



GREEN HORIZON

Magazine

..... AN INTERNATIONAL JOURNAL PUBLISHED BY THE GREEN HORIZON FOUNDATION



Grandfathers of the Green Movement



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The four “grandfathers” shown on the cover articulated the foundational ideas and aspirations that ultimately manifested in the modern “greening of society” movement and its associated ecological-political electoral expression. They are all mentioned at some point in one or another article of this issue. Can you name them? The answers are at the bottom of page 35.

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Continuation Appeal

What became the Green Horizon project actually dates back to 1992. In that year Barbara Rodgers-Hendricks created a newsletter for the Green Politics Network called “Green Politics News.” Then, in 1993, John Rensenbrink convened a working group (Jane Livingston of Maine, Lee Richards of Pennsylvania, Susan Sklar of Rhode Island, Sam Smith of D.C., Michael Twombly of California, Tony Affigne of Rhode Island, and John) to “shift to a more ambitious format.” The team settled on the name *Green Horizon*.

Meanwhile, during the '90s, I had been circulating a newsletter for the Green Party of New Jersey called “Jersey Greens Journal” (it was tongue-in-cheek intended to be an alternative to The Wall Street Journal, the production of which was, at the time, located in our state). When John had the idea to formalize the Green Horizon newsletter into a quarterly magazine he approached me to co-edit. I thought his conception sounded great. So *Green Horizon Magazine* was launched in 2003. We were gratified that the reception was overwhelmingly positive. And for

more than twenty years contributions from writers, photographers, artists, production professionals, and sustainers enabled us to thrive. But, needless to say, John Rensenbrink was key to the success and the endurance of the magazine. Not only was he the primary editor, he also was the indispensable fundraiser for the project. Since he passed in the summer of 2022 the human and material resources to keep publishing have been diminishing.

So: this is a call for supporters to help us locate a new production team. New energy and resources are needed. New formats and distribution channels could be considered.

If you agree with us that continued coverage of the worldwide Green politics movement is imperative in this critical historical period, please get in touch. Let us know if you might be interested in becoming part of a new publication team or if you have someone in mind who might be able to contribute in that way. Email: Green.Horizon.Foundation@gmail.com.

Thanks, and here’s hoping . . .

—Steve Welzer

THE TEAM

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John Rensenbrink, 2003-2022

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A Grandfather of the Green Politics Movement

*“In 1966 it dawned upon me that the industrial society in which we live and that we take to be normal, desirable and permanent, is in fact aberrant and destructive, and that rather than further increase our dependence upon it, we should, on the contrary, reduce such dependence. It was to argue the case for such a policy that in 1969, I, together with a few like-minded colleagues, set up *The Ecologist* magazine and that we published, three years later, our “Blueprint for Survival” which obtained a lot of publicity and helped trigger off what is now the Green Party in the UK.”*

—Edward Goldsmith

Edward Goldsmith was born two months after John Rensenbrink in 1928. Teddy died in 2009 and John in 2022. By that time, under the influence of those two visionaries, and like-minded others, a profound new ideology—distinctive from liberalism, conservatism, nationalism, libertarianism, socialism, etc.—had become recognized by electorates worldwide as a significant political alternative.

Even in the United States, where contestation has supposedly been narrowed to a dyadic relationship between two catch-all “umbrella-ideology” parties, voters have started to get a sense of there being four viable choices—in addition to the establishment Republicans and Democrats, candidates of two minor-but-enduring parties regularly appear on ballots and get included in polling surveys: the Libertarians and the Greens.

The distinctive ideological basis of the international Green politics movement was well expressed in John Rensenbrink’s magnum opus, *Ecological Politics*, published in 2016. Acknowledging this, many Greens in the US fully appreciated John’s contributions. But few remember how seminal were the writings and activities of Edward Goldsmith, probably because his influence was felt mostly in the UK. Yet in many ways those two movement luminaries were remarkably similar: they were both outstanding theorists, writers, editors, speakers, organizers, and campaigners! They both were instrumental in the creation of Green parties in their respective countries.

In England, Goldsmith’s 1972 treatise “A Blueprint for Survival” was a major inspiration for the embryonic political party at first called “Peoples.” It held its initial public meeting in February 1973 in Coventry. Though it went through some name changes during its early years (from “Peoples” to “Ecology” to “Green”) it was later recognized as the first Green Party in Europe.

After publishing his “Blueprint” in *The Ecologist* magazine, Teddy had founded an organization called Movement for Survival. He merged it with the fledgling party in 1974. The “Blueprint” became their “Manifesto for Survival” (re-issued in expanded form in 1975 as “A Manifesto for a Sustainable Society”). The party invited Goldsmith to stand for the Eye parliamentary constituency in Suffolk as their candidate in the February 1974 general election. His campaign focused on the threat of desertification from the intensive farming practiced in the area... which he emphasized by parading around with a Bactrian camel!

He campaigned all around the constituency accompanied by the camel and supporters dressed in the garb of Arab sheiks, the implication being that if modern oil-intensive farming practices were allowed to continue, the camel would be the only viable means of transport left in Suffolk. His unorthodox campaign succeeded in attracting the media’s attention and highlighted the issues. He again ran for office for the then-renamed Ecology Party in the European Parliament elections of 1979.

John Rensenbrink often commented on the prescience of Edward Goldsmith. A sense of the latter’s impact can be gleaned from tributes to the “First Political Green” published after his passing in 2009. Several are reproduced below . . .

* * * *

Teddy Goldsmith (1928-2009)

BY PETER BUNYARD 9/1/2009

Edward Goldsmith died on August 21st, in Tuscany, in his hill-top house, a converted convent, which overlooked one of his favorite places in all the world, no less than the medieval city of Siena. For Teddy, Siena embodied much of what he believed in: a human-scale city with ancient roots going back to the Etruscans, where civic pride and a vibrant living culture was the result of centuries of republicanism and popular participation in the running of the city and where everyone knew everyone else. And the Siennese acknowledged Teddy as one of their own, such that, when word got out, just days before his death, people flooded in from the city to pay their respects to a man whom they admired for his wisdom, humanity and, no less, his sense of fun.

Teddy Goldsmith, 80 when he died, has left us a lasting legacy of ecological thought as expressed particularly in his book *The Way: An Ecological World View* and as co-editor, with Jerry Mander, of *The Case Against the Global Economy*. But it will be as founder, publisher and sometimes editor of *The Ecologist* magazine that he will probably be best remembered.

When I was introduced to Teddy in 1968 it was shortly after Norman Lewis’s apocalyptic account in the *Sunday Times* of government-sponsored genocide in the Brazilian Amazon. One

of the reactions to that article was the foundation of Survival International, the organization which, par excellence, has fought for indigenous rights across the planet, and it was there in the offices of the nascent organization that Teddy met Robin Hanbury-Tenison, its founder and director, as well as Robert Allen, who then became Teddy's right-hand man in the launching of *The Ecologist* and was one of the writers of "A Blueprint for Survival."

We had debated what to call *The Ecologist* and when we finally settled on the name we basically threw down the gauntlet to all those academics in their ivory towers who believed that ecology was their discipline and theirs alone. When Teddy attempted to join the British Ecological Society, his application was roundly rejected, a rejection which only confirmed him in his opinion that contemporary ecologists, with rare exception, did not understand the nature of ecology! As he later argued in the pages of the magazine and then in *The Way*, natural ecosystems are a composite of complex interacting systems which serve to provide stable conditions for the whole, thus resisting change. Teddy stressed that the wisdom of nature, the consequence of more than three billion years of evolution, manifested in an inclination toward homeostasis. He therefore very much embraced the ideas of the German-born Richard Goldschmidt, a distant relative, who had pioneered ideas on macro-evolution and who, like Teddy, could not conceive of the ecosystem as primarily a random assembly of disparate parts fighting for survival in a sea of competition.

Not surprisingly, Teddy found himself very much in agreement with Stephen Jay Gould and Niles Eldridge and their 1972 theory of Punctuated Equilibrium in which they stressed that the evolutionary pattern from the paleontological record showed long periods of stasis followed by abrupt change. Their theory was very much in line with the notion of cataclysmic events (abrupt climate change as in the Permian, for instance) bringing about mass extinctions leading to dramatic evolutionary change followed by an extended settling-down period in which life once again stabilized its local environment.

Teddy, always the avid reader, was by then conversant with the General Systems Theory of the biologist Ludwig von Bertalanffy, who saw the emergence and evolution of ecosystems as the result of the relationships and interactions of the component organisms. Teddy extended that idea into the notion of the behavior of the parts being ordained by what was required to maintain the proper running and health of the next organizational level up. In essence, he stressed, the behavior of the parts should serve the requirements of the whole, just as a stable family structure would serve the community of which it was part and the community the well-being of the bioregion and so on, all the way up to "Gaia." Indeed, those ideas were undoubtedly a forerunner to James Lovelock's Gaia theory in which external physical parameters such as surface temperature and chemistry, and consequently climate, were maintained by the component living parts of the ecosystem at levels as close to the optimum as might be feasible at that moment in time and space.

TRIBAL INTERESTS

Teddy's fascination with tribal peoples is wholly understandable in the light of his conviction that the behavior of the parts helps

determine the well-being of the whole. That fitted in admirably with the anthropological functionalism of Bronislaw Malinowski, who from his experience in the Melanesian Trobriand Islands in the 1940s had come to the conclusion that reciprocity and exchange played a vital role in cementing relations between individuals and the society of which they were part, and that society combined with culture would arise as an emergent property of humans collaborating with each other. Add in the findings of Gerald Reichel-Dolmatoff, with his extraordinary experience of the indigenous peoples of Colombia, especially of the Sierra Nevada de Santa Marta and the Amazonian Vaupes, and you have a clear picture of the way that the behavior of the individual can serve to maintain their concept of ecological order and balance.

In fact, for the Amazonian Indian, such as the Tanimuka and Tukano, as well as for the Kogi of the Sierra Nevada, order is in nature and the cosmos; hence, to survive, the indigenous peoples must look to nature and in so doing, aided by acute observation, they become ecologists by culture. The health of the community therefore depends on respect for the natural order within the surrounding ecosystem.

Having published various articles on the cosmological vision of the Tukano and Kogi in *The Ecologist*, Teddy was later instrumental in raising support for Reichel-Dolmatoff during his last years, one outcome being the publication of *The Forest Within*. But, just as biologists did not like the idea of Gaia—for how could organisms comprising an ecosystem have any notion of how they should behave to satisfy the requirements of the whole?—so sociologists and behaviorists would not readily accept Teddy's view that a society composed of atomized, alienated, disparate individuals could not but fail to generate a healthy community and, in consequence, a healthy environment.

THE THREAT OF THE MARKET

The sociological economist Karl Polanyi was another source of Teddy's vision of the world. Polanyi's book *The Great Transformation* had a profound influence on how Teddy viewed the market and human interrelationships. The *Stone Age Economics* treatise of the anthropologist Marshall Sahlins and Roy Rappaport's studies of the Tsembaga of New Guinea all contributed to Teddy's conviction that a market, imposed from outside on a society rather than being embedded within it, would ultimately destabilize the society and cause its breakdown. Going still further, as he did in his book *The Stable Society*, Teddy believed that self-regulation and sustainability were unachievable in a capitalist market economy for the simple reason that such a market, with its ethos of perpetual growth, would override a community's perception of ecological limits.

Teddy loathed totalitarian regimes, of whatever political color and he was no racist: on the contrary, he reveled in the extraordinary diversity of cultures and peoples. But as an advocate of community integrity he saw danger were one culture to swamp and destroy another, as through mass immigration [consider the encroachment of Zionists vis-à-vis the Palestinians between 1880 and 1950—ed.] or through the imposition of colonial rule or, as is happening now, through the global market and mechanisms, such as the World Trade Organization, which force their trade rules and terms of negotiation upon hapless communities. In fact, Teddy

saw just how global trade, all in the name of “development,” had destroyed and was destroying traditional agriculture, particularly in countries such as India, with the net result of hundreds of millions of people being displaced from the land and having nowhere to go but to the slums of cities such as Delhi.

From the very beginning, Teddy used *The Ecologist* to express his views and to challenge the very tenets of capitalist-industrial society. As a result, when the Club of Rome’s *Limits to Growth* was published early in 1972, it provided him with the ammunition necessary for underpinning his conviction that our survival in Britain and in the world at large was at stake unless we put in place policies for achieving sustainable living. Such policies were then in direct opposition to those of most governments.

EMERGING CLIMATE

It was clear to Teddy and to those of us working with him that climate predictions based on purely physical parameters, while disregarding living organisms as a dynamic factor in the formation and tempering of climate, would misrepresent the changes caused through greenhouse gas emissions and global warming. As with so many environmental issues, and thanks to Teddy’s insights, we were ahead of the game. What we said, for example, in the special *Ecologist* issue on climate change in 1999 anticipated that which the IPCC (Intergovernmental Panel on Climate Change) later published in its Assessment Reports. Meanwhile, Teddy never doubted the important role of tropical rainforests in stabilizing global climate and that we were collectively mad to allow deforestation to continue on the scale of the latter part of the 20th century.

Quite aside from his deep intellectual understanding of what was happening in the world, Teddy was always wholly engaged in direct action to generate change, whether against the World Bank for its grotesque investments in the building of massive dams or against the further construction of nuclear installations. Certainly Teddy and others brought about a dramatic *volte face* in the World Bank’s attitude toward and support for big dam projects in the developing world, of which the Narmada Dam in India was a spectacular example. And it was Teddy who initiated our protest against the proposed construction of a nuclear power plant in Luxulyan just 6 miles from the homes of *Ecologist* staff-members in Cornwall. That he did with considerable aplomb, sitting himself on a piece of farm machinery placed in the entrance of the field where the CEGB (Central Electricity Generating Board) had decided to carry out test drillings. He refused to move, despite threats, and so the occupation of the site began, lasting for six months, until the CEGB finally went away!

It is not commonly known that Teddy, together with David Brower, the founder of the US branch of Friends of the Earth, established the idea of publishing a daily newspaper at major United Nation events. The first time those *Eco Papers* appeared was at the 1972 Stockholm Conference on the Human Environment, and we were all present—Robert Allen, Walt Patterson, Amory Lovins, myself, and (not least) Richard Willson, who by then was an integral part of *The Ecologist* with his unforgettable cartoons; their grotesque exaggeration matched Teddy’s unremitting critique of modernity and its socio-ecological impact.

SYNERGY WITH GAIA

James Lovelock’s Gaia Theory fitted in beautifully with Teddy’s ideas on the emergent properties of systems, and because Jim was living relatively close to Camelford, from where we were then publishing the magazine, we decided to hold a symposium on the implications of the Gaia Theory for ecology and the environment. Aside from Jim we invited Lynn Margulis, who had contributed so much to our awareness that bacteria basically run Gaia, whether free-living or embedded in the eukaryotic cell as chloroplasts or mitochondria. Brian Goodwin, Maewan Ho, Peter Saunders, Martin von Hildebrand, Andrew Watson, Peter Westbroek, Michael Whitfield, all came to that first “magical” meeting and later we published the proceedings. Soon thereafter we followed up with a symposium: Gaia and Evolution, and then a year later: Gaia and Symbiosis. Finally, we published a book, *Gaia in Action: Science of the Living World*, where we tried to embody some of the best contributions from those three meetings.

Carl Jaeger was present at the last two symposia. Some years before, in the United States, he had pioneered an education program involving experiential learning in which the students traveled abroad, accompanied by a mentor. He saw Teddy Goldsmith in just such a role. So, it was there in Cornwall that Teddy elaborated a study-abroad program on ecology, in the broadest sense of the word. 1991 was the first year with the students, the majority from various colleges and institutions across the United States, and the course, now transformed into “Rethinking Globalization: Society, Culture and Ecology,” remains popular.

