Post and now, ironically, posted all over the Internet. It is an impassioned cocktail of anarchy and radical environmentalism. But his arguments are reasoned and often brilliant.

The Manifesto describes an unequal society, obsessed with and dehumanized by its machines, living beyond its ecological means and headed for disaster.

If nothing more, the essay is a testament to a man with the moral conviction and intellectual authority to question the order of things.

It is troubling that Mr. Kaczynski's reclusiveness and apparent disregard for appearance have been pointed to so hysterically.

Our society is obsessed with cheerleaders who march to the beat. We are suspicious of reflective souls and of intellectualism.

Not long ago this nation sat riveted to the murder trial of a fallen icon. It will be revealing to observe public reaction to the trial of the Unabomber and to gauge the manner in which each of us confronts the anarchist within."

THOMAS J. CAMPANELLA

Somerville, Mass., April 5, 1996<sup>1</sup>

## No Other Way?

"In November '92 the Union of Concerned Scientists released a warning to the Earth's peoples that we have only one or several decades left to avert a global collapse of our life support system unless we change our ways. The text of the warning is signed by 1575 senior members of the world's scientific community including 101 Nobel Prize winners."<sup>2</sup>

In paragraph 96 of his rather blandly titled manifesto "INDUSTRIAL SOCIETY AND ITS FUTURE," the Unabomber makes the following observation: "If we had never done anything violent and had submitted the present writings to a publisher, they probably would not have been accepted. If they had been accepted and published, they probably would not have attracted many readers, because it's more fun to watch the entertainment put out by the media than to read a sober essay. Even if these writings had had many readers, most of these readers would soon have forgotten what

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<sup>1</sup> Letter published on the EDITORIALS/LETTERS page of the Wednesday, April 10, 1996 New York Times.

<sup>2</sup> See Ken Burkhardt's introductory paper, "Universal knowledge Tools and Their Applications," Proceedings of the Third Canadian Conference on Foundations and Applications of General Science Theory, Ryerson Polytechnic University, Toronto, Ontario, Canada, 1993, p.12.

they had read as their minds were flooded by the mass of material to which the media expose them. In order to get our message before the public with some chance of making a lasting impression, we've had to kill people."<sup>3</sup>

No doubt he's correct. Outside of acceptance by some obscure small press with a handful of readers, there's no way his manifesto would have ever reached the public. And even if in the highly unlikely chance that it did get access to the general public through a widely circulated magazine or trade book publisher, as he says, few, if anyone, would take the time and effort to read it. Now had this man been an expert with the right credentials from the right institution (as Kaczynski, the Unabom suspect certainly was at the start of his brilliant but brief career in mathematics), researching, writing and citing in the accepted way, confining his focus to the narrow range of his expertise, his words would stand a fair chance of being logged and buried in some journal and credit added to the list of his publications. Outside of some citations from other experts in his field, that would be the end of it. Society would continue on its way without the slightest ripple.

For argument's sake, let's suppose that the Unabomber really does have a message, one that needs desperately to get through to the public. A message the experts have failed to recognize because it falls outside the slits of their concern. How in our society, in our time, with our technology, with the present state of mass media and its mass audiences would his message get through? The answer, of course, is no way. Because he is not writing in the field of his expertise, the communities of experts would ignore him because he doesn't belong to any of them. He's not a political scientist. Not a philosopher. Not a sociologist. Not an anthropologist. Not a historian. Not a journalist. Not an economist. He's neither an engineer nor a scientist. He's not even an actor, ball player or politician. As for the general public, even if avenues of access were available, which, as he has said, they are not, in a society where everything and everyone is now weighed in on a scale of entertainment, his "sober essay" would have pathetically few customers.

## Message 1: Exit the Power Process

As I read his manifesto, what the Unabomber is saying flies flat in the face of the conventional wisdom. The conventional wisdom says that though there will always be problems, environmental problems, social problems, misuse problems, on balance we rise up with the technics. We are more now than we ever were in the past. The greater the power of technology at our disposal, the greater, the more powerful are we. The more technology does for us, the greater is our freedom to do and be. Not so says the Unabomber. Just as Mickey Mouse, the Sorcerer's Apprentice commanding his legions of brooms to do his bidding, has become master of the universe, the sensation of power

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<sup>3</sup> The Unabomber Manifesto, published by the Washington Post in joint arrangement with The New York Times, Sept. 19, 1995.

we get when we engage powerful technics to do our bidding is an illusion. Though technology unleashes awesome power at our disposal, we, in our naked powers, as was so well portrayed in the film “THE GODS MUST BE CRAZY” are in fact far less able to engage in what he calls the power process than was the peoples we, in our arrogance, have bracketed off as primitive, backwards, underdeveloped.