Teddy’s ecological legacy lives on in so many of us who had the privilege to know him over the years. And we must remember, too, that his influence was worldwide, as marked by the fact that specific-country versions of *The Ecologist* now appear in France, Spain, India, New Zealand, Brazil, Colombia, Lebanon and Italy. Those are the result of the work of dedicated people who have been inspired by the writings of Edward Goldsmith, but more particularly by the generous humanity of the man.

Peter Bunyard served for many years as the Science Editor of *The Ecologist* and then as Director of the Institute for Environmental Studies at the Universidad Sergio Arboleda in Colombia.

* * * *

In remembrance

After his passing, The Ecologist re-published an interview with Edward Goldsmith that Paul Kingsnorth, a former deputy editor, had conducted for their March 2007 issue.

We live in curious times. The leader of the Tory party and the boss of Tesco compete to out-green each other. The prime minister is berated for his polluting vacations. There are millions to be made investing in renewable technologies, and becoming a “carbon coach” is a respectable career path.

Environmentalism has officially arrived, and anyone who’s anyone has a compost bin, a bicycle helmet or a ludicrously-priced

recycled jumper. If you're not on that new biogas-powered train, you'd better run before it leaves the station with all your friends on it, sipping fair-trade coffee and looking smugly down at you.

It might be hard for today's young, enthusiastic greenie to imagine a time when this was far from being the case; a time when being an environmentalist was the minority pursuit of a few oddballs, who society looked upon with the deepest suspicion; a time when organic food was for radical outsiders, not supermarkets, and climate change was not a nice little earner for pinstriped carbon traders but a far-out theory.

But just about four decades ago being "green" meant that you were on your own. To talk about it, let alone to try to live it, was no guilt-relieving lifestyle choice. You had to be prepared to be ignored, laughed at or dismissed. Instead of following the crowd, you had to walk away from it. Those who did so paved the way for what we have now. Like many prophets, they weren't recognized at the time. Some of them still aren't. The world has moved on, and much of what they did to lay the groundwork for the spread, finally, of green ideas and practices has been forgotten. Such is the fate of prophets. If they get it wrong, they are ignored. If they get it right—well, everyone says they agreed with them all along, and still they are ignored.

CASSANDRA

The green prophets of those bygone days were no exception. There was Rachel Carson, author of the classic *Silent Spring*, which first warned of the dangers of pesticides and environmental chemicals. There was James Lovelock, the maverick scientist whose Gaia Theory was sneered at for years by the peer-reviewed establishment, and who has only recently gained anything like mainstream acceptance. There was E. F. Schumacher, whose book *Small Is Beautiful* pioneered green economics.

And there was Edward Goldsmith. Now 79 years old and still ruffling feathers, Teddy was one of the most influential pioneers of the green movement, both in Britain and around the world. Determined, brave, inspiring, contradictory, stubborn, often right, sometimes wrong, frequently infuriating but always worth listening to, Teddy Goldsmith's life and career have closely paralleled that of the modern green movement, of which he was one of the founders. As his child finally grows up and flies the nest, his life and work are worth looking back on. Maybe it will even have some lessons for us.

"Of course," says Teddy now, "nobody listened to us at all. People seemed to think we were quite shocking at the time. In the Seventies I lived a very ecological life in rural Cornwall. I had a compost toilet that cost me all my friends." He pauses to relish the memory. "Quite a lot of people thought I was mad," he says.

RICHES TO RAGS . . .

Teddy Goldsmith came from a family of wealthy bankers. His father, Major Frank Goldsmith, had been a Tory MP and his brother James went on to become a controversial billionaire. Teddy himself went up to Oxford University in the Forties to study politics, philosophy and economics. A mainstream, establishment career seemed to be beckoning. But it didn't work out that way.

"I realized while I was at Oxford that everything I was being taught was nonsense," he explains with typical directness. "Everything was compartmentalized. It was impossible to see

From the very beginning, Teddy used *The Ecologist* to express his views and to challenge the very tenets of capitalist-industrial society.

the whole picture, or to get anyone else to do so. I found it all quite depressing, so I determined to find out why this was the case, and what the whole picture might be."

Upon leaving university, family money gave him a certain leisure to go searching for it. He spent several years reading things that interested him, seeking out his version of a coherent worldview. "For a whole year, for example, I read about nothing but cybernetics," he says. "But then anthropology grabbed me. It seemed to me that tribal societies had it right. The way they lived in a society with a social and ecological balance and stability seemed eminently sensible to me. After a while, I decided that reading about them was not enough, and that I wanted to see for myself."

These days, views like this are commonplace. Back then, "primitive" tribal people were not regarded as having any lessons to teach the rich world. Quite the opposite: they needed to be brought into its hallowed circle. Victorian attitudes still prevailed. They were backward, unenlightened, in need of help. Teddy had other ideas, so he embarked on a world tour of tribal societies with his friend John Aspinall, the famously misanthropic naturalist. While Aspinall studied the wildlife of the region Teddy lived with the people, and learned lessons that he says have stuck with him ever since.

"I still have my notes from those days," he says. "I spent a lot of time in Africa, in tribal societies, and one thing I became convinced of was that these were the only truly sustainable societies I had ever seen. That word is used a lot nowadays, but back then it meant nothing. It seemed extremely important to me, and here were people putting it into practice. Yet their very existence was threatened by the remorseless expansion of industrial society."

BEGINNINGS

When he returned to Britain, Teddy became involved in a fledgling organization known as the Primitive Peoples' Fund (PPF), which later became Survival International. "The more I thought and read and saw," he says, "the more it became clear to me how wide this problem was. Here were people talking about how these poor tribal people needed 'development,' and yet it was development that was destroying them. And it became clear to me that this applied to the wider society as a whole. Industrial development was responsible for the destruction of ecosystems the world over, and also for the destruction of human communities. It became clear to me that development was the problem, not the solution."

Many things have changed in Teddy's lifetime, but this is one idea which remains taboo today. From left to right, radical to mainstream, Tony Blair to David Cameron, Bono to the Socialist Workers Party, everyone agrees that "development," the golden

calf of our secular age, is A Good Thing. But by the beginning of the 1970s, Teddy was confident enough in his degrowth ideas to try to get them more widely heard. Having discovered a handful of similarly inclined radicals he decided to start a magazine. *The Ecologist* has changed considerably in its almost 40 years of existence, and will no doubt continue to do so. The first issue is already a historical document. It's a testimony to how far the green movement has come in the years since. The magazine has crystallized Teddy's take on the world better than anything else. He remained its editor until 1990, and a glimpse through its back issues is a glimpse through the developing politics of the green movement. It is also a glimpse into how prescient Teddy and his editorial teams were.

Not that things were always rosy. "We thought that first issue would sell around 20,000 copies," says Teddy. "It sold about 3,000. I couldn't afford to pay my fellow editor. So he left, and I was on my own." Things improved, though, and within two years, Teddy and a team he assembled decided to propound their ideas in a more substantial form. The ensuing "Blueprint for Survival" remains one of the most influential tracts in the history of the movement. It sold almost a million copies, influenced politicians, economists and many others, and helped finance *The Ecologist* for many years to come.

Teddy, meanwhile, and typically, was already moving on. The Blueprint had been so influential that it had led a group of young, keen environmentalists to float the idea of forming a political party; the first in the world to be based on green principles. That party—initially called: "Peoples"—was established in 1973, with its founding document based closely on Teddy's Blueprint. Within a few years it had changed its name to the Ecology Party. These days, it's called the Green Party. "We founded it a couple of months before a general election," recalls Teddy, "and they asked me to contest for a seat." Choosing his father's old constituency in Suffolk, he decided that he "needed a gimmick" to get noticed. John Aspinall lent him a camel from his zoo, which he used to highlight the issue of soil erosion in East Anglia. He paraded through the streets with the camel on a leash, bearing the slogan, "No deserts in Suffolk. Vote Goldsmith."

EVOLUTIONS

Over the next 10 to 15 years Teddy wandered, literally and metaphorically, as the environmental movement matured around him. In India he worked for the Gandhi Peace Foundation, discovering in the process that "Gandhi had got it completely right. Small, self-regulating societies are the most ecological there can be."

He was employed by the Canadian Ministry of the Environment to review its Third World Aid program. He set up the Committee on the Future of Nuclear Energy, which blew apart the economic case for nuclear power and shook the political establishment. With the then *Ecologist* editor Nick Hildyard he did the same to the case for large dams in the 1980s.

Meanwhile, he was at work on books of his own—*The Great U-Turn*, *The Way* and countless others—all of which hung on the one, central idea that had not changed in Teddy's thinking for 50 years: that decentralized communitarian societies are the

only ones that are fully sustainable, and that humanity gradually needs to return to such a way of life if it is to have a future.

Teddy's adherence to this notion has cost him friends and allies as the green movement has moved gradually away from it—and him—during his lifetime. A bit of historical context explains why. The early green movement had a wide variety of adherents and founders, from former communists to nationalists, and even some conservative eco-sympathizers. The early greens aimed to be "beyond left and right," to transcend not just contemporary political divisions, but industrial society itself. At that time few on the left or the right were inclined toward questioning development or economic growth.

With a "neither left nor right" perspective and ecology-centric focus, Teddy was willing to talk to anyone who would listen, regardless of their politics. In 1997 this cost him his fellow *Ecologist* editors, who resigned after Teddy had addressed a group of right-wing European politicians. His colleagues accused him of giving unnecessary succor to the right's attempts to co-opt green ideas. Teddy observed he had recently toured Switzerland at the invitation of a Trotskyist group—without censure. But the damage had been done.

Those adhering to the retrograde ideologies often didn't understand him. Therefore a wide range of insults were thrown at him over the years. He was called "an extreme right-wing ideologue" (by Dutch Stalinist Eric Krebbers, who disliked Teddy so much that he invented the word "fascistoid" especially for him); a "Bolshevik" (French magazine *l'Actuel*); a "wacko-communist-liberal" (a call-in viewer of the US C-Span TV network); a "Jacobin terrorist" (US fringe candidate Lyndon Larouche); an "enemy of the state" (President Suharto of Indonesia); a "Gaian-sociobiologist" (Wolfgang Sachs); a "madman" (Professor Lewis Wolpert); and even, allegedly at any rate, "the anti-Christ" (the Catholic Archbishop of Bologna). It's an impressive list, and anyone who accumulates such a collection of barbs can be sure of two things: firstly, they are having an impact, and secondly, their ideas are hard to fit into easy categories.

Edward Goldsmith certainly wasn't easy to pin down. He was full of loathing for industrial society, yet was determined to save it from itself. He believed it's too late to prevent climate change, yet dedicated years to trying to do just that. Listening to him holding forth on the virtues of "traditional societies" or the value of religion, you could take him for a died-in-the-wool Tory; but if you asked him his views on third world debt (cancel it all immediately), direct action (we need more of it), or global capitalism (he was a foremost critic for four decades) you'd recognize the extent to which he advocated for social transformation. In the end, what mattered was what Teddy Goldsmith achieved. History will be the judge of that. The man himself, upon being asked about his achievements, listed a few of his books, complained that they didn't sell enough copies, and then, after a while, landed on a typically modest answer: "If in some small way I've helped to slow the runaway juggernaut that we've created, or made people aware of it, that has to be a good thing. I hope I have done that."

Acceptance speech upon receiving the Right Livelihood Award

EDWARD GOLDSMITH, 1991

The Right Livelihood Award is an international award to “honor and support those offering practical and exemplary answers to the most urgent challenges facing us today.” The prize was established in 1980 by European philanthropist Jakob von Uexkull, and is presented annually in early December. An international jury decides the awards in such fields as environmental protection, human rights, sustainable development, health, education, and peace. The €200,000 (about \$215,000) prize money is shared among the winners.

Some 25 years ago [1966] it dawned upon me that the industrial society in which we live and that we take to be normal, desirable and permanent, is in fact aberrant and destructive, and that rather than further increase our dependence upon it, we should, on the contrary, reduce such dependence and set out systematically to phase it out. It was to argue the case for such a policy that in 1969, I, together with a few like-minded colleagues, set up *The Ecologist* and that we wrote, three years later, our “Blueprint for Survival” which obtained a lot of publicity and helped trigger off what is now the Green Party in the UK.

If industrial society is destructive rather than beneficial, that’s because it is geared to continuous expansion, i.e. to economic development which involves systematically substituting for the biosphere, or the world of living things—the fundamental real world—a totally different organization of matter which we might refer to as the technosphere: the world of human artifacts, or “the surrogate world.” As the technosphere expands so must the biosphere contract and what remains of it become correspondingly degraded. Economic growth is thus biospheric contraction; the two processes are but different sides of the same coin. The trouble is that we did not evolve as part of the technosphere; its proudest creations, such as the motor-car, the television set, the airplane, and the computer may be nice to have, but we can live without them, and indeed have done so for 99% of our tenancy of this planet; but we cannot live without the products of the biosphere—fertile soil, abundant clean water, a favorable and stable climate, etc.

Modern industrial society is unsustainable. Everywhere in the world today croplands are being over-cropped, pasture-lands over-grazed, forests over-logged, wetlands over-drained, ground-waters over-tapped, seas and oceans over-fished ... as humanity co-opts for its own use fully 40% of the present Net Primary Product (NPP) of our planet’s terrestrial photosynthesis. At the same time, the living world is being systematically over-burdened with ever growing volumes of wastes of all sorts, including toxic chemicals, heavy metals and radionuclides, while billions of tons of carbon dioxide and other greenhouse gases are drastically changing the very chemical composition of the atmosphere.

Economic development remains the unquestioned goal of almost every government in the world today. It greatly benefits the elites—the politicians, the international agencies, the bureaucrats,

the corporatists—while the costs are paid by the poor and, of course, by the natural world that is degraded and diminished. For example: The plan of the Food and Agricultural Organization of the United Nations (FAO) to feed the world is actually another massive development scheme in disguise. It serves the interests of the agro-chemical industry, since it involves massively increasing inputs of fertilizers and pesticides; the interests of the farm machinery industry, since it involves doubling the number of tractors worldwide; those of the livestock industry, since it involves doubling the number of beef cattle; and those of the dam building industry, since it involves a vast increase in the amount of land to be put under perennial irrigation. But all this can only lead to a corresponding increase in the destructive impact of our activities on the land, ultimately *reducing* its capacity to feed the malnourished. It also means exporting most of the food produced rather than making it available to those who really need it, in order to earn the foreign exchange to pay the interest on the loans contracted to purchase all the inputs.

And so it is with the other problems that confront us—global warming, for instance. Though the scientists of the Intergovernmental Panel on Climate Change (IPCC) call for an immediate 60–80% reduction in the emissions of the main greenhouse gases, governments continually delay taking effective action in this direction. It thus should be obvious that our modern industrial society is not capable of solving the problems that it generates and that today threaten the survival of our species, for to do so would mean adopting measures that are contrary to the short-term interests of those who determine the policies of the mega-states and mega-corporations.

What, then, should we do? There seems to be no alternative but to phase out this monstrous aberration and transition toward a society that can sustain itself without annihilating the natural world on which it depends for its sustenance. Political and economic activities that are today completely out of control must be systematically subordinated to social, ecological and moral imperatives if humanity is to have any future on this planet. Ladies and gentleman, we need to create such a society. We need to create it while there is yet time. And it is not our business-as-usual politicians, industrialists or international bureaucrats whom we can count on to do so for us—only we can do it.