The demands of survival in a world with no drive-up windows, called upon indige- nous peoples to set real, not surrogate goals for themselves in communal effort. While the natural world afforded no 401K’s, security was afforded by the knowledge, wisdom and skills passed intact from one generation to the next. While nature was at times capricious, one was not laid off from the community by the demands of investors for more profits.<sup>4</sup>

“48. We attribute the social and psychological problems of modern society to the fact that society requires people to live under conditions radically different from those under which the human race evolved and to behave in ways that conflict with the patterns of behavior that the human race developed while living under the earlier conditions...”<sup>5</sup>

## Message 2: And With It Freedom

The other major beef the Unabomber has with industrial society, one that is inti- mately linked to the short circuiting of opportunities for engaging in the power process is the near total elimination of freedom. On paper we live in a free society. On paper our nation was born under the banner of freedom. But, despite continuing lip service given to its supreme value, freedom joins empowerment as far more illusion than reality.

The Unabomber defines freedom as “94... the opportunity to go through the power process, with real goals not the artificial goals of surrogate activities... Freedom means being in control (either as an individual or as a member of a SMALL group of the life- and-death issues of one’s existence; food, clothing, shelter and defense against whatever threats there may be in one’s environment. Freedom means having power; not the power to control other people but the power to control the circumstances of one’s own life. One does not have freedom if anyone else (especially a large organization) has power over one, no matter how benevolently, tolerantly and permissively that power may be exercised. It is important not confuse freedom with mere permissiveness.”<sup>6</sup>

Given that definition, the percentage of people in industrial society with a significant measure of freedom is truly minuscule. With the exception perhaps of the tiny and dwindling minority of family farmers who can still provide for their own sustenance,

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<sup>4</sup> For more on this, see my essay, “An Eastern Exposure on the West,” THE WORLD & I Magazine, June, 1990, pp. 606–617.

<sup>5</sup> The Manifesto.

<sup>6</sup> *ibid.*

evolving technics has rendered just about all of us totally dependent for life-and-death issues on industrially organized circumstances beyond our control.<sup>7</sup> This massive and growing dependency was highlighted most saliently by a week long series of articles The New York Times published on the individual, family and communal impacts of corporate “downsizing.”<sup>8</sup>

## Enter the Second Law

“Living fire begets cold, impotent ash. He sighed deeply again.”

THINGS FALL APART Chinua Achebe

If I’m reading him right, the Unabomber is saying that the power being concentrated in exponentially advancing technology is, with the exception of elites, the experts who for a brief time in their lives are empowered as they service the needs of the system, robbing humanity of the opportunity to engage in the power process. The feedback of this denial is the usurpation of freedom. In place of the opportunities to satisfy these fundamental needs, something that was part and parcel of communal survival in nature un-man modified, we are offered vicarious rewards, simulated accomplishments and endless, ubiquitous distraction to insure that few get to thinking too deeply about what’s really going on.

Elites excepted, society does not rise up ‘with the technics. In fact just the opposite. Rising technics feeds not only on existing reserves of order in the biosphere leaving in its wake environmental chaos, it also devours the sociosphere: children, teenagers, adults, families, communities, cultures, societies.

Is there any principle we can cite that might add support to the argument that conventional wisdom regarding rising technics is a media fed illusion? The answer is yes. It’s called The Second Law of Thermodynamics.

The Second Law tells us it is impossible to lower entropy one place without raising it someplace else. Lowering entropy means raising order and the power it confers. Raising entropy means dissipating order, draining power. Enormous and accelerating power is being focused in the technosphere. Given the reality of the Second Law should we be at all surprised in the side-by-side explosion of individual, social and environmental chaos — the soaring entropy of species extinction, vanishing languages, cultures and rainforests, source and sink resource consumption driven by Third World poverty, exponentially growing human population and First World homelessness, crime, addiction, violence, breaking down families, schools, communities, adolescent suicide and single motherhood, dissipating attention spans, vanishing skills, escalating boredom

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<sup>7</sup> To find out about a small community that is actually engaged in attempting to reverse the techno-clock, write for the first issue of PLAIN Magazine at The Center for Plain Living, P.O. Box 100, Chesterhill, OH 43728. It’s free. P.S. You won’t find them on the Internet and they have no phone.

<sup>8</sup> The New York Times, March 3 through March 9, 1996.

and the ill health of too little exercise and too much fat that seems to be tagging along with artificial intelligence, expert systems, advancing robotics, Digital High Definition Television, the World Wide Web, cellular phones, 32 bit video games, brilliant homes, personal satellite navigation, financial derivatives, electronic money, on-demand \$100 million movies, intelligent agents, virtual reality, surround sound ads and spectacular special effects?

## Rise Up or Fall Dow? Thump, Thump, Thump!

“The opportunity cost of the three-hour average time per day spent watching television in the United States adds up to something like a trillion dollars per year, enough to pay off the national debt in two years.”<sup>9</sup>

Nathan Keyfitz

Well then if, in accord with the Second Law, both society and the environment are being dissipated by the voracious and escalating appetite of advancing technics for any and all existing sources of power and sinks for its wastes, why is it that the mass media so effectively ignores the message? If there is indeed a distinct possibility that the conventional wisdom is wrong, on balance we do not rise up with the technics, we are, as Lewis Mumford and so many others have said, driven down, one would think the affected should know.

As a case in point take one particularly powerful, incredibly successful technology: Television. Can we honestly say that television from the time of its introduction until now has been a force of elevation in human society? Are we more now as people because we have access to 100 channels going on 500 than we were 50 years ago? sure there have been many many great programs and series over the years. But, what do most people watch these days? PBS? Hardly. If you don't watch much television, take a look at what's on, take a look at the shows that get the highest ratings, the soaps, the sitcoms, Jerry Springer, Ricky Lake and Jenny Jones, “Baywatch,” “Married with Children,” “Melrose Place...” and answer the question yourself.

“Compared to the worlds of imagination provided by play with dolls and blocks, [video games] ultimately represent impoverished cultural and sensory environments for the child.”<sup>10</sup>

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<sup>9</sup> Nathan Keyfitz, “The Family That Does Not Reproduce Itself” in BELOW-REPLACEMENT FERTILITY IN INDUSTRIAL SOCIETIES, Davis, K, et. al. Editors, vol. 12, 1986, p.141.

<sup>10</sup> Eugene F. Provenzo, VIDEO KIDS, Boston: Harvard, 1991, p.97.

## Video Kids

Do we rise up with the technics? Ever hear a “boom car” go by? Thump. Thump. Thump. With the possible exception of the Unabomber, who hasn’t. The audio technics are superb. The raw sound, awesome. They even have competitions to see who’s the loudest. Some systems with thousands of watts reach volume levels that can literally puncture ear drums or kill; 150 dB or more. But, what’s the result? Dead hearing, dead feelings, maybe even some dead listeners. Sure this is an extreme untypical example. But revealing. It’s a clear case of the myth of empowerment turned upside down. The system conveys not power, but the illusion.

Not very many years ago, children used to play with simple blocks, dolls that just lay there, sticks that became trains. They had clay and pencils, crayons, paint and glue, paper, cardboard boxes, dominoes, marbles, sand, mud and your basic piano. With things so simple, the kids were forced to use their imagination, to create from ground zero, to boot themselves up and out of boredom. Today they have dolls and robots that walk and talk and poop and make babies. Today kids no longer have to draw or paint with the real stuff. Today they have computer paint and draw programs. All they need to do is move and click. The computer creates some real neat stuff. It even goes bloop, geep, gop whenever the child goes click. Crayons, pencils, paints and paper never did that. But, with all that the computer is doing, what exactly is the child doing? What skills does she develop, what insights does she gain, what exactly does *she* create by moving and clicking a mouse?

## Always Sounds Great, but...

As the Unabomber has observed, if you look at each new technology by itself, it always sounds great because it promises to do something for us that’s never been done before. He focuses on genetic engineering. Well the promise of eliminating genetic defects, especially to those with genetic problems, seems nothing but positive. Yet, when you eliminate this, manipulate that, the sum of changes begins to create a whole different ballgame, one with some pretty ominous implications.

The computer is a technology that has done wonders for us as a species. Surely we are so much more now with our Pentium processors and easy access to the World Wide Web than we ever were before. Each significant advance in computer power (that seems to be all that counts) is greeted with applause. Moore’s Law of doubling power every 18 months is still going strong. University and industrial researchers are going all out to create unbelievably short switching times. Power is good. More power is better. The most power is the best. Who can argue with that?