“Neither Left nor Right”

Edward Goldsmith was developing his worldview within the context of the ferment surrounding the new ideas that we associate with “the Sixties” (which really extended well into the 1970s)—heralded in a remarkable series of books and essays:

- 1960: *The Waste Makers* (Vance Packard); Introduction to A. S. Neill's *Summerhill* (Introduction by Erich Fromm).
- 1961: *Compulsory Mis-Education* (Paul Goodman); *Black Elk Speaks* (John G. Neihardt).
- 1962: *Silent Spring* (Rachel Carson); “The Port Huron Statement of SDS” (Tom Hayden); *The Other America* (Michael Harrington).
- 1963: *The Feminine Mystique* (Betty Friedan); *Science and Survival* (Barry Commoner); *The Wretched of the Earth* (Frantz Fanon).
- 1964: *The Meaning of the Twentieth Century* (Kenneth Boulding); *The Technological Society* (Jacques Ellul).
- 1965: *The Destruction of California* (Raymond Dassman); *The Pillage of the Third World* (Pierre Jalee).
- 1966: *The Age of Imperialism* (Harry Magdoff).
- 1967: *The Betrayal of the Body* (Alexander Lowen); *The Myth of the Machine* (Lewis Mumford); *The Autobiography of Malcolm X*.
- 1968: *Small Town in Mass Society* (Arthur Vidich and Joseph Bensman).
- 1969: *The Making of a Counterculture* (Theodore Roszak); *Gandhi's Truth* (Erik Erikson); *The Costs of Economic Growth* (E. J. Mishan); *The Subversive Science: Ecology* (Paul Shepard).
- 1970: *The Greening of America* (Charles Reich).
- 1971: *The Closing Circle* (Barry Commoner); *Participatory Democracy* (Terrence Cook and Patrick Morgan); *This Endangered Planet* (Richard Falk); *Fundamentals of Ecology* (Eugene Odum).
- 1972: *Conserving Life on Earth* (David Ehrenfeld); *The Limits to Growth* (Meadows, Meadows, Randers, Behrens); *The Domination of Nature* (William Leiss).
- 1973: *Small is Beautiful* (E. F. Schumacher); *The Wandering of Humanity* (Jacques Camatte).
- 1974: *In Search of the Primitive* (Stanley Diamond); *The End of Affluence* (Paul Ehrlich); *Civilized Man's Eight Deadly Sins* (Konrad Lorenz).
- 1975: *Ecotopia* (Ernest Callenbach).

Goldsmith was especially influenced by the writings of Gary Snyder...specifically where, in “Four Changes” (1970), Snyder recommended: “Work with people of all varieties of politics or ideology at whatever point they become aware of environmental urgencies.”

Political ideologies don't conform to hard-and-fast definitions. There are conservatives who champion free market capitalism

and others who romanticize some prior golden age of benevolent autocracy. Those types of conservatives are unlikely to be comfortable within the milieu of Green politics. On the other hand, there are self-identified conservatives who (a) prioritize conservation of social and natural resources, and (b) disdain big government social programs in favor of more local, decentralized solutions to problems. Consider Ted Trainer, who authored *The Conservator Society* or Paul Goodman, who called himself a “Neolithic Conservative.” Both were critical of capitalism yet averse to Marxist-oriented socialism.

Likewise Edward Goldsmith. Under his influence the UK “Movement for Survival” embraced a “new paradigm, off the spectrum” orientation. When British leftists labeled him an anti-progressive technological reactionary, Goldsmith responded: “To be a conservative with a small ‘c’ does not mean that I am right-wing in the usual sense of the term. Right-wing governments such as those of Ronald Reagan, Margaret Thatcher, George Bush and John Major—and, in effect, Bill Clinton and Tony Blair as well—are committed to defending economic growth and the interests of big corporations, interests that are in many ways in total conflict with those of the citizens who elected them to power. I stood against Mr. Major's government and set up a commission that published a 64-page booklet titled ‘The Tory Record: An Assessment.’ It was a merciless indictment of its record, showing how it had sided with big industry and against the electors on such issues as unemployment, health, child malnutrition, the privatization of the nuclear industry, and contaminated land. 87,000 copies of this booklet were distributed by Green candidates in different constituencies! The only party I have been a member of is the British Green Party, whose formation was largely triggered off by A Blueprint for Survival. I stood for the first parliamentary election that the Green Party ever contested in October 1974.” (from: “My Answer,” January 2003)

Wanting to go beyond mere theory, Goldsmith and his *Ecologist* editorial team relocated their offices from London to rural Cornwall, where they bought a farm and formed a small-scale, relatively self-sufficient community of their own. Then, in 1974, he spent four months with the Gandhi Peace Foundation in India, comparing the Sarvodaya movement with the ecology

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movement in Europe. That led him to forge close links with Indian environmental activists, in particular with the Chipko movement, including Sunderlal Bahuguna and Vandana Shiva.

Goldsmith worked toward a goal of having the destructiveness of the industrial growth paradigm become recognized all along the political spectrum. A dynamic speaker, he was much in demand on the lecture circuit. Among the hundreds of presentations he made over the course of many years, some were at the invitation of conservative-leaning organizations in various European countries and the US. The British left took him to task for it. He replied: "We must realize that we can only hope to win the critical battle we are fighting by getting the public on our side—and not just part of the public, but as much of it as possible. It is broad public pressure that can make governments change their policies. As it happens, almost half the electorate of a country like the UK or the US is made up of people who normally vote for Conservative or Republican governments. Just like liberal and left-wing voters they, also, must be converted to our cause if we want our children to have a life worth living on this planet." (*ibid.*)

For the sake of forging a pathway toward sanity, sustainability, and grassroots democracy, Goldsmith gave us an image of a "Great U-Turn." He understood, of course, that we can't "go back" to any pristine or innocent earlier period—there are too many people and we've done too much damage. But he emphasized that we need to make some kind of dramatic turn at this point in history, and our praxis could well be informed by an appreciation of what Gary Snyder termed "the Old Ways."

Goldsmith and Snyder maintained that simplification needs to be underpinned by a transformation of the modern worldview toward naturalism (in place of humanism), communitarianism (in place of individualism), and ecologism (in place of economism). Their radically transformative vision was neither left nor right, but deeply green. They asserted that material sufficiency in an eco-communitarian society could provide the conditions for a diverse variety of meaningful, grounded, and fulfilling lifeways.

* * * *

Below is an abridged version of Gary Snyder's 1970 essay, "Four Changes."

I. POPULATION

Humanity is but a part of the fabric of life—dependent on the whole fabric for our very existence. As the most highly

developed tool-using animal, we must recognize that the unknown evolutionary destinies of other life forms are to be respected, and act as gentle steward of the earth's community of being. Human over-population is potentially disastrous, not only for us and our progeny, but for most other life forms.

ACTION: First, a massive effort to convince the governments and leaders of the world that the problem is severe; and that all talk about raising food-production, well intentioned as it is, simply puts off the only real solution: reduce population.

Try to correct traditional cultural attitudes that tend to force women into childbearing. Remove income tax deductions for more than two children above a specified income level, and scale it so that lower income families are forced to be careful, too. Oppose and correct simple-minded boosterism that equates population growth with continuing prosperity. Share the pleasure of raising children widely, so that all need not directly reproduce to enter into this basic human experience. Adopt children.

Let reverence for life mean also a reverence for other species, and future human lives, most of which are threatened.

II. POLLUTION

The human race in the last century has allowed its production and scattering of wastes, by-products, and various chemicals to become excessive. Pollution is directly harming life on the planet: which is to say, ruining the environment for humanity itself. We are fouling our air and water and living in noise and filth that no "animal" would tolerate—while advertising and politicians try to tell us we've "never had it so good."

ACTION: Strong penalties for water and air pollution by industries. Phase out the internal combustion engine and fossil fuel use in general. Turn fully to non-polluting energy sources. Stop all germ and chemical warfare research and experimentation; work toward a safe disposal of the present staggering and stupid stockpiles of atomic weapons.

Recycling should be the basic principle behind all waste-disposal thinking. Stronger controls and research on chemicals in foods. A shift toward a more varied, organic, and sensitive type of agriculture.

Use fewer cars. Share rides. Also—a step toward the new world—walk more. Boycott bulky wasteful Sunday newspapers which use up trees. It's mostly just advertising anyway, which is artificially inducing more mindless consumption. Don't work in any way for or with an industry which pollutes—and don't be drafted into the military.

III. CONSUMPTION

Everything that lives eats food, and is food in turn. This complicated animal, homo sapiens, rests on a vast and delicate pyramid of energy-transformations. To grossly use more than you need is biologically irresponsible. Most of the production and consumption of modern societies is not necessary or conducive to spiritual or cultural growth, let alone survival—

Material sufficiency in an eco-communitarian society could provide the conditions for a diverse variety of meaningful, grounded, and fulfilling lifeways.

and is behind much greed and envy, age-old causes of social and international discord.

Humanity's careless use of "resources" and our dependence on certain substances, such as fossil fuels, are having harmful effects on all the other members of the life-network. The complexity of modern technology renders whole populations vulnerable to the consequences of the loss of key resources. Instead of independence we have over-dependence on mega-technologies and mega-institutions.

The soil is being used up. In fact, humankind has become a locust-like blight on the planet that will leave a bare cupboard for its own children—all the while in a kind of Addict's Dream of affluence, comfort, eternal progress—using the great achievements of science to produce software and swill.

Goals: Balance, harmony, humility. Growth which is a mutual growth with Redwood and Quail (would you want your child to grow up without ever hearing a wild bird?). To be a good member of the great community of living creatures.

ACTION: It must be demonstrated ceaselessly that a continually "growing economy" is no longer healthy, but a Cancer. Economics must be seen as a small sub-branch of Ecology. Production should be handled by enterprises, unions, or communities with the same elegance and sparseness one sees in nature.

Plan consumer boycotts in response to unnecessary products. Politically, blast both "Communist" and "Capitalist" myths of progress, and all crude notions of conquering or controlling nature.

The inherent aptness of communal life: where large tools are owned jointly and used efficiently. Recycle clothes and equipment. Support handicrafts and all the vernacular things that can make us independent, beautiful and whole. Learn to break the habit of unnecessary possessions—a monkey on everybody's back. (But avoid a self-abnegating, anti-joyous self-righteousness; simplicity is light, carefree, neat, and loving, not a self-punishing ascetic trip.)

It is hard to even begin to gauge how much a complication of possessions stands between us and a true, clear, liberated way of seeing the world. To live lightly on the earth, to be aware and alive, to be in contact with flora and fauna, starts with simple concrete acts. Simplicity and mindfulness in diet is a starting point for many people.

IV. TRANSFORMATION

We have it within our deepest powers not only to change ourselves but to change our culture. If we are to survive on earth we must transform the five-millennia-long urbanizing

civilization tradition into a new ecologically-sensitive, harmony-oriented, wild-minded scientific/spiritual culture.

A radical change of direction is needed. What must be envisioned is a planet on which the human population lives harmoniously and dynamically by employing a sophisticated and unobtrusive technology. Specific points in this vision:

- A healthy and spare population of all races, much less in number than today.
- Cultural and individual diversity, unified by a type of democratic world council. Division by natural and cultural boundaries rather than arbitrary political boundaries (bioregionalism).
- A technology of communication, education, and quiet transportation, land-use being sensitive to the properties of each region.
- A basic cultural outlook and social organization that inhibits power and property-seeking. Women totally free and equal. Rejuvenation of community life. A new kind of extended family—responsible, but more festive and relaxed—is implicit.

ACTION: Since it doesn't seem practical or even desirable to think that bloody force will achieve much, it would be best to consider this a continuing "revolution of consciousness" which will be won not by guns but by seizing the key images, myths, archetypes, eschatologies, and ecstasies so that life won't seem worth living unless one is on the transforming energy's side. Create an awareness of "Self" which includes the social and natural environment. Consider what specific language forms, symbolic systems, and social institutions constitute obstacles to ecological awareness. Investigate new lifestyles. Work with politically-minded people where it helps, hoping to enlarge their vision, and with people of all varieties of politics or ideology at whatever point they become aware of environmental urgencies.

Master the archaic and the primitive as models of basic nature-related cultures—as well as the most imaginative extensions of science—and create new lifeways where these two vectors cross. We are the first people in history to have all of humanity's culture and previous experience available to our study—the first members of a civilized society since the early Neolithic to wish to look clearly into the eyes of the wild and see our selfhood, our family, there. We have these advantages to set off the obvious disadvantages of being as screwed up as we are—which gives us a fair chance to penetrate into some of the riddles of ourselves and the universe.

A Blueprint for Survival

One reviewer said: “A Blueprint for Survival is the closest thing the Green politics movement has to a birth certificate.” The text comprised the entire issue of *The Ecologist* magazine (Vol. 2 No. 1, January 1972) in advance of the world’s first Environment Summit—the UN Conference held in Stockholm. The principal authors were Edward Goldsmith and Robert Allen. Other colleagues contributed. So great was demand for the treatise that it was republished in book form in September of that year ... and went on to sell almost a million copies worldwide.

As you read this over, keep in mind that it was written 52 years ago, just ten years after the publication of *Silent Spring* had initiated the modern environmental movement. The “Blueprint” and Snyder’s “Four Changes” were remarkable documents for their time, showing how the authors were among a handful of prescient thinkers who fully appreciated the implications of the radically new paradigm that an ecological consciousness was spawning. Goldsmith then took the step of crafting a Green political program based on the new movement and the new consciousness. He ran for office promulgating that program in 1974. The development of Green parties proceeded apace.

This version is excerpted and adapted to eliminate dated references and usages. Also, most British spellings have been Americanized.

PREFACE

This document has been drawn up by a small team of people, all of whom, in different capacities, are professionally involved in the study of global environmental problems. Four considerations have prompted us to do this:

1. An examination of the relevant information available has impressed upon us the extreme gravity of the global situation today. For, if current trends are allowed to persist, the breakdown of society and the irreversible disruption of the life-support systems on this planet are inevitable.
2. Governments are either refusing to face the relevant facts or are briefing their scientists in such a way that the seriousness of the situation is played down.
3. Therefore, national movements are needed. They should assume political status and contest elections.
4. Such movements must formulate a new philosophy of human lifeways, along with comprehensive programs for bringing about an ecological society.

We hope that our Blueprint for Survival will herald the formation of a Movement for Survival and the dawn of a new era in which humanity will learn to live with the rest of Nature rather than against it.

THE NEED FOR CHANGE

The principal defect of the industrial-statist way of life with its ethos of expansion is that it is not sustainable. Sooner or later it will end. It will do so in one of two ways: either against our will, in a succession of famines, epidemics, social crises and wars; or because a growing number of people determine to create a new kind of society through a succession of thoughtful, humane and measured changes.

Change is both necessary and inevitable because the present growth trajectories, by disrupting ecosystems and depleting resources, are undermining the very foundations of survival. It is largely because of the particular dynamic of exponential growth that the environmental predicament has come upon us so suddenly, and why its solution requires urgent and radical measures, many of which run counter to values which, in our developmentalist society, we have been taught to regard as fundamental.

Disruption of ecosystems

We depend for our survival on the predictability of ecological processes. Ecologists have formulated a number of important “laws,” one of which in particular relates to environmental predictability: namely, that all ecosystems tend toward stability, and that the more diverse and complex the ecosystem the more stable it’s likely to be; that is, the more species there are, and the more they interrelate, the more stable is their environment.

Unfortunately, we’ve been treating the environment with scant and brutal regard as if it were an idiosyncratic and extremely stupid slave. We over-stimulate our wheat fields and cabbage patches with a desperate battery of synthetic chemicals in an absurd attempt to impede the operation of that immutable ecological law. We have put our agricultural focus on pesticides and artificial fertilizers. The pesticides have created a number of serious problems, notably resistance—hundreds of “pest” species are resistant to one group of pesticides or another, while many others require increased applications to keep their populations within manageable proportions. We’ve also “promoted” formerly innocuous species to pest proportions, because the predators that had kept them in check have been destroyed.

The agricultural programs of international agencies often depend upon intensification. This includes high-yielding new varieties of wheat and rice that are able to feed a lot of people but are highly vulnerable to disease and therefore require increased protection by pesticides. They also demand massive inputs of fertilizers. Not only does that disrupt local ecosystems, thereby jeopardizing long-term productivity, but it forces hard-pressed underdeveloped nations to rely on the agro-chemical industries of the developed world.

The new genetic hybrids are intended to give us time to devise more permanent and realistic solutions. It is our view, however,

that they are not the best means of doing this, since their use is likely to bring about a reduction in overall diversity, when the clear need is to develop an agriculture diverse enough to have long-term potential. Meanwhile, we must beware of those “experts” who appear to advocate the transformation of the ecosphere into nothing more than a food-factory for humanity. The concept of a world consisting solely of humanity and its favored food plants is so ludicrously impracticable as to be seriously contemplated only by those who find solace in their own ignorance of the real world of biological diversity.

Overall, there are half a million synthetic chemicals in use today, yet we cannot predict the behavior or properties of the greater part of them (either singly or in combination) once they are released into the environment. We are learning, however, that some, when over-used or not used responsibly, become environmental pollutants. The combined effects of pollution and habitat destruction menace the survival of thousands of mammal, bird, and plant species. To those who regret these losses but greet them with the comment that the survival of *Homo sapiens* is surely more important than that of an eagle or a primrose, we respond that *Homo sapiens* depends on the continued resilience of those ecological networks of which eagles and primroses are integral parts. We do not need to utterly destroy the ecosphere to bring catastrophe upon ourselves—all we have to do is to carry on as we are, clearing forests, “reclaiming” wetlands, and imposing sufficient quantities of pesticides, radioactive materials, plastics, sewage, and industrial wastes upon our air, water and land systems to make them inhospitable to the species upon which their continued stability and integrity depend.

Collapse of society

The developed nations consume such disproportionate amounts of protein, raw materials and fuels that unless they considerably reduce their consumption there is no hope of the underdeveloped nations markedly improving their standards of living. This vast differential is a cause of much and growing discontent, made worse by our attempts at cultural uniformity on behalf of an expanding market economy. In the end, we are altering people’s aspirations without providing the means for them to be satisfied. In the rush to industrialize we break up communities, so that the organic social controls which formerly regulated behavior are destroyed. Urban drift is one result of this process, with a consequent rise in anomie and sociopathology—costly for society in terms both of money and of well-being. We’ll be getting to a point when the material compensations of urban life are either no longer available or prohibitively expensive, and consequently when whole sections of society will find good cause to express their discontent in ways likely to be anything but pleasant for their fellows.

It is worth bearing in mind that the barriers between us and epidemics are not so strong as is commonly supposed. Not only is it increasingly difficult to control the vectors of disease, but it is more than probable that urban populations in underdeveloped nations are being insidiously weakened by overall pollution levels,

“A Blueprint for Survival is the closest thing the Green politics movement has to a birth certificate.”

even when the latter are not high enough to be incriminated in any one illness. At the same time international mobility speeds the spread of disease. With this background, we could easily provoke a series of pandemics.

Conclusion

There will be those who regard these accounts of the consequences of trying to accommodate present growth rates as fanciful. But the imaginative leap from the available scientific information to such predictions is negligible compared with that required for those deluded projections of a world of ten billion people living at the same material standard as the United States. By now it should be clear that the environmental problems do not arise from temporary and accidental malfunctions of existing economic and social systems. On the contrary, they are the warning signs of a profound incompatibility between deeply rooted beliefs in continuous growth and the dawning recognition of the limitations of “Spaceship Earth.” The nature of our response to these symptoms is crucial.

We are sufficiently aware of political reality to appreciate that many of the proposals we will be making below will be considered impracticable at the moment. However, we believe that if a strategy for survival is to have any chance of success, the solutions must be formulated in the light of the actual problems and not from a timorous and superficial understanding of what may or may not be immediately feasible. If we plan remedial action with our eyes on *realpolitik* rather than *ecological reality*, then very reasonably, very practicably, and very surely, we will muddle our way to extinction.

A measure of political reality is that most governments have yet to acknowledge the impending crisis. This is to some extent because they have no machinery for looking at energy, resources, food, environmental disruption and social disruption as a whole—as part of a general, global pattern. Instead, they deal with its many aspects as if they were self-contained analytical units.

Because governments tend to see the world in fragments and not as a totality, it is difficult to detect in their actions or words any coherent general policy. Meanwhile, most major political parties continue to be mesmerized by the notion that economic expansion is essential for survival and is the best possible index of

progress and well-being. But economic growth creates the need for more economic growth. This it does in the following ways:

- * The introduction of technological devices, i.e. the growth of the technosphere, too often occurs to the detriment of the ecosphere, which means that it leads to the destruction of natural controls which must then be replaced by further technological controls.
- * Automation threatens unemployment unless economic growth creates more “needs,” more consumption, and the resultant jobs that take up the slack.
- * Economic enterprises face a “grow or die” competitive business environment under capitalism.
- * Governmental success tends to be assessed in terms of its ability to increase the standard of living as measured by per capita gross domestic product (GDP).
- * Degrowth would threaten the valuation of the financial assets (stocks, bonds, derivatives) to which the health of our modern economies is tied.

For all these reasons, we can expect our governments (whether conservative or liberal) to encourage further increases in GDP regardless of the consequences. They will curb growth only when public opinion demands such a move, and when a method is found for doing so without creating unemployment. We believe this is possible only within the framework of a fully integrated plan.

The emphasis must be on integration. If we develop relatively clean technologies but do not end economic growth, then sooner or later we will find ourselves with as great a problem as before. Our task is to create a society which is sustainable and which will give the fullest possible satisfaction to its members. Such a society would depend not on expansion but on stability. This does not mean to say that it would be static, stagnant, or monotonous—indeed it could well afford more variety than does the state of uniformity at present being imposed by the pursuit of technological efficiency. We believe that the stable society, in addition to removing the Sword of Damocles which hangs over the heads of future generations, will be much more likely than the present one to bring the peace and fulfillment which hitherto have been regarded as utopian.

Goldsmith took the step of crafting a
Green political program based on the
new ecological consciousness.

A STRATEGY FOR CHANGE

The principal conditions of a sustainable stable society are:

1. minimum disruption of ecological processes;
2. maximum conservation of materials and energy (an economy of stock rather than flow);
3. population stability; and
4. a communitarian form of social sustainability.

The achievement of these four conditions will require controlled and well-orchestrated change on numerous fronts. This change could occur through a program such as the following:

- a control operation whereby environmental disruption is reduced as much as possible by technical means;
- a freeze operation in which present trends are halted;
- short-term systemic substitution, by which the most dangerous components of these trends are replaced by technological substitutes, whose effect is less deleterious in the short-term, but over the long-term will be increasingly ineffective;
- long-term systemic substitution, by which these technological substitutes are replaced by more natural or more self-regulating ones, i.e. those which either replicate or employ without undue disturbance the normal processes of the ecosphere and are therefore likely to be sustainable over very long periods of time;
- the promotion and application of alternative technologies which are energy- and materials-conservative and which, because they are designed for relatively “bounded” economic communities, are likely to disrupt ecological processes only minimally (what E. F. Schumacher calls “intermediate technologies”);
- gradual decentralization of policy and economy at all levels, and the fostering of localized communities small enough to be reasonably self-regulating and somewhat self-supporting;
- *cultural change toward appreciation of all of the above.*

In putting forward these proposals we are aware that hasty or disordered change is highly disruptive and ultimately self-defeating. We have taken care to devise and synchronize our program so as to minimize both unemployment and capital outlay. We believe it possible to transition from an expansionist society to a stable society without loss of jobs or an increase in fiscal expenditure. Inevitably, however, there will be considerable changes, both of geography and function, in job availability and the requirements for capital inputs—and these may set up considerable counter-productive social pressures. With careful and sensitive conception and implementation of an integrated program the latter should be minimized. Democratic input and an open style of government should inspire the trust and cooperation of the general public which will be essential for the success of this enterprise.

Minimizing the disruption of ecological processes

Ecological processes can be disrupted by introducing into them either substances that are foreign to them or natural ones in the wrong quantities. It follows therefore that the most common method of pollution “control”—namely dispersal—is not control at all, but a way of playing for time. Refuse disposal by dumping solves the immediate problem of the householder, but as dumping sites are filled up it creates progressively less-solvable problems for society at large. In estuarine and coastal waters, crucial areas for fisheries, nutrients from agricultural run-off in modest quantities may increase productivity, but in excess are as harmful as organochlorines and heavy metals. Thus, dispersal can be only a temporary expedient. Pollution control proper must consist of the recycling of materials, or the introduction of practices which are so akin to natural processes as not to be harmful. The long-term object of these pollution control procedures is to minimize our dependence on technology as a regulator of the ecological cycles on which we depend, and to return as much as possible to the natural mechanisms of the ecosphere, since in all but the short-term they are much more efficient and reliable. In the light of these remarks, then, let us consider some contemporary pollution problems and how they might be solved.

Pesticides. There is no way of controlling the disruption caused by pesticides save by using less. To progress toward this end will probably require three operations: freeze, asystemic substitution, and systemic substitution. The freeze operation consists of the ending of any further commitment to pesticides, particularly the persistent organochlorines. The second operation consists of the progressive substitution of non-persistent pesticides (organophosphates, carbamates, etc.). The third would be the substitution of natural controls for chemical pesticides (integrated pest management). The agro-chemical industries should be encouraged to invest in integrated control programs—but since the profits are unlikely to be as great as from chemical control, research will need public financing, as will the training of integrated control advisory teams to assist farmers (particularly in the underdeveloped countries). Such an investment will appear modest once integrated control is fully operational, in comparison with the vast sums of money currently being spent annually on pesticides.

Fertilizers. Overuse of inorganic fertilizers leads to two intractable problems: the pollution of freshwater systems by run-off and diminishing returns due to the slow but inevitable impoverishment of the soil. Again, the solution will come through three operations: freeze, asystemic substitution, and systemic substitution. The first operation requires there to be no further increment in the application of inorganic fertilizers, and hence the removal of subsidies for them. This will be especially challenging for the underdeveloped countries. During a transitional period an emergency food supply should be created by the developed prime-producers (USA, Canada, Australia, etc.) so that as much as possible of any short-fall can be met. The second operation involves the gradual substitution of organic manures for inorganic fertilizers and the return to such practices

In the rush to industrialize
we break up communities, so that the
organic social controls which formerly
regulated behavior are destroyed.

as rotation and leys. This would merge into the third operation: the adoption of highly diversified farming practices in place of monocultures. It is necessary to emphasize that this is not simply a return to traditional good husbandry; it is much more a change from flow fertility (whereby nutrients are imported from outside the agro-ecosystem, a proportion being utilized by food-plants but with a large proportion leaving the ecosystem in the form of run-off, etc.) to cyclic fertility (in which nutrients in the soil are used and then returned to it, in as closed a cycle as possible). The rotation of leguminous plants and of grass grazed by animals are the most effective ways of adding organic matter to the soil. At the same time, allowing livestock to select their own food in the open has the double advantage that they are bred with a healthy fat-structure and their wastes enrich the soil instead of polluting waterways or overloading sewage systems. By diversifying farming in these and other ways we are taking advantage of both traditional tried-and-true methodologies plus the immense recent growth of knowledge about agricultural ecology.

Domestic sewage. The volume of sewage is directly proportional to population numbers and can primarily be stabilized or reduced by stabilizing or reducing the population. However, sewage can and should be disposed of much more efficiently. It is absurd that such valuable nutrients should be allowed to pollute fresh and coastal waters, or that society should be put to the expense of disposing of them in areas where they cannot be effectively utilized. Their disposal as agricultural fertilizer is impeded by transportation costs. This argues for decentralizing megalopolis centers so that there is an improved mix of rural and urban activities.

Conversion to an economy of stock

The transfer from flow to stock economics can be considered under two headings: resource management and social accounting.

Resource management. It is essential that the throughput of raw materials be minimized both to conserve non-renewable resources and to cut down pollution. Since industry must have an economic incentive to be conservative of materials and energy and to recycle as much as possible, we propose a number of fiscal measures to those ends:

1. A raw materials tax. This would be proportionate to the availability of the raw material in question and would be designed to enable our reserves to last over an arbitrary period of time, the longer the better, on the principle that during this time our dependence on this raw material would be reduced. This tax would penalize resource-intensive industries and favor employment-intensive ones.
2. An amortization tax. This would be proportionate to the estimated life of the product, e.g. it would be 100 percent for products designed to last no more than a year and would then be progressively reduced to zero percent for those designed to last 100+ years. Obviously this would penalize short-lived products, especially disposable ones, thereby reducing resource utilization and pollution, particularly the solid-waste problem. Plastics, for example, which are so remarkable for their durability, would be used only in products where this quality is essential. This tax would also encourage craftsmanship and employment-intensive industry.

The raw materials tax would obviously encourage recycling, and we can see how it might work if we consider such a vital resource as water. The growing conflict between farmers, conservationists and the water boards is evidence enough that demand for water is conflicting with other, no less important, values. At the moment, the water boards have no alternative but to fulfill their statutory obligation to meet demand. Clearly, demand must be stabilized and since demand is a function of population numbers times per capita consumption, both must be stabilized. To this end, therefore, while a given minimum can be supplied to each person free of charge, any amount above that minimum should be made increasingly expensive. As far as industry is concerned, the net effect would be to encourage the installation of closed-circuit systems for water; total demand would be reduced, and there would be less pressure on lowland river systems.

Despite the stimulus of a raw materials tax, however, it is likely that there would be a number of serious pollutants which it would be uneconomic to recycle, and still others for which recycling would be technically impossible. One thinks in

particular of the radioactive wastes from nuclear power stations. Furthermore, recycling cannot do everything: there will always be a non-recoverable minimum, which will have to be disposed of as safely as possible.

Ultimately, the problem of disposal of the undisposible can only be resolved by the termination of industrial growth and the reduction of energy demand. Again, fiscal measures will be supremely important. A power tax would penalize power-intensive processes and hence those causing considerable pollution. Since machinery requires more power than people, it would at the same time favor the employment intensification of industry, i.e. create jobs. It would also penalize the manufacture of short-lived products.

Finally, industrial pollution can also be reduced by materials substitution. The substitution of synthetic compounds for naturally occurring compounds has created serious environmental damage, since in some cases the synthetics can be broken down only with difficulty and in other cases not at all.

Genetic resources. Genetic diversity is essential for the security of our food supply, since it is the *sine qua non* of plant breeding and introduction. The number of plant varieties to be found in nature is infinitely greater than the number we could create artificially. Most of them are to be found in the underdeveloped countries either as traditional domesticated plants or as wild plants in habitats relatively unaltered by man. There is a real danger that the former will be replaced by contemporary high-yield varieties, while the latter will disappear when their habitats are destroyed. A UN Food and Agriculture Organization conference in 1967 concluded that the plant-gene pool has diminished dangerously, for all over the world centers of diversity, our gene banks as it were, are disappearing and with them our chance of maintaining productivity in food.

Areas of wilderness are often destroyed because their importance is not understood. They seem less productive than fields of waving corn. And because they are not accessible or attractive to tourists, they are considered in need of "improvement" or development, or simply as suitable dumping grounds for the detritus of civilization. This is particularly true of wetlands—estuaries and marshes—where pollution, dredging, draining and filling are looked on almost with equanimity, certainly with scant regard for what is being lost. Yet the complex of living and decomposing grasses and of phytoplankton, characteristic of wetlands, supports vast numbers of fish and birds and makes it one of the world's most productive ecosystems. Estuaries are the spawning grounds of very many fish and shellfish and form the base of the food-chain of some sixty percent of our entire marine harvest. It is vital to the future well-being of humanity that wilderness areas and wetlands be conserved at all costs.