When you look at each particular advance in computer technics, just as in genetic engineering, it comes out smelling good. ATM machines allow 24 hour banking at our convenience. No more weekdays 9 to 3. No more waiting on long lines. Ten years ago a

forty megabyte hard disk seemed super spacious. Compared to 1 or 2 gigabytes (“gigs”) that is now standard PC fare it seems like nothing at all. When the IBM PC/AT first came out around ’83, with its Intel 286, it was a quantum leap in state of the art. Now it just belongs in a museum of ancient technology. Ten years ago, though it was around, who ever heard of the Internet. Now, judging from all the hype, the only one without an e-address is the Unabomber. Today almost everything can be done without ever having to log off or get up: work, play, learning, virtual sex, virtual travel, shopping, banking, research, E-Mail, movies, MUDs, MOOs, Usenets. In a published excerpt from one of his letters written in Spanish to his pen pal in Mexico, Juan Sanchez

Arreola, “Teodoro” Kaczynski, the Unabom suspect, writes of how he would go about hunting snowshoe hares for food at night in winter:

“About these rabbits, which are called ‘liebres de raquetas’ (“snowshoe hares” in English), they are very beautiful and interesting, and also very useful, because often they have provided me with meat when, without them, I would not have been able to eat any. I can hunt them freely, without buying a license, and I do so with a .22-calibre rifle in the following way: during the night, I go out into the woods and I walk until I find some fresh tracks...”<sup>11</sup>

But of course we have no need to go out to hunt snowshoe hares for dinner in the dead of winter. From the comfort of our couch we can click to have pizza delivered with our digital computer television. It’s easy.

## But What is It Doing to Us?

Just as the sum of all good things from genetic engineering begins to emit a foul odor, so it is with the computer. The question that almost never seems to get asked either with computers or with television or virtually any other technological advance in Western society, is what is it or will it be doing to us?

While every improvement in computer hardware and software and power and speed seems right and good, what do we see when we step back and take it all in? What we see is a staggering dependency on a single ubiquitous technology? This massive and growing dependency — some would call it a worldwide addiction — has caused the irreversible loss of a huge range of human skills; physical, mental and social. We can no longer do the things we once did without the massive infusion of computer power. We can no longer think as we once did without computers. We can no longer interact as we once did without computers. And as the machines become increasingly linked in one colossal, unfathomable, uncontrollable global network, the Unabomber’s prediction

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<sup>11</sup> Unabom Suspect’s Letter translated by and published in the April 10, 1996 New York Times, p. A15.

of a total collapse of the entire technological enterprise actually becomes not so far fetched. Like an unstoppable cascading electricity blackout, a really potent network virus attacking one key system after another could precipitate a software Armageddon with unimaginable consequences. Just as diversity yields strength in ecological systems, so it is with human systems. In our headlong rush to embrace computer technics are we, the human species, creating a worldwide monoculture increasingly vulnerable to big-time collapse?

## **Sustainable Acceleration = Long Term Oxymoron**

Sustainability implies stability, a dynamic balancing of forces and counterforces. A world in which, as Gro Harlem Brundtland put it in *OUR COMMON FUTURE*, present action in consumption and production is not at the expense of future generations. But, advancing technology is a force of acceleration, an inherently destabilizing power, a thrust whose very essence is at odds with the ebbs and flows and returning cycles of use and replenishment that, for me at least, is the meaning of sustainability.

To sustain acceleration technics is compelled by the Second Law to consume existing reserves of order in source and sink. The greater the acceleration the greater the consumption. The image is that of a taking off jet leaving a cloud of spent energy in its wake.

But if advancing industrial technology creating systematic global acceleration and the sustainable future are incompatible; if the human species has indeed unleashed an apparently uncontrollable force whose primary manifestation is accelerating dissipation of biological, social and environmental order, why does it seem that so few people recognize what's going on? And the answer is: we're so wrapped up in our personal affairs and problems, overwhelmed with infotainment, pre-occupied with buying, repairing, accumulating and getting rid of what we've bought, that we just never step away from it all long enough to look. And if that's not enough, the acceleration may be in warp drive on the cosmic time scale, yet it may still not be fast enough to produce the kinds of changes in our lives that set off the alarms. Without some kind of anchor point or distant perspective from which to stand back and see where we're going, it may be just too difficult to feel the changing current, to sense we may be in an accelerating river heading for the falls.