We therefore have recommended to the UN Human Environment Conference that:

1. certain wilderness areas of tropical rain forest, tropical scrub forest, and arctic tundra be declared inviolate, these being the least understood and most fragile biomes;

If we plan remedial action with
our eyes on realpolitik rather than
ecological reality, then very reasonably,
very practicably, and very surely, we will
muddle our way to extinction.

2. the hunter-gatherers and hunter-farmers within these areas be given title to their lands (i.e. those lands in which traditionally they have gained their living) and be allowed to live there without pressure of any kind;
3. severe restrictions be placed on entry to these areas by anyone who does not live there permanently (while allowing the indigens free movement);
4. sovereignty over the areas remain with the countries in which they lie, which should also be responsible for the policing of their boundaries;
5. an international body be appointed to supervise an ecological program of research, the results of which should be freely available to participating countries.

Social accounting. By the introduction of monetary incentives and disincentives it is possible to put a premium on durability and a penalty on disposability, thereby reducing the throughput of materials and energy so that resources are conserved and pollution reduced. But another important way of reducing pollution and enhancing amenity is by the provision of a more equitable social accounting system. Such must be used not just to weigh up the merits of alternative development proposals, but also to determine whether or not society actually needs such development. Naturally, present procedures require improvement: for example, in calculating “revealed preference” (the values of individuals and communities as “revealed” to economists by the amount people are willing and/or can afford to pay for or against a given development), imagination, sensitivity and commonsense are required in order to avoid the imposition on poor neighborhoods or sparsely inhabited countryside of incinerators, nuclear power stations, highways, airports, and the like; and in calculating the “social time preference rate” (an indication of society’s regard for the future) for a given project, a very low discount should be given, since it is easier to do than undo and we must assume that generations will follow us who will chastise us for exhausting resources or blighting the landscape. Therefore, we must judge the health of our economy not by flow or throughput, since that inevitably leads to waste, resource depletion and environmental disruption, but by the distribution, quality and variety of the stock.

At the moment, as Kenneth Boulding has pointed out, “the success of the economy is measured by the amount of throughput derived in part from reservoirs of raw materials, processed by ‘factors of production,’ and passed on in part as output to the sink of pollution reservoirs. The gross domestic product (GDP) roughly measures this throughput.” Yet, both the reservoirs of raw materials and the reservoirs for pollution are limited and finite, so that ultimately the throughput from the one to the other can in certain ways be problematic for our well-being; it needs to be minimized and the costs involved need to be registered. We must come to assess our standard of living not by calculating the value of all the air-conditioners we have made and sold but by the freshness of the air; not by the value of the antibiotics, hormones, feedstuff and broiler-houses which put so

Most major political parties continue to be mesmerized by the notion that economic expansion is essential for survival and is the best possible index of progress and well-being.

heavy a price on poultry production today but by the nutritional quality of the chickens themselves; and so on. In other words, accepted value must reflect real value, just as accepted cost must reflect real cost. It is evident, however, that in a society such as ours, which to a large extent ignores the long-term consequences of its actions, there is a substantial differential between those things. The extent to which we are simplifying ecosystems and destroying natural controls so that we are forced to provide technological substitutes, is a real cost against society and should be accounted as one. At the moment we merely add up the value of mining operations, factories and so on (and that of cleaning up the mess whenever we attempt to do so) and conclude that the GDP is high and we have never been better off.

Since the full costs of any action anywhere in the world must be borne by someone, somewhere, sometime, it is important that our accounting system makes provision for what economists call “externalities.” Ecological processes are, of course, complex and diffuse such that this will be difficult. Nonetheless, given that a satisfactory accounting system is one which supports and helps perpetuate the social system from which it derives, we must attempt to devise one which is fitted to a society based on a sober assessment of ecological reality and not on the anthropocentric pipe-dream that we can do what we will to all extant habitats. It is worth recalling Barry Commoner’s dictum that since economics is the science of the distribution of resources, all of which are derived from the ecosphere, it is foolish to perpetuate an economic system which destroys the latter. Ideally (and as befits the etymology of the two words), ecology and economics should *not* be in conflict: ecology should provide the approach, the framework for an understanding of the interrelationships of social and environmental systems; and economics should provide the means of quantifying those interrelationships in the light of such an understanding, so that decisions on alternative courses of action can be made sagaciously.

A goal, therefore, must be to unite economics and ecology. The specific measures we have proposed are, we believe, necessary steps in this direction, albeit crude ones. A raw materials tax, an amortization tax, a power tax, revised methods of calculating revealed preference, social time preference rate and so on, with legislative provision for their enforcement; a set of air, water and land quality standards enforceable by law and linked with a grant-

incentive program—these and other measures should be introduced as soon as possible (though in such a way as to be effective without causing unacceptable degrees of social dislocation).

Stabilizing the population

However slight the growth rate might be, a population cannot grow indefinitely. It follows, therefore, that at some point it must stabilize of its own volition, or else wind up being cut down by some calamitous mechanism—famine, epidemic, war, or whatever. Since no sane society would choose the latter course, it must choose to stabilize.

Assessment of optimum population size becomes a realizable task if we base it on the ecological concept of the carrying capacity of the land. Carrying capacity is usually defined as the amount of solar energy potentially available via food-plants in a given area. This definition must be accompanied by a caveat to the effect that if carrying capacity is considered in terms of energetics alone, a number of essential ecological and nutritional variables are in danger of exclusion. For example, it would be easy to assume that land used for a combination of purposes (mixed farming, woodland, etc.) would be better employed and could support a larger population if it were exclusively given over to the intensive production of food-plants high in calories. We know, however, that protein and the other nutrients are no less vital to us than calories, while there is evidence that we are more likely to get the proper nutritional components from meat if it comes to us from free-living animals. This requirement alone demands a certain diversity, both of species and habitat and we have seen, too, that diversity is essential if fertility and stability are to be maintained over the long-term.

Most of the affluent developed countries support a population well in excess of the carrying capacity of their land. They are able to do so owing to their ability to import large amounts of food. As world population grows, and with it global agricultural demand, so will it be increasingly difficult to find countries with exportable surpluses, surpluses which in any case will become progressively more expensive. So self-provisioning should become the norm. And this might require population downscaling.

An optimum population may be defined as one that can be sustained indefinitely and at a level at which the quality-of-life values of its members are optimized. Our task is to end population growth by balancing birth and death rates. That may seem quite a challenge, but if the exercise is spread over a sufficiently long period of time, then we believe it is within our capabilities.

Governments must acknowledge the problem and declare their commitment to ending population growth. They should set up national population services with a fourfold brief:

1. to publicize as widely and vigorously as possible the relationship between population, food supply, quality of life, resource depletion, etc., and (using suasion, never compulsion) the advisability of couples having no more than two children; the broad aim should be to inculcate a socially and ecologically responsible attitude toward child-rearing;

2. to offer, at local and national levels, free contraception advice, and information on other services such as abortion and sterilization—while providing contraceptives free of charge and abortion on demand;
3. to provide a comprehensive domiciliary service;
4. to commission, finance, and coordinate research not only on demographic techniques and contraceptive technology but also on the subtle cultural motives conducive to the harmonious maintenance of stability.

Creating a new social system

Possibly the most radical change we propose in the creation of a new social system is decentralization. We do so for four fundamental reasons:

- (a) Living more lightly will involve some extent of downscaling. If that appears as so much outside state-enforced coercion it is likely to be resisted. But in communities small enough for the general will to be worked out and expressed by individuals confident of themselves and their familiar neighbors, “us and them” situations are less likely to occur. The experience of people acting together to revitalize their communities and achieve a stable society could be one of freedom in autonomy. They could be inclined to view the responsible behavior required for social stability as necessary and desirable—and not as some arbitrary restriction imposed by a remote and unsympathetic government.
- (b) As agriculture depends more and more on integrated control and becomes more diversified, there will no longer be any scope for prairie-type crop growing or factory-type livestock rearing. Small farms run by families and teams with specialized knowledge will then be the rule, and indeed individual small-holdings could become extremely productive suppliers of eggs, fruit and vegetables to neighborhoods. Thus a much more diversified urban-rural mix will be not only possible but also desirable. In industry, as with agriculture, it will be important to maintain a vigorous feedback between supply and demand in order to avoid waste, overproduction, or production of goods which the community does not really want, thereby eliminating the needless expense of time, energy and money in attempts to persuade it that it does. If an industry is an integral part of a community, it is much more likely to be consumer-responsive. Today, men, women, and children are merely marketing objects. Industries, as they centralize, become national rather than local and often supranational rather than national, so that while entire communities may come to depend on them for the jobs they supply, they are in no sense integral parts of those communities. To a considerable extent the “jobs or a healthy environment” dichotomy has been made possible because of this deficiency. Yet plainly people want both jobs and health. They should not, in a just and humane society, be forced to choose between the two. In a decentralized society where industries are local enough to be responsive to each community’s needs, there will be no reason for them to do so.

(c) The small community is not only the organizational structure in which internal or systemic controls are most likely to operate effectively, but its dynamic is an essential source of stimulation and pleasure for the individual. Indeed, it is probable that only in the small community can people have a sense of significant agency and participatory culture. In today's large agglomerations people are atomized and isolated. It is unsurprising that the decreasing autonomy of communities and local regions and the increasing centralization of decision-making and authority in the cumbersome bureaucracies of the state have been accompanied by the rise of a defiant type of individualism, an individualism which feels threatened unless it is aggressively affirmed ("don't tread on me"). In the small, self-regulating communities observed by anthropologists, there is, by contrast, no such phenomenon. Members enjoy the rewards of the community, of knowing and being known, of an intensity of relationships with a few, rather than the modern urban experience of innumerable, ephemeral, superficial relationships. The rewards of familiarity and stability should provide ample compensation for the decreasing emphasis on consumption, which will be the inevitable result of the premium on durability which we have suggested should be established so that resources may be conserved and pollution minimized. Goods and services not provided within the community will likely be more expensive. Sharing and durability will compensate materially; communitarian satisfactions will compensate psychologically and spiritually. We believe a major potential source of these satisfactions to be the rich and variegated interchanges and responsibilities of community life, and that these are possible only when such communities are on a human scale.

(d) It is only by decentralization that we can increase self-sufficiency—and relative self-sufficiency is vital if we are to minimize the burden of social systems on the ecosystems that support them.

Although we believe that community-within-region should be the basic pattern of society and that each region should be as self-sufficient and self-regulating as possible, we would like to stress that we are not proposing that communities be autarkic, inward-looking, self-obsessed, or in any way closed to the rest of the world. Basic precepts of ecology, such as the interrelatedness of all things and the far-reaching effects of ecological processes and their disruption, should influence community decision-making, and so there should be efficient and sensitive communications networks between communities. There must be procedures whereby community actions that affect regions can be discussed at regional level and regional actions with extra-regional effects can be discussed at higher levels. Communitarian focus and global awareness are not mutually exclusive; and we believe that this orientation is preferable to the dangerous and sterile compromise which is extant nationalism.

In the developed countries where local focus has been greatly eroded and has given way to heterogeneous congeries of strangers,

the task of re-creating communities will be challenging. In many of the underdeveloped countries, because the process of community collapse and flight to the city has begun more recently, there is a real chance that it can be reversed by such means as the abandonment of large-scale industrial projects in favor of the development of intermediate technologies at village level. Mohandas Gandhi was a notable advocate of this perspective.

There is concern that our program will bring about the collapse of industry, widespread unemployment, and the loss of export markets. It is therefore worth emphasizing that we wish to avoid all three and we do not see that they are necessary or inevitable consequences of our proposals. It is obvious that for as long as we depend on imports for a significant proportion of our food, we'll be needing to export. Then: is it possible to develop community-based industries, dedicated to the principles of maximal use/recycling of materials and durability of goods, and at the same time continue to earn an adequate revenue from exports? We believe that the answer is yes, if the transition is conducted in two stages.

The first is to alter the direction of growth so that it becomes more compatible with the aims of a stable society. To give an idea of how the direction can be altered we will consider briefly the question of transport. There is sufficient experience of traffic congestion in our towns and cities and the rape of countryside and community by ring-roads and motorways to realize that the motor-car is by no means the best way of democratizing mobility. In an attempt to avoid congestion, highway construction proliferates; it comes at the expense of the areas it sterilizes and blights. Public transport—rapid mass-transit, especially by rail—is preferable in many ways. The power requirements for transporting freight by road are five to six times greater than by rail and the pollution is correspondingly higher. The energy outlay for the cement and steel required to build a motorway is three to four times greater than that required to build a railway and the land area necessary for the former is estimated to be four times more than for the latter. So public transport, primarily by rail, secondarily by bus, is much more efficient in terms of per capita use of materials and energy than any private alternative. In the long term, decentralization figures to bring a diminished demand for mobility itself.

This brings us to the second stage of the transition, in which industry turns to the invention, production, and installation of technologies that are materials- and energy-conservative, that are non-polluting and durable, employment-intensive and favoring craftsmanship. Industry will be integrated into communities such that the distinction between workers as employees and people as neighbors can be abandoned. "Jobs" will become communitarian rather than institutional, provided as a function of the community's interdependence and for the sake of the community's stability. Governmental units will scale down incrementally according to the principles of subsidiarity. Local government should be strengthened. As regions, communities and neighborhoods come increasingly to run their own affairs, so the development of a sense of community (and renewed sense of place, commitment to place) will progress.

THE GOAL

There is every reason to suppose that a stable society would provide us with satisfactions that would more than compensate for those which, with the passing of the industrial state, will be forfeited. Transition of some kind is inevitable. Our present lifeways are neither socially nor ecologically sustainable. We believe that a society made up of decentralized, mostly self-sufficient regional entities and communities, in which people work near their homes, have the responsibility of governing themselves, of running their schools, welfare services, etc. can be the basis for a higher quality of life.

In a society dominated by the industrial state, the things that tend to get done are those that are particularly conducive to economic growth, those that, in terms of our present accounting system, are judged “most efficient.” This appears to be almost the sole consideration determining the nature of the crops we sow, the style of our houses, and the shape of our cities. The result, among other things, is the dreariest possible uniformity. In a decentralized and stable society distinctive regional identities and cultures, lost in modern mass society, would be regained. As René Dubos has pointed out: “We must shun uniformity of surroundings as much as absolute conformity of behavior and make, instead, a deliberate effort to create as many diversified environments as possible. This may result in some loss of efficiency, but the more important goal is to provide the many kinds of soil that will permit the germination of the seeds now dormant in our human nature. In so far as possible, the replication of uniformity must yield to the organization of diversity. Richness and variety of the physical and social environment constitute crucial aspects of functionalism, whether in the planning of cities, the design of dwellings, or the management of life.”

Real costs

We might regard with apprehension a situation in which we shall have to make do without many of the modern “conveniences.” But we should consider the argument that we have lost more than we’ve gained. How many of us take into account the dull and tedious work that has to be done to manufacture the appliances, or for that matter to earn the money required for their acquisition?

It has been calculated that the energy used by the machines that provide the average American household with its “high standard of living” is the equivalent of that provided by hundreds of slaves. What is the cost to us of striving to produce, purchase, and maintain our mechanical slaves? Our standard of living is calculated in terms of the market prices of the goods that it includes. These do not distinguish between, on the one hand, the gadgets that we do not really need and such essentials as unpolluted water, air and food on which our health must depend. It is in terms of market prices that the GDP is calculated, and as we have seen, this provides a very misleading indication of our well-being. E. J. Mishan points out that, “An increase in the numbers dying from cancer, coronaries or nervous diseases

provides extra business for physicians and undertakers and can contribute to raising GDP! A forest destroyed to produce the hundreds of tons of paper necessary for the American Sunday newspaper editions is a component of GDP. The spreading of concrete over acres of once beautiful countryside adds to the value of GDP ... and so on.” In the same way, many of the machines whose possession is said to increase our standard of living are simply necessary to replace natural benefits of which we have been deprived by demographic and economic growth. We have pointed out how true this is of the ubiquitous motor-car. Also, many labor-saving devices are now felt to be necessary because, with the disintegration of the extended family, there are few to do the household chores. The fact that both head-of-household partners must, in many cases, go to work full-time to earn the money to buy the machines required to do these chores can serve only to render such devices that much more “necessary.”

In a stable society, everything would be done to reduce the discrepancy between economic value and real value, and if we could repair some of the damage we have done to our physical and social environment, if we could live a life more closely attuned to natural processes, there would be less need for the consumer products that we spend so much money on. In manufacturing processes, the accent would be on quality rather than quantity, which means that skill and craftsmanship, which we have for so long systematically discouraged, would once more play a part in our lives. The arts and local culture would flourish. A society devoted to achievements of this sort would be an infinitely more agreeable place than is our present one, geared as it is to the mass production of utilitarian consumer goods in ever greater quantities. Surprising as it may seem to one reared on today’s economic doctrines, it would also be the one most likely to satisfy our basic biological requirements for food, air and water, and provide us with the right livelihood that is constantly being menaced in our unstable industrial society.

Science must address itself much more vigorously to the problems of cooperating with the rest of Nature—and then help us effectuate as smooth a transition to a stable society as possible. Doing so will enable us to be optimistic about providing our children with a way of life psychologically, intellectually and aesthetically more satisfying and more sustainable than the present one. Our goal is to be leaving them a legacy of hope.

The growth of the technosphere
too often occurs to the detriment
of the ecosphere.

Afterwords and Reflections

[The following article is excerpted and adapted from David Watson's translated Afterword to his book *En el camino a ninguna parte: Civilización, tecnología y barbarie* (On the Road to Nowhere: Civilization, Technology, and Barbarism), Ediciones Salmón, Madrid, 2018. English versions of the essays described in this article can be found online at <https://www.fifthestate.org/archive>. Most are also contained in David's 1997 compilation *Against the Megamachine: Essays on Empire and Its Enemies...see: <https://autonomeia.org/product/against-the-megamachine>.*]

On the origins of the book

It came as a surprise when “los salmones” [an activist collective in Spain, the publisher of the book] contacted me in early 2016 to propose gathering some of my essays in Spanish translation. These texts mostly date from late in the last century, a phrase that resonates strangely and provokes me to wonder what century I am referring to. Have we left behind that twentieth century, still-born and ill-borne, century of enlightenment and darkness, of humanism and extermination, of hopes (some millenarian) and disasters?

I'm happy to see these pieces translated despite the fact that, inevitably, some of the particulars in my reportage are not up to date. In a couple of cases I modified a statistic and in others I added a note; but, more to my dismay than to my satisfaction, the concerns they present are even more pressing than they were when I started writing about them some forty years ago.

Most of the twelve essays in the book originally appeared in the *Fifth Estate* (FE), a radical newspaper in Detroit that started publishing as a New Left/countercultural “underground paper” in 1965. When, ten years later, the paper began to fail (along with a whole generation of such periodicals) a group of my friends took it over, suppressed all advertising and salaries, and reestablished it as an explicitly anti-authoritarian journal. The new FE group, with which I loosely collaborated before joining the editorial collective, began as a project to understand why the collapsing 1960s movements of opposition had failed, and to find a way to an authentic revolutionary theory and activity. Influenced by situationist theory, council communism, and anarchism, we took the “ruthless criticism of all things” (as Marx had advocated) very seriously and found ourselves, ironically, questioning and vigorously challenging many of our earlier leftist assumptions. Soon, we were questioning (and, generally, giving the finger to) a whole range of assumptions of modern civilization—about politics, science, technology, education, art, militant organizational forms, and revolutionary prometheanism itself.

The *Fifth Estate* had been a locus of radical activism during its early years, as broad movements of tens of millions across the country marched, boycotted, went on strike, occupied buildings, rioted, resisted, and celebrated. After 1975 we were only a fringe of what had become a fringe movement. We were gadflies, provocateurs, critical of the Marxist-Leninist and social democratic left, and scornful of ambitious post-sixties reformist politicians and aspiring bureaucrats.

As new social movements emerged in the early 1980s, we worked and wrote (usually at the edges but sometimes, it turned out, at the epicenter) of burgeoning antimilitarist, anti-intervention, antinuclear, ecological, anarchist, and other social movements. Our activism became increasingly informed by a critique of mass technics, mass society, and industrial capitalism, inspired by writers such as Jacques Ellul, Lewis Mumford, Ivan Illich, and Langdon Winner. We were also inspired by movements in many places involving worker resistance, native rights, land struggles, and ecological campaigns, often against mega-industrial development projects ... power lines, airports, mines, dams, nuclear facilities, and so on.

In the 1980s and 1990s we participated in the radical ecology movement, trying to assess the transformative potential of movements such as deep ecology, social ecology, bioregionalism, environmental justice, and the movements of indigenous and land-based peoples.

But our opposition differed from that of many other opponents of such development projects. In the case of nuclear power and nuclear weapons, for example, we agreed with a radical consensus that pointed out nuclear power's inherent dangers and connection to mortal militarist fantasies. However, following Mumford's *Myth of the Machine* (1967) and C. Wright Mills's prophetic *The Causes of World War Three* (1958), we began to explore the nuclear power system not just as a methodological error of technocrats and capitalists, but as part of an embodied form of social organization. With this megatechnic, politically hierarchic, and totalitarian structure came, naturally, the techno-bureaucratic "thrust" toward mass destruction being carried out by military-industrial elites who were actually planning nuclear war, alongside and in synergy with an inevitable, blind "drift" toward apocalypse.

Not only that. Dismissing as ambitious technocrats those activists who proposed political reform, referenda, and other "half-measures," as well as visionaries peddling "soft" or green technologies, we also asked, *energy for what?* Nuclearism might be abandoned, but given industrial capitalist society's (which is to say consumer society's or mass society's) voracious need for energy, the system would still be on the path through its petrochemical labyrinth toward the Minotaur of omnicide.

In the 1980s and 1990s we also participated actively in the radical ecology movement, trying to assess the transformative potential of movements such as deep ecology, social ecology (Bookchin's and others), bioregionalism, grassroots antitoxics campaigns, environmental justice movements, and the movements of indigenous and land-based peoples. We began to talk about a "critique of civilization," drawing from the work of anthropologists such as Stanley Diamond, Pierre Clastres, Marshall Sahlins, Dorothy Lee, and Eleanor Leacock, and the luminous work of American poet Gary Snyder. We discovered other cultural critics such as Theodore Roszak, Neil Postman, and Jerry Mander, and the ecofeminists—Vandana Shiva, Maria Mies, Ariel Salleh, and Carolyn Merchant among them.

We also returned to old classics: Diogenes and Heraclitus, Taoism and Buddhism, and other manifestations of the "perennial philosophy" (Aldous Huxley's term from his 1945 book with that title), especially the wisdom and long view of indigenous peoples. For me this was a return to earlier thinking. As a very young man I was interested in Buddhism and Taoism, and even was granted conscientious objector status during the Vietnam War on the basis of being a Buddhist. Our attraction to the perennial wisdom traditions and especially to indigenous philosophies (as well as active support for native struggles) led us to a kind of primitivism, and we called it that, even though at the same time we insisted that "all isms are wasms" destined to be inevitably, and sometimes immediately, superseded by reality.



Much of what we did at the time was simple provocation. When in 1983, instead of its annual "Man of the Year" article, *Time* magazine named the computer "Machine of the Year," we published a large drawing of a sledgehammer smashing a computer on our front page, naming the sledgehammer "Tool of the Year."

"Today," I wrote at the time, "the personal computer promises utopia, reassures us that it will usher in freedom and dreams.

It is already shaping our lives and thoughts. Tomorrow we will be chained to it, as we are to mass society, the television and the automobile, chemicalized food production and chemical wastes." We called on our readers to take up "the tools at hand, simple tools, hammers and sledgehammers, even stones" against these machines, and to create "communities of resistance" to them.

We might have suspected that organized, anti-computer communities of resistance were not going to appear. Eventually even most self-proclaimed luddites began to write and publish their declarations on computers—typewriters and mimeographs were soon getting more difficult to find—and later on blogs. Of course, this development did not refute our general argument about technology, but rather tended to corroborate it. Following Langdon Winner's comprehensive *Autonomous Technology* (1977), we argued from the beginning for a sociopolitical or "epistemological" luddism, to function (in his words) as a method for "deliberately dismantling technologies," refusing to develop others, and "recovering the buried substance upon which our civilization rests." Winner insisted that he was "not proposing that a sledgehammer be taken to anything." We also repeatedly explained in our many debates that we were not calling for the destruction of all machines, or for a return, let alone for an *immediate* return, to some pre-technological idyll (which a few pious souls outside our circle did propose).

As a matter of fact, actually, we did rather like the image of the sledgehammer. And thirty-five years later I must confess that, despite its tendency to reveal how few tools any of us has to deflect industrial capitalism's trajectory toward the abyss, I like it still, at least as a provocation.

Miseries and grandeurs of travel

I am also happy to see these essays in Spanish for sentimental reasons. The earliest ones were written soon before my compañera Marilyn Rashid and I left the United States in the spring of 1983 for an extended stay in France, Portugal, and Spain. In fact, the urgency in the essays and our antiwar and anti-missile deployment activism was an impetus for us to leave our jobs and go to those countries (particularly Spain) to which we were powerfully attracted. There we visited historic and prehistoric sites, museums and beaches, remote villages and famous cities we had long dreamed of. We also visited squats, communes, and anarchist/antiauthoritarian locals and newspaper offices. Along

the way we had the good fortune to meet many participants in radical and anti-authoritarian movements like our own in the US. We ended up becoming lifelong friends with some of them.

The first essay in the book, “Civilization is Like a Jetliner” (in Spanish, “Civilización es como un avión a reacción”), is one of my most reproduced texts, though this is the first time the complete version has been reprinted since it first appeared in the *Fifth Estate* in the fall of 1983. I wrote it in my journal in September of that year under the dim lighting of the Biblioteca Nacional in Madrid, where we had gone to read and to catch up on our journals—among other things, taking notes on our somewhat futile arguments about technology with likeable young anarcho-syndicalist *madrileños*. (I still remember one of them telling us with a laugh that his buddy would like to get back to the earthly paradise we wished to reestablish, but if possible he preferred to get there in his own car.)

There in the library, after reading around in Spanish novelist Ramón Sender’s essay, “Miserias y grandezas del viajar” (“Miseries and Grandeurs of Travel”), I took notes for my own “essays from another world” (Sender’s phrase). Then I jotted down a dream I’d had, “a tornado dream ... a kind of spiral, which is the Labyrinth, and Death,” and commented on the shooting down of a South Korean airliner by Soviet fighter jets, which seemed representative in several ways of our predicament in modern civilization’s labyrinthine death spiral. I copied it out of my journal later and sent it off to our friends in Detroit, and we headed south, south to Granada. “A man in the station sitting on his suitcase,” I read in a little copy of Ramón Gómez de la Serna’s *Greguerías*, a book of aphorisms I was carrying around, “looks like someone expelled from the world.” But we were happy to be expelled (“expulsados”) for a time. Though worrisome, these were happy days.

Later, after a week in Andalusia, and another trip up the Mediterranean coast to Catalonia, it came time to head home to Detroit, and we returned to Madrid for our flight in late November. After a brief hectic visit to say farewell to our new friends in Gerona (in the country) and Barcelona (in the city), we took a train on the anniversary of Franco’s death (the fascists stayed mostly under their rocks). On the farm near Sant Sadurní, my soul brother Ignasi had shown us the difference between *encinas* and *robles*; these different oak trees, and our friend, the militant turned peasant, reminded us of the stories of the Golden Age. And on the train from Sants, the station in Barcelona, to Chamartín in Madrid, traveling through the dusty fields of Aragon, I thought about the train as a symbol of history.

In the post office in Madrid we found mail from Detroit awaiting us, including the new *Fifth Estate*. On the front page was an unsettling drawing of passengers and portholes drawn by Marilyn’s sister Kathleen and my rant about jetliners failing and falling; we joked darkly that if we crashed the next day, our Detroit comrades would send the essay to *The New York Times*. Now *that* would be immortality, for McLuhan’s proverbial fifteen minutes, at least.

Later, in the Retiro, Madrid’s Central Park, we could hear jets taking off from and landing at the airport in the distance. In the Café Moratín, near the Prado Museum, I wrote in my journal:

Velocity, with Time—the exterminating angels of this Civilization. We leave Madrid at 8:30am, we are told, fly eight hours west and arrive in New York City at 10:30am. If the jet flew much faster, we could arrive the day before. Given such possibilities, a super-velocity jet traveling faster and faster around the globe for several months could theoretically arrive in the previous decade. A few more months could land us in the Middle Ages, in time to join the Taborites. With the proper machinery, who knows—the early Paleolithic. That’s one way to go “Back to the Stone Age.”

We made it to New York in twelve hours and took the bus into Manhattan through Queens, passing Calvary Cemetery, the largest in the US, with what must have been a couple of million interments at the time. (There are three million there now.) We could see a power plant, rows of houses looking like tombstones, and the Manhattan skyline in the distance. I realized that this was the cemetery pictured in Mumford’s *The Pentagon of Power*, volume II of *The Myth of the Machine*, titled “Megalopolis as Necropolis.”

Back to the caves?

Much time has passed and much has happened since our *andanzas*, our wanderings, in Spain. Jet plane travel as ecologically anathema? ... well, I confess I’ve been back and forth across the Atlantic several times since then, and didn’t swim. I’ve lived thirty-five years not only against the planetary work machine, against petrochemical capitalism, but also with it. Perhaps more accurate to say that I’ve lived *within* it, and more and more within the unified, interrelated webs of the so-called information society as it has established its dominion in every nook and cranny of human society and subjectivity. This juggernaut seemed to arrive as a bulldozer. It also arrived as a microchip, a microorganism, a microcosm replicating itself virally, gradually—not so gradually—transforming everything around it into a replica of itself and simulation of what was once lived. In the last ten years, this arrival, a permanent technological revolution, has accelerated. Everything now is arrival, arrival, arrival, the pace increasing, the effects synergizing.

Was I wrong, then, to suggest we might choose to dismantle megatechnic structures, to reduce inputs and outputs, leave environments undeveloped, refuse to create more infrastructures, decelerate rather than accelerating, return to former modes of work—including some that are more labor intensive—and to refrain from extracting more minerals? To propose such measures, or that we might live without ubiquitous cellphone networks, social media, and an expanding universe of electronic gadgets is now mostly dismissed as feckless, even dangerously mad. To “go back,” turn back clock and calendar, is to confect prelapsarian fantasies. It is to relegate oneself to the position

of Huxley's *Savage*, heading toward intellectual suicide—even toward advocating *actual* suicide to a species now dependent on mass technics for its very survival. (No doubt there are advocates of species suicide “for the good of the planet”—one can probably now google them and find their webpages.) With an avalanche of books and articles coming out, documenting the troubling effects of expanding the “wired” society, even insightful critics of the profoundly troubling effects of these technologies deny taking a “luddite” stand.

Looking back on the essays in this book—particularly those dating from the early 1980s, written from a distinctly intransigent, “primitivist” point of view—I occasionally find myself wishing I had presented them differently. That may be age talking retrospectively to youth, or simply a desire to have had a greater impact than I had, a better rhetoric. As my thinking and writing evolved, it made more sense to me to frame my arguments as questions and concerns more than as manifestoes suggesting a coherent analysis or program. To borrow a 1960s slogan, one question may in fact be worth a thousand “answers.” In our defense, even early on my comrades and I had described our “mostly skeletal critiques” as tentative. But as I went along questioning technology, civilization, science, and politics in the pages of the *Fifth Estate* and in the bars of Detroit, I did begin (amid the often arid arguments of the 1980s and 1990s “for” and “against” technology, “for” and “against” so-called civilization) to nuance my arguments more.