To take in that big picture of technics, culture and consequences, we need to step out and away from the habits and myths of our local context. One woman who did just that was Helena Norberg-Hodge. Her account in *ANCIENT FUTURES / Learning from Ladakh* of the extremely rapid cultural changes she experienced in the remote Himalayan culture of Ladakh, in the 16 half-years she spent between 1975 and 1991, can tell us a measure of what's happening to us.

What Norberg-Hodge found when she first arrived in Ladakh in 1975 was a culture that was sustainable in the most trying of environments. For more than a thousand

years, Ladakh had a population that was stable, it wasted no resources, it passed on the knowledge of surviving, security, stability, wisdom and some might say the art of happiness from one generation to the next with no major hangups on the communications bus. By 1991, just 16 years later, their ancient sustainable culture was on the verge of extinction by way of the massive incursion of Western based technics into their society. Here's an excerpt from *ANCIENT FUTURES*:

“When I first arrived in Ladakh the absence of greed was striking. As the Development Commissioner observed, people were not particularly interested in sacrificing their leisure or pleasure simply for material gain. In those years, tourists were perplexed when people refused to sell them things, no matter how much money they offered. Now, after several years of development, making money has become a major preoccupation. New needs have been created.

The messengers of development — tourists, advertisements, and film images — have implicitly been telling the Ladakhis that their traditional practices are backward and that modern science will help them stretch natural resources to produce ever more. Development is stimulating dissatisfaction and greed; in so doing, it is destroying an economy that had served people's needs for more than a thousand years. Traditionally the Ladakhis had used the resources in their immediate vicinity with remarkable ingenuity and skill, and worked out how to live in relative comfort and enviable security. They were satisfied with what they had. But now, whatever they have is not enough.

In the sixteen or so years since development first came to Ladakh, I have watched the gap between rich and poor widen; I have watched women lose their self-confidence and power; I have watched the appearance of unemployment and inflation and a dramatic rise in crime; I have watched population levels soar, fueled by a variety of economic and psychological pressures; I have watched the disintegration of families and communities; and I have watched people become separated from the land, as self-sufficiency is gradually replaced by economic dependence on the outside world.

When I saw a brass pot replaced by a pink plastic bucket, or yak-hair shoes thrown out in favor of cheap modern ones, my initial reaction was one of horror. But I would soon find myself thinking that I had no right to impose my aesthetic preferences or tell people what was good for them. The intrusions of the modern world might seem Ugly and inappropriate, but surely they brought material benefits. It was only after several years that I began to piece these individual instances together and see them as aspects of a single process: the systematic dismantling of Ladakhi culture. I began to see the minor incremental changes in everyday life — a new pair of shoes, a new concrete house — as part of the bigger picture of economic dependence, cultural rejection, and environmental degradation-

As these connections became clearer to me, I grew suspicious of what is known as 'development.' This process of planned change, which was supposed to raise the standard of living through technological advance and economic growth, seemed to be doing more harm than good. I realized that the creation of greed was part and parcel of much broader changes. The development of Ladakh, as everywhere else in the world,

required a massive and systematic restructuring of society that presupposed enormous and continual investments in ‘infrastructure’<sup>1</sup>: paved roads, a Western-style hospital, schools, a radio station, an airport, and, most importantly, power installations. All this involved not only the expenditure of exorbitant sums of money but also massive inputs of labor and administration. At no stage was it even questioned whether or not the result of these tremendous efforts constituted an improvement on what had existed before. It was like starting from zero, as if there had been no infrastructure in Ladakh before development. It was as if there had been no medical care, no education, no communication, no transport or trade. The intricate web of roads, paths and trade routes, the vast and sophisticated network of irrigation canals maintained over centuries: all these signs of a living, functioning culture and economic system were treated as though they simply did not exist. Ladakh was being rebuilt according to Western guidelines — in tarmac, concrete, and steel.

As one of the last subsistence economies to survive virtually intact to the present day, Ladakh has been a unique vantage point from which to observe the whole process of development. Its collision with the modern world has been particularly sudden and dramatic. Yet the transformation it is now experiencing is anything but unique; essentially the same process is affecting every corner of the world.”<sup>12</sup>

## Conclusion

In sum Helena Norberg-Hodge’s experience in Ladakh tells us that the insertion of massive scale industrial technics into a stable, locally self-sustaining, society has overnight wiped out its ability to survive on its own. The irreversible dependencies on external resources and powers beyond the Ladakhi’s comprehension, say or control has made returning to pre-1975 sustainability a practical impossibility. In a self-sustaining society, which for a thousand years was Ladakh, one could go forwards and backwards in time with no systematic gain or loss in potential. Ladakhi culture locally consumed order at the rate of its arrival from the sun leaving the no net gain in entropy / no net loss in potential. Because the 2<sup>nd</sup> Law is always waiting in the wings, lusting for chaos, sustaining zero entropy change over time demanded a very high degree of societal order; an order grounded in cohesive individual, family and community effort supported by an enduring Buddhist tradition.

But, when external industrial technics was introduced, its impact was the shattering of cultural and religious bonds and the dissipation of individual powers. The incursion opened the flood gates to entropy. While entering under the guise of development, of progress, the reality of what Ladakh became for the outside industrial world was not the recipient of its benevolence, but a fresh new sink for the engine to dump its load of chaos. In this, the effect of large scale technics on Ladakh is at bottom no different

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<sup>12</sup> Helena Norberg-Hodge, *ANCIENT FUTURES / Learning from Ladakh*, San Francisco: Sierra Club Books, 1991, pp. 141–143.

than the illusions of empowerment through consumption that we experience under the spell of ads.

Were it possible, a test of true benefit might be afforded by the sudden removal of the external sources of power from Ladakh. Ladakhi society was self-sustaining sixteen years earlier. Could they return to that way of living now? An elderly Ladakhi had this to say at a village meeting when one of the young speakers vehemently opposed the notion that the youth were both ignorant and contemptuous of traditional farming practices:

“Sure! Ask them to saddle a horse, they put it on backwards. Ask them to yoke a *dzo* [a hybrid between the local cow and yak], they run away scared. They buy expensive rubber boots that fall apart before you get to the top of the pass. We wore shoes we made ourselves that were warm and comfortable, and carried needle and thread and could repair anything we needed to in a minute. We stood on our own two legs and knew how to make use of everything around us. That’s what you mean by ecology, isn’t it?”<sup>13</sup>

The line of advancing technics is such that no one, not even the experts, is safe from disenfranchisement. If you extrapolate technics to its final conclusion there are no humans left in the equation. Trace out the endpoints of artificial intelligence, robotics, expert systems and now “nanotechnology” and one sees very clearly the target. The removal of people from the loop. The only reason we have not seen downsizing on a more massive scale to date is that it’s proving far more difficult to eliminate the human touch than was anticipated by the prophets. Still this is no comfort to the hundreds of thousands whose jobs have been purged by advancing technics in hardware, software and organization over the last few years. The ideal system of finance and industry is production with no salaries, no benefits and no complaints. The response of Wall Street to news of impending layoffs is total enthusiasm. The stock roars up.

If per chance, the Unabomber’s indictment of technological society has a strong measure of truth, then practically speaking, what should be done, what can be done? One would think most parents would want their kids to inherit a world undiminished in resources and potentials, just as it was once in Ladakh not very long ago. Unfortunately, with everybody acting in what seems to be the best interests of themselves and their kids, which in our rapidly changing technological society translates to asking no questions, harboring no doubts, Hardin’s tragedy of the commons creeps in and collectively bleeds the resources and potentials dry.

At the moment the consumers of most of the planet’s resources — the so called First World — can continue to put off, to mask the consequences of consuming beyond the earth’s ability to replenish and repair. They do this by displacing entropy south, east, on the other side of the Himalayas or just the other side of the tracks. But, if we’re

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<sup>13</sup> *ibid.* p. 176.

talking long term, the situation is unstable, it will not go on. In the Middle East we are seeing a small taste of what desperation produces. Suicide bombers. If conditions in the United States continues to deteriorate whether it be the result of continuing corporate downsizing in the name of global competitiveness or the transference of more and more of the work to places where huge and growing populations will do the job at slave labor rates or the continuing transfer of wealth into fewer and fewer pockets, the Unabomber will not be alone.

Clearly the only solution with a future is what deep down we all know; sustainability as Brundtland defined it. We must leave the earth undiminished in resources and potentials from generation to generation as in Ladakh and in hunter-gatherer societies for millions of years. We cannot continue to mask our consumptive folly by dumping the consequences of our excesses where we cannot see them. We cannot continue to develop technologies that sustain their acceleration by cannibalizing order from everywhere else. We must stand back from the line of greatest advance, from all the exciting stuff, and really look hard at where this is all taking us.