Robots all the way down

Shortly before leaving for Spain in April 1983, I crossed paths in New York City with a British anarchist who questioned me about my criticism of the technosphere. He was feverish over “libertarian technology,” for anarchist computer networks. Pointing at my blue jeans, he told me, more impishly than aggressively, that my arguments against mass technics were hypocritical. Gandhi, a critic of industrialism, had spun cotton, he said, so if I wasn't willing to spin the cotton myself I was letting others do the work, pay the consequences, and thus was benefitting from the very megamachine I pretended to resist.

I didn't bother to point out to him that he also had acquired his black jeans (black making him more anarchist than my blue jeans made me) without spinning any cotton, but I did remind him that ethically, in terms of an organic relation between production and consumption, we were mostly on the same level: among the privileged. In his high-tech egalitarian-democratic future, who would grow and harvest the cotton, spin and dye it, sew it, carry and stack it, ship it, so that we could wear it while we argued about our different concepts of utopia? Well, robots, he offered. Robots would do it. And who would build the robots, after mining the metals and spinning the wires, and the rest of it? The answer: Robots. It seemed to be robots all the way down.

I was not familiar with Gandhi's anti-industrial statements at the time, and I made a mental note to look into them, something I didn't do until many years later. When I did, I found

ideas in his ancient/modern synthesis that I could use. Whatever criticism we may raise about Gandhi today, one cannot help but admire his rejection of the ideology of ever-expanding production and consumption, the endless craving that is the cornerstone of capitalism. Urban-industrial civilization not only met perceived needs (for some), it created and expanded new needs, engendering an increasingly insatiable subjectivity. Gandhi's turn to the spinning wheel as a model of self-sufficiency for India and the Indian village, and also as a meditative activity intrinsically healthful for spirit and mind, suggests possible ways, ancient and also modern, to a kind of mindfulness, to a kind of life... far more beneficial to the individual and to society today than the engineered compulsion to access more energy, more velocity, and more commodities.

A deeper life

In the 1980s the cybernetic millenarian optimism of California ultraleftists, anarchists, and others coincided strikingly with the advertisements of corporations producing the stuff, from IBM to United Technologies to Apple. While organizing against wage labor in their sector in the emerging tech industry in the San Francisco Bay area, for example, young libertarian leftist militants celebrated the possibilities of computers, arguing that global communications and “mechanical slaves” could “coordinate our needs with the available labor-power [they meant labor] and raw materials.” Similarly, following a relatively conventional—indeed vulgar—Marxist argument, Murray Bookchin was contending, starting in the 1960s, that the technological revolutions brought about by capitalism were creating “the objective quantitative basis for a world without class rule, exploitation, toil, or material want.” Once “bourgeois control of technology” was abolished, computerized robot networks made up of “self-regulating control mechanisms” such as “thermocouples, photoelectric cells, X-ray machines, television cameras and radar transmitters,” even a new “electronic ‘mind’ for coordinating, evaluating most routine industrial operations,” would “produce a surfeit of goods with a minimum of toil.” Basic principles of efficiency “can be applied virtually to every area of mass manufacture,” he enthused in his 1971 volume *Post-Scarcity Anarchism*, “from the metallurgical industry to the food processing industry, from the electronics industry to the toy-making industry, from the manufacture of prefabricated bridges to the manufacture of prefabricated houses.” Even farming could be almost fully automated. With this global computer network up and running, “Free communities would stand at the end of a cybernated assembly line with baskets to cart the goods home.”

As a contrast let us consider a comment by the poet laureate of Earth reinhabitation, Gary Snyder, in *The Real Work* (1980). When he was starting out in the Zen monastery in Japan, he says, he tried to suggest improvements through labor- and time-saving techniques. A monk told him not to bother. Since everything they were doing was a form of meditation (or mindfulness practice, we might say now), “We have no interest in

It's misguided to assume that under the "right direction"—of socialist governments or workers councils or networks of municipal assemblies—vast, opaque webs of human labor and organization, complex institutional infrastructures and mechanized networks could be democratically and "rationally" managed.

doing things 'better' or faster, because that's not the point—the point is that you live the whole life." Snyder adds, "I've turned that insight over and over ever since." Snyder's point, in the tradition of Diogenes and Lao-tzu, contrasts starkly with Bookchin's pecuniary, bourgeois notion of progress. They are simply incommensurable, the way that capitalist instrumentalism and living a whole life are incommensurable. But turning the monk's response to progress over and over could be very useful to decisions we must make about technics and life.

For sounding alarms about what mass technics were doing and might yet do to the human context, my *Fifth Estate* friends and I were accused of being crazy, arrogant, inhumane. This according to people who suffered from the unexamined arrogance of assuming that under the "right direction"—of socialist governments or workers councils or networks of municipal assemblies—vast, opaque webs of human labor and organization, complex institutional infrastructures and mechanized networks could be "rationally managed" for human good. To us it seemed, and still seems, that the restless wandering in search of an industrialized "better life" threatens to undermine the possibility of the good life.

What the good life is, a deeper life, is surely a question open to debate. But I still think it more than plausible to assert that it won't be delivered by robot-built robots or carted away from the end of a mass production line. The latter is a Walmart—or perhaps a *Wall-E*—fantasy. As Mumford put it a half a century ago in *The Myth of the Machine*, a reliance on such mechanical solutions to human problems "when what is actually required is mechanical simplification and human amplification," would only consolidate the power of the totalitarian work machine and reduce human beings themselves to automata. And this is in fact what such solutions seem to be doing.

Malign trajectories and disenchantments

By the end of the 1980s the worldwide environmental movement in which we were participating was growing. It seemed to be making modest headway against the apocalyptic conditions scientists were reporting. New social movements, often led by women, indigenous peoples, and frontline communities in contaminated industrial "sacrifice zones" were beginning to conceptualize a new social dispensation rooted in justice and equality, ecological health and sustainability. As we entered

the last decade of the twentieth century, scientists and activists declared the 1990s to be the "decisive decade," asserting that an "environmental revolution" was required to save not only our own skins but the panoply of life as we know it on the planet.

Time rolled on. The revolution sputtered. Neither Occupying Wall Street nor agitating against extinction nor voting for Bernie Sanders made much of a dent. Some started to appreciate that the momentum of the malign civilizational trajectories carrying modern society toward the precipice are stronger than any had comprehended. Others short-sightedly blamed my aging generation—the one that had, fifty years ago, marched for peace and planet. The youth of today observe ongoing militarism, inequality, and despoliation. They've witnessed a series of horrifying wars and genocides—the Balkan wars, Rwanda, Chechnya, Darfur, Sudan, Central Africa's "third world war," the debacles in Iraq, Afghanistan, Ukraine—and ceaseless mass murder in the Middle East. Entrenched imperial states continue to inflict "interventions" against ragged, devastated populations. Research into the state of forests, biodiversity, soils, fresh waters, and salt seas continues to yield deeply troubling news ... of tar sands extraction, fracking, mountaintop removal, chemical contamination, expanding urban-industrial development, accelerating species extinction rates, expanding "dead zones" in oceans and lakes. The Amazon deforestation rate is rising. The nuclear reactor at Fukushima is still spewing its poisons.

For another example of how a seemingly innocuous product of human ingenuity and an unexamined notion of efficiency can lead to unforeseen, monstrous outcomes—and disenchantment with yesterday's panaceas—consider plastic, one of industrial capitalism's signature creations. In 1967, in the iconic American coming-of-age film *The Graduate*, an older businessman tells a young man just starting out that he has "just one word" to give him as advice: "Plastics." The young man, uncertain, asks him what he means. "There's a great future in plastics," the older man declares portentously. "Think about it. Will you think about it?"

This was a joke against the inauthentic, "plastic society" rejected by the counterculture at the time, but many people were indeed thinking about plastics. The future surely was in plastic, but not in the way anyone imagined. Nowadays, one hardly needs to marshal evidence of the problems caused by this petro-

The isolate cut off from direct relationships with actual people and places is continually proffered modes of “communication” to assuage a deepening loneliness. To join the dance, one must purchase the app, accept the simulation—and the more soma we take, the lonelier we get.

chemical product, from oil extraction to production to consumption and disposal. According to one report, industry has produced nearly six billion metric tons of plastic since 1950, “enough to bundle the entire planet in plastic wrap.” Plastics now are found everywhere, on the sea floor, trapped in Arctic ice, in the guts and fat of wildlife, in tap water and sea salt, and in the form of fused rock and plastic, a “plastiglomerate” being discovered by geologists on Pacific beaches and elsewhere. According to scientists, a giant plastic garbage vortex in the Pacific Ocean, three times the size of France, is “increasing exponentially.” Added to the many threats to our waters, to wildlife, and to ourselves is the emerging crisis caused by endocrine-disrupting microplastics, now ubiquitous not only in oceans and fresh waters but in the soil and in all life forms, including the wombs, bloodstreams, and tissue of animals and human beings.

Our vulgar Marxists and anarchists will tell us this is the consequence of capitalist greed. Both ancient traditions and evolutionary brain science tell us that greed, or mindless craving generally, is far more deeply embedded than capitalism or even class society. But though greed is in the mix, this is not just greed. It’s a version of what Mills, in *The Making of World War Three*, called “crackpot realism.” Most people never saw the poison problem in the panacea. Plastic bags and plastic pens seemed to be, at the time, good ideas.

Elsewhere [in “Catching Fish in Chaotic Waters,” *Fifth Estate* #345, Winter 1995] I have written that Prometheus captured fire, but then left it to his dim-witted brother, Epimetheus (husband of Pandora), to invent the nuclear power grid. Our “ingenuity,” our innovation, has not just caused a problem of plastics in the environment and in our cells. The rise in carbon dioxide and other atmospheric warming agents has led scientists to warn that oceans are becoming more acidic than they have been in the last 300 million years, which is likely to wipe out vast layers in the ocean food web. In 2018 a United Nations report presented dire documentation of the precipitous loss of species, habitat, and fresh water on all continents. Since then we have seen a profusion of scientific reports written in terms of feedback, apocalyptic synergies, cascades of exponential change, and domino effects. Each report seems more dire than the last, more inflected with desperation, notifying the reader that conditions are worsening with more rapidity, more scale and scope, and more likelihood of irreversibility than

previously understood. Metaphors try and fail: it is a “great unraveling” that could be realized within decades. We simply do not know, and cannot know, enough about thresholds to adhere to any certainty about what is to come and when.

Welcome to the Anthropocene

In geological terms, some rather clever people have started to refer to our human sojourn on Earth, starting perhaps with agriculture or perhaps with industrialism, as the Anthropocene Epoch. Apparently, human activity has transformed between a third and a half of the planet’s land surface and, as several scientists told journalist Elizabeth Kolbert [see: *The Sixth Extinction: An Unnatural History*, 2014], human beings have also altered the atmosphere and left an “indelible” stratigraphic layer in the geological record. According to a recent book by British author Simon Winchester [*The Perfectionists: How Precision Engineers Created the Modern World*, 2018], there are now more transistors in the world than there are leaves on all the trees. We have not solved our fundamental existential problems, but we have left our mark; our precious sentiment has found its way to becoming sediment, though not as we might have imagined in our more poetic moments.

Admittedly, one could argue that such news does not automatically validate a luddite critique of runaway technology or justify deconstruction of industrialism. Regardless of what the track record has been to-date, perhaps now only advanced technology can save us? I took this up in my essay “We All Live in Bhopal” in 1989, but I am still thinking about it. In my view, moral and ethical concerns must inform a critique of technology; people, nature, places, the world matter more than our ideas about them. As for practical decisions, I would be the first to admit I don’t know how to stop the Fukushima reactor from leaking deadly radiation. I am very unsure about what steps are needed not only to stabilize greenhouse gases, but to draw down the parts per million of carbon dioxide, already the highest the number has been in three million years. I assume we need not only social and economic but also benign technical responses to basic problems of survival. And since I’m not prepared to throw myself and the people I love from the high floors of this burning skyscraper and pray for the best, I have learned to be more pragmatic than I was when I wrote some of the essays in this book.

Facing a calamitous situation, I admire people who might humbly make things better for human beings, places, and the planet, and I could even derive some hope from the partial measures they devise. But I also worry about the solutions they offer. Indeed, some proposed solutions seem to be more of the same, even a source of new nightmares; one thinks about geoengineering schemes to manipulate carbon levels in the atmosphere, or the proposed massive expansion of nuclear power in order to keep the industrial machine functioning.

In a highly regarded book on how to address global warming scientifically and technically [*Heat: How to Stop the Planet from Burning*, 2007], George Monbiot brilliantly surveys a very complicated range of possible technological responses to global warming, refuting many claims and showing measured optimism about others. In the end, however, he wonders if even he has succumbed to “a chiliastic belief in salvation” and “a faith in miracles” of deliverance. “Every few weeks,” he says, someone contacts him “with a proposal for what is, in effect, a perpetual motion machine.” Monbiot says he’s confident he has demonstrated that the required reduction in carbon emissions, “if difficult,” is “technically and economically feasible.” But he admits he has “not demonstrated that it is politically possible” because many things people now take for granted must be cut back drastically or eliminated. It is up to the reader to figure this latter problem out, he explains, though he worries that we who live in the Global North “are simply too comfortable, and we have too much to lose.”

Whether in triggering the original crisis, or in responding to it, there is little evidence that society is questioning the next step, and the next—or that there is even a viable method of doing so. How to know if a given solution is Ariadne’s thread out of the labyrinth, or another perpetual motion machine, or—even worse—more crackpot realism and hapless techno-fixes that drive us deeper into it? Isn’t it at least time to recognize that technological means come with their own repertoire of unforeseen ends? “Our high tech, green society is built on a wobbly foundation,” author David S. Abraham observes [in *The Elements of Power: Gadgets, guns, and the struggle for a sustainable future in the rare metal age*, 2015]. “Our collective decisions have an impact on places that we haven’t really even thought about. But more importantly, it takes a lot of resources to make the lives we choose.” Abraham does not consider the fact that “we” (especially the people in places we haven’t even thought about) have not chosen this path, but rather are being dragged down it by forces greater than anyone seems to be able to resist. This is the path to largely unexamined dependency on products that come at great cost to people and planet.

Internalizing the megamachine

When we published our sledgehammer provocation in the 1980s, my pals and I thought we could spark a political movement against not only the *form* of industrial capitalism, but its *content*. We were capable of imagining that instead of simply chaining us to computers, industrial capitalism’s greater (and

more frightening) triumph might be to implant them *in us*. Now that capitalism has managed to chain small, hand-held computers to most of us, confirming our warnings, I nevertheless find myself surprised, appalled, and disheartened.

Beyond potential individual somatic damage, one must consider the networks produced, and the psychological and cultural transformations such networks proliferate. I am speaking here of that necessary *universe of means* they require, the unforeseen outcomes they indirectly bring about, and the *universe of meaning* they summon into existence, which make them a functional necessity for the individual and the collective. As Cornelius Castoriadis put it, all tools and technics become “institutions as well as embodiments of meaning.”

Massification generated a mass society, and the way out is unclear since the masses are now embedded in the machinery—the matrix—and the machinery (the matrix) in the masses (all of us). Which is why neither complicated technological solutions proceeding full steam ahead into the future nor simplistic anti-technological reveries of oneness with nature will serve us now. In a section of *The Pentagon of Power* titled “The Megatechnic Bribe,” Mumford warned that the megamachine was becoming more “internalized, and therefore harder to throw off,” and the human foundations of advanced technology were “crumbling away,” leaving only the apparatus.