## Epilogue

We are, from the moment several million years ago when we first fashioned a tool to multiply our powers, technological animals. There is no escape from technics. Technique, as Jacques Ellul reminded us in *THE TECHNOLOGICAL SOCIETY* is everything, even if its only the technique of hunting snowshoe hares for food in the middle of a winter's night. The FBI has said the Unabomber's mail bombs were expertly crafted as was the carved wooden pencil case he sent as a gift to his Mexican friend. Along with his mathematics, both represent very high order of technical skill. Only the ends were diametrically opposed.

If we really have no choice but to be what we are, technological animals, and we've collectively become so good at being what we are that we've set in motion forces gone beyond our control, forces, which, by Newton's 2<sup>nd</sup> Law are combining to produce a global acceleration which the other 2<sup>nd</sup> Law insists must devour the planet and ourselves to boot, then what are we, the affected, to do?

If we take the Unabomber's manifesto at face value, there is no hope, no tweaking, no overarching policies, no reform, no books, no papers, no conferences, nothing but total destruction will keep the engine from eating all life on the planet and with it ourselves. The ultimate James Bond ending, where with Bond's help, the evil empire blows up in one titanic ball of fire. I'd like to think that as smart technological animals we can do a lot better than that.

Towards the end of creating a sustainable future there have been no shortage of proposals. Most focus on ways to reduce population growth in the South and East while simultaneously reducing per capita consumption in the North and West. Dealing with the dynamics of poverty, creating a more equitable distribution of wealth, the

education of women, creating technologies that produce more efficiently with less end-of-pipe waste and more holistic design from the start. Sustainable development where there is underdevelopment, redefinitions of GDP to internalize human and ecological costs, schemes of taxation that reward long term ecologically responsible industry and finance and penalize manipulation — mergers, acquisitions, derivatives... — for short term gain regardless of consequences.

While most, even all, of the proposals aim in the right direction, the problem is few if any of the proposers take in anything close to the full magnitude of the problem including the huge barriers that stand in the way of their practical implementation. Smart tax schemes are put forth, but who is going to implement them when they propose to take money away from the powerful?<sup>14</sup> In a financial system that overwhelmingly rewards short term earnings regardless of how they are acquired — cigarettes or cookies, hamburgers or for-profit hospitals — any company that sacrifices short-term maximization risks takeover or going-out-of-business. Exponential population growth must be brought to a halt, but how when business sees more people as more consumers, the religious right sees more people as more power / more souls and few would have the audacity to tell someone else they're having too many kids for the sustainable future. Per-capita consumption must be reduced, but when you turn on the TV every ad tells viewers the exact opposite. A more equitable distribution of wealth is what's needed, but wealth and power don't voluntarily get redistributed. The accelerative cannibalizing of sinks and sources has been attributed to the global imbalance of male and female power, of the abstract and global over the concrete and local, yang and yin,<sup>15</sup> but like the redistribution of wealth, the domination of male values by way of the power they yield in business, politics, war and academics in a male created world won't be just given up. The sustainable future demands a coherence of purpose that embraces the whole of our species, but on a globe of multiplying numbers where competitiveness is all, its not we but us against them, me against you.

These qualifiers represent just a taste of the formidable barriers standing in the way of a steady state future. While there are communities like the Quaker based Center for Plain Living that are attempting to turn back the clock, to live with radically lower throughputs of energy, to center their focus on the local and personal to the exclusion of global and abstract (not think global act local but think local act local), their aims while necessary are not sufficient. Just as the Amish have much to teach us as they weigh acceptance of new technologies against their possible impacts on the community, their valuing of huge families by way of "be fruitful and multiply" is out of joint in a world approaching 6 billion. Just because we may have gone overboard on male based abstraction, doesn't mean this is the time to give it all up. It's not male global thinking that's at fault but the absence of connection to the female and local.

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<sup>14</sup> See Al Gore's *EARTH IN THE BALANCE*, Boston: Houghton Mifflin, 1992.

<sup>15</sup> See Fritjof Capra's *THE TURNING POINT*, New York: Bantam, 1993.

On a graph of fossil fuel consumption versus time on the cosmic scale, reserves accumulated over tens of millions of years vanish in a single very high and narrow bump generally known as Hubbard's Pimple. If we just consider oil, the bump is sharper and narrower. The existence and extraction of fossil fuel has been and still is the material driver of industrial society as we know it. What fossil fuel has allowed our species to do is consume order — energy that is potent and usable — at a rate far in excess of its capture rate from the sun. In so doing, we have turned the planet into a sink not of order, as was the case for billions of years, but entropy. In so doing we in our chutzpah and foolishness have rendered the Second Law triumphant. The ills of biosphere and sociosphere we now see with increasing force are evidence of increasing global entropy driven by the excesses of industry, the abstractions of economics and finance, the absence of vision in political leadership and sheer human numbers.<sup>16</sup>

William Ophuls, in his *ECOLOGY AND THE POLITICS OF SCARCITY*, noted that we are fast approaching crisis conditions, yet continue to move precisely in the opposite direction to what's needed to reduce the consumption. As Ophuls wrote "The ecological crisis is in large part a perceptual crisis: ordinary human beings simply do not see that they are part of a delicate web of life that their own actions are destroying, yet any viable solution will require them to see this."<sup>17</sup> That was in 1977. Now, almost twenty years later, nothing fundamental has changed. Twenty years of fossil fuels is now gone. Twenty years of carbon dioxide pumped into the sky. We continue to consume more and more per capita as the reach of media telling us to equate the good life with consumption penetrates wider and deeper, as more and more people inhabit the planet. What is needed said Ophuls is a paradigm change, a new world view compatible with the realities of the human ecological condition. "Once such a 'paradigm' change has occurred — once people have chosen to adopt ecological limitations deliberately as a consequence of their new understanding — then practical and human solutions will be found in abundance."<sup>18</sup> The people at The Center for Plain Living have chosen that new paradigm, a paradigm of across the board lowered consumption. The society that surrounds them is light years away from considering them as anything but odd.

The problem then, as I see it, is that fossil fuels have allowed us to consume useful energy and materials at a rate far in excess of what would have been possible without them. Because this has thrown the balance of use and replenishment from the sun out-of-wack, we are left with exponentially mounting social and environmental, local and global, source and sink dissipation. The entire system can be viewed as a planetary dissipative structure with accelerating order being focused in the technosphere payed for by its extraction from its environment, the sociosphere, biosphere and geosphere. If

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<sup>16</sup> See my papers "Order Out = Order in" / A Conceptual Tie to a Sustainable Future", *Proceedings of the 1993 ISTAS Conference* and "The Problem of Acceleration / A Disorder of Orders", *Proceedings of the 1995 ISSS / ISTAS Conference*, Ryerson University, Toronto, Ontario.

<sup>17</sup> William Ophuls, *ECOLOGY AND THE POLITICS OF SCARCITY / Prologue to a Political Theory of the Steady State*, San Francisco: W.H. Freeman, 1977, pp. 222-223.

<sup>18</sup> *ibid.*, p.223.

this transfer of power continues, the support structures for life will become increasingly vulnerable to massive if not total collapse. If and when this happens, all four spheres will go down together.

The Unabomber says that such a collapse is inevitable. There is insufficient human cohesiveness, a void of common purpose, an absence of realization that we're all in this boat together, for its avoidance. His hope is that the coming collapse will not be total and the survivors will be given the opportunity to start out fresh, perhaps once again as hunter-gatherers. Because we will have already drained most of the fossil fuel reserves when this happens, because they will be compelled to survive in a world of scarcity, depleted of opportunities for foolishness, their chances for carrying on sustainably as their ancestors once did for millions of years might actually be good.

Can such a collapse which inevitably will entail enormous human suffering and death, with no guarantees that we will not drag down the rest of life with us by, for example, triggering a run-away Greenhouse Effect turning earth into another Venus, be avoided? As Donella Meadows and her co-authors have argued in *BEYOND THE LIMITS TO GROWTH*, the longer we-the-species waits, the more inevitable is massive if not total collapse.<sup>19</sup>

How then can the message that we are the frogs in that slowly heating water get through, that we must put aside our differences and act together as one with all of life in common purpose? How can we build and restore the inner order that must needs compensate for reducing our consumption of the external order and find happiness to boot? it's something to think about.

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<sup>19</sup> See Meadows, D. H., et al. "*BEYOND THE LIMITS. / Confronting Global Collapse / Envisioning a Sustainable Future*." Post Mills, Vermont: Chelsea Green, 1992

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