We seem to be living out the prophecy. Cellphones and computers now link significant numbers of the planet’s population, even the poor, to Capital’s networks. Despite the technological triumphs predicted by both corporate publicity agents and leftwing acolytes, no one has yet created a free society based on computers and related technologies. What *has* happened is that where social media and cellphones have become the delivery platforms for a widely-used, meaning-making information network almost no one seems to be able to live without them. Perceived as innocuous, pleasurable, and promising at inception, they’ve now become, for large numbers of people, a necessity; in just a few years since they were introduced, these objects can be found in the hands of people everywhere, in places public and private, and generally to the detriment of books, conversation, attention spans, creative daydreaming, and reflection. As in Huxley’s prophetic *Brave New World*, no one now ever need be lonely—and no one can stand to be alone, where insight, gestated in solitude and sometimes in suffering, might arise.

In his elegant historical, scientific, and phenomenological inquiry into these new “intellectual technologies,” *The Shallows: What the Internet Is Doing to Our Brains* (2010), Nicholas Carr argues, “It’s an overstatement to say that technology progresses autonomously—our adoption and use of tools are heavily influenced by economic, political, and demographic considerations—but it isn’t an overstatement to say that progress has its own logic, which is not always consistent with the intentions or wishes of the toolmakers and tool users. Sometimes our tools do what we tell them to. Other times, we adapt ourselves to our tools’ requirements.” It is important to add that not only must we pretty much always adapt to the requirements of the

From its microcosmic effect on our brains to its macrocosmic effects on the biosphere, technological civilization tends to be allelopathic, and everything is increasingly geared in its direction—or otherwise eliminated.

technology or it won't function, its requirements tend to proliferate synergistically, layering on new technological relations and imposing new requirements. As Emerson noticed in his essay *Works and Days* (1870), "Machinery is aggressive. The weaver becomes a web..." Technologies are "reagents" that impose an inevitable acquiescence on the agents who employ them.

Following an admirable reading of Marshall McLuhan, Carr addresses this dialectical paradox incisively. "The tight bonds we form with our tools go both ways," he observes. "Even as our technologies become extensions of ourselves, we become extensions of our technologies ... Every tool imposes limitations even as it opens possibilities. The more we use it, the more we mold ourselves to its form and function." As McLuhan put it, the tools we create as "extensions" of ourselves "numb" or atrophy the organs we extend or "amplify," distancing us from them and their natural functions.

This logic also presents us with something of an explanation for why so many once richly diverse social contexts have succumbed to a global turbo-capitalist culture that renders people on every continent largely identical. From Greenland to India, New York to Beijing, and overwhelmingly so in advanced industrial societies and the industrialized sectors of the so-called "developing" world, many of us now inhabit a global Cyber-Net of Samsara, if you will—a high-tech avatar of endless craving and delusion, which were already identified as human "poisons" in ancient times: that is to say, a continual, advertising-fueled frenzy for commodities and commodified experience, and with it a pervasive confusion between the real world and its hyperreal counterfeit.

Many observers have argued that cellphones and social media are addictive and in fact have been *designed* by the anonymous wizards in Silicon Valley and elsewhere in order to be addictive. The technologies seem to be working quite well in that capacity: A study done in 2013 found that the first and last thing most people with cellphones do each day is to check their phone, and that the average cellphone owner checks the phone 150 times a day—every six minutes on average. Researchers have also reported that many people spend more than eight hours a day on their phone and computer and that nearly half of cellphone users report that they "couldn't live without" their phones. The question here is, what or who is using what or whom?

A study of a thousand university students in ten countries on five continents, which required them simply to go 24 hours

without phones and media, found that students everywhere considered their phones to be "an extension of themselves" and "essential to the way they construct and manage their friendships and social lives." They frequently spoke of their phones in terms of addiction, and "couldn't imagine" how to go through their day without their media. "Mobile phones function both as this generation's Swiss Army knife and its security blanket," the authors of the study concluded.

A life online

In her affecting 2011 book, *Alone Together: Why We Expect More from Technology and Less from Each Other*, technology researcher Sherry Turkle comments that the findings of such studies confirm her own extensive interviews with psychiatrists, psychologists, and social workers who speak of "the increasing number of patients who present in the consulting room as detached from their bodies and unaware of the most basic courtesies. Purpose-driven, plugged into their media, these patients pay little attention to those around them. In others, they seek what is of use ... Their detachment is not aggressive. It is as though they don't see the point."

At a time when the synergistic cyclone of industrial civilization seems hell-bent on the destruction of the planetary life web, we sorely need agents of transformation, indeed, of salvation, to work as conscious collectives, even Beloved Communities, to save the world. *We need revolutionaries of a new kind and for a new dispensation.* And yet, just when such a human subject is most needed to stop the drift and thrust to extinction, mass technics seem to have eroded the very social and psychological basis for such subjectivity, making human beings less able than ever to confront the crisis.

One can observe people, young and old, sitting in restaurants and on park benches, at bus stops and in airport terminals, or walking, staring downward, silently touching the palm of their glowing hand, from which perhaps some ants may any day emerge, as in a surrealist's antiquated dream. Young people on dates are looking not into each other's eyes, confidently or awkwardly, taking their early steps into love, but into their phones. Parents push their children in baby carriages or on swings with one hand while gazing at their smartphone in the other. "It is ... tempting to talk about all of this in terms of addiction," Turkle observes in *Alone Together*, since "the addiction metaphor fits a common experience." And yet, she continues,

Talking about addiction subverts our best thinking because it suggests that if there are problems, there is only one solution ... to discard the addicting substance. But we are not going to “get rid” of the Internet. We will not go “cold turkey” or forbid cellphones to our children ... We have to find a way to live with seductive technology and make it work to our purposes. This is hard and will take work. Simple love of technology is not going to help. Nor is a Luddite impulse.

I appreciate Turkle’s sensitive, perceptive work; she is an eloquent chronicler of the impact and implications of technological runaway. But to argue that “we” are not addicted to the internet, social media, and cellphones because no one is going to give these things up, or even keep them out of their children’s hands, hardly seems proof of our best thinking. In fact it sounds like denial. Moreover, her conclusion that we must “learn to live with seductive technology” seems to counter her own evidence and argument. We need to “put it in its place,” not “reject or disparage” it, but how? Well, after offering abundant, relentless, harrowing evidence of how trapped in the compulsive use of technology children and young people are, how diminished and distorted their empathy and capacity to engage in fundamental human interactions have become in a life online, she urges her older readers, who did not grow up online, to help young people learn to navigate it and limit its power over them. “No matter how difficult,” she counsels, “it is time to look again toward the virtues of solitude, deliberateness, and living fully in the moment.” In spite of her troubling evidence to the contrary, Turkle remains “cautiously optimistic ... There are no simple answers as to whether the Net is a place to be deliberate, to commit to life, and live without resignation. But these are good terms to start a conversation.”

No one ever seems to recommend cautious *pessimism*. And, let’s face it, saying anything about the merits of luddism is probably a conversation stopper at the Massachusetts Institute of Technology, where Turkle works. She must spend a lot of time arguing with colleagues, as she does with various promoters of technology who blithely compare the internet to a rainforest, or who think that robots sharing our beds, feeding and diapering our children, and attending to our ill and dying parents may be the best thing, as the saying goes, since sliced bread. Despite her rejection of the term, her values—solitude, deliberate and mindful living, commitment for life—and her evidence and argument all suggest that she too seems to be working from something of an epistemological luddite impulse. Echoing Thoreau’s quip in *Walden* that “We do not ride on the railroad; it rides upon us,” she notes, “We talk about ‘spending’ hours on email, but we, too, are being spent....” And: “Overwhelmed by the pace that technology makes possible, we think about how new, more efficient technologies might help dig us out. But new devices encourage ever-greater volume and velocity.”

Turkle recalls arguing at MIT with early computer researcher Joseph Weizenbaum in the 1970s over his warnings about the

dark side of human interactions with and personalization of so-called “intelligent” machines. “As it turned out,” she admits, “I underestimated what these connections augured. At the robotic moment, more than ever, our willingness to engage with the inanimate does not depend on being deceived but on wanting to fill in the blanks.”

According to Turkle’s psychoanalytic argument, the attachment, or surrender, to technology is a symptom of deeper problems, and she has a point. “A symptom,” she observes, “carries knowledge that a person fears would be too much to bear ... When technology is a symptom, it disconnects us from our real struggles.” The evils we have perpetrated as a species must have begun with some sense of radical incompleteness and lack of connection with our world (I think Buddhism is right about this), from an anxiety “wired” into our evolutionary development, or in the implacable suffering and mystery in reality itself. Technology, of course, has just magnified human problems, not created them *ex nihilo*. But as in addiction (which is also a symptom), technology has generated new problems, devised infernal machines that *proliferate* problems. We were, consciously or inadvertently, the creators of these wonders, but the world they have established behind our backs is now not only our master, it is our environment. We have become dependent on and increasingly addicted to structures and devices we were once able to live without (indeed, to live without even imagining).

As Turkle’s mentor Weizenbaum argued (echoing Ellul and Castoriadis), not only machines and machine systems but even tools “symbolize the activities they enable . . . A tool,” he explained, “is also a model for its own reproduction and a script for the skill it symbolizes. It thus transcends its role as a practical means toward certain ends: it is a constituent of our symbolic re-creation of our world” (see: *Computer Power and Human Reason: From Judgment to Calculation*, 1976). We should add that a network, which is a mechanized environment, is also a model and script for the compulsions it reproduces (and modernizes), the ancient cravings it colonizes, and the new forms and territories it innovates and embodies. Thus, the attraction to artificial simulations might encompass both wanting to fill in “blanks” we need to face (and perhaps learn to live with) if we are to live sanely, *and* our delusion and self-deception about the long-term consequences of seeking artificial paradises to avoid such necessary practice. Otherwise, the addict is simply soothing his or her nerves with another drink or injection, or another bout at the gaming table, or more anxious posting of Instagram “curation” to fellow ghosts across the web.

This is urban-industrial life pushed to an extreme through digital “interconnectivity”—and alienated mass society hypertrophied. The monadic subject, an isolate cut off from direct relationships with actual people and places, is continually proffered modes of “communication” (at a price) to assuage a deepening loneliness. To join the dance, one must purchase the app, accept the simulation—and the more soma we take, the lonelier we get. It’s the perfect business, the perfect railroad for

the new robber baron. “Loneliness is failed solitude,” Turkle observes. And, let’s face it, loneliness is good for business. “To experience solitude you must be able to summon yourself by yourself: otherwise, you will only know how to be lonely.” But how to summon oneself in all this noise?

The prognosis is troubling. We “may have already completed a forbidden experiment, using ourselves as subjects with no controls,” she surmises, “and we seem to have damaged ourselves in the process.” One can only doubt that the experiment is completed. Certainly, the damage is unmistakable. As we have seen in our children (and ourselves), the inexplicable attachment to and trust in machines and mechanized networks corresponds to a diminished attachment to and trust in human beings, and to the whole natural warp and weave of the world in which our species evolved. We now have come to love our machines. But “no robot,” she reminds us, “can ever love us back.”

The genie is out of the bottle

I agree with Turkle that we need to practice skepticism and humility in figuring out our relationship with technology. That has been the motive of this meandering essay. Though I am not entirely happy with her language, I agree with her recommendation that if the technological culture we now find ourselves in does not support our values, “we have to consider how ... that culture [can] be rebuilt to specifications that respect what we treasure—our sacred spaces.” The problem is that, as Weizenbaum warned, “Instrumental reason, triumphant technique, and unbridled science can create a concrete reality, a self-fulfilling nightmare.” Indeed, from its microcosmic effect on our brains to its macrocosmic effects on the biosphere, technological civilization tends to be allelopathic, and everything is increasingly geared in its direction—or otherwise eliminated.

And so, if this global turbo-techno-capitalist culture is undermining sacred spaces of solitude and reflection (and ordinary household and community spaces, for that matter) with electronic, “crowdsourced” interconnectivity; if it is shifting the ground beneath our feet, stirring up the sky above our heads; if it is volatilizing the present moment in a world of automatic acceleration, human connections and direct experience into a world of representation, lived on and through a screen; if it is undermining the vestiges of the sacred itself with its assumption, in the end, that nothing is sacred, and that everything can be simulated or replaced (AI-enabled “deepfake” simulations now constituting the next advancement of the phenomenon); how are we to maintain solitude, to keep our bearings? Can we, like the proverbial frog in a pan of slowly boiling water, know when “enough is enough” and turn back, take another path? Or are we doomed to hit the boiling point?

Last year I attended a high school assembly with ninth grade students and their faculty advisors, specifically organized to encourage them to get control of and limit their social media and cellphone use. (Most were not convinced.) Interestingly, this was in a school that has, like many of our best schools,

embraced technological “innovation,” STEM (Science-Technology-Engineering-Mathematics) curricula, and BYOD (Bring Your Own Device) education. The people presenting arguments for cellphone and social media limits included one of the technology coordinators for the school who has mostly worked to put technology into the hands of teachers and students, and, I guess, students and teachers into the hands of technology. (I am not pointing fingers here; I am glad they are now thinking about it.)

After the assembly, I had a conversation with a colleague who was also at the assembly with his young advisees. He and his wife have two young children. They maintain a comparably (and intentionally) low-tech household. He doesn’t even have a smartphone, just an inexpensive cellphone he keeps in his car in case of emergencies. Being a teacher of adolescents, he worries about phones and social media, but he is, like so many, “cautiously optimistic.” Sounding like Turkle: “The genie is out of the bottle,” he told me, “the phones aren’t going away.” He added a little ruefully, “Of course, we wouldn’t say that we have to teach our children to use cocaine responsibly.”

As we have seen, the compulsion to find cybernetic “connectivity”—even at the expense of one’s intimate human connections, even at the expense potentially of one’s life (say, texting while driving)—supports the clinical description of addiction. Overcoming it, according to addiction specialist Gabor Maté, would be “the ability to opt for our long-term physical and spiritual well-being as opposed to an immediate urge.” And if a civilization is addicted to its toys, treats, and tools? “Addiction tendencies ... run through our culture,” he argues; addiction as we generally think of it is the extreme end of a spectrum of craving produced by trauma and capitalism—and the trauma of capitalism. Indeed, is not addictive craving a motor force of commodity capitalism itself? The urban-industrial addiction to fossil fuels—it should not surprise us that antiwar activists pronounced oil “capitalism’s crack cocaine” during the two Iraq wars—and the consequent destruction of people, communities, places, and nature, even the possible extinction of vast swathes of life, are not looming threats. They are occurring around us.

The problem isn’t just the cellphone, which has become our proverbial blue pill. We are in a matrix, if you will, of gadgets that is weaponizing human subjectivity. Industrial capitalism has generated a human monad, a “Mad Max” speeding through (or above) a toxic desert in a hardened, air-conditioned, atmosphere-controlled metal shell running on gasoline—a plane or an automobile—spewing carbons and destroying the actual atmosphere. Nowadays, in the war-torn peripheries but also in this Land of the Free, where I am writing these sad words, this subject is also armed with a high-powered weapon and a handheld information and communication device. He or she is not presently interested in giving these things up. So we have to wonder if it is possible to follow Langdon Winner’s advice—to find a way to reject, dismantle, abandon technological structures with which deeply rooted human values may not be able

to coexist, to recover the buried substance not only of our layered civilizations but what it means to be human at all? Is it possible to decelerate?

Recovery, redemption

To consider the idea of sacred spaces needing protection from technological invasion, Turkle again turns to Thoreau, who in *Walden* stopped to consider where he lived and what he lived for. She comments, “Where we live doesn’t just change how we live; it informs who we become.” This useful observation tends to throw into doubt her admonition that we must learn to live with the very technologies that show conspicuous signs, in the long run, of undermining any chance we may have of coming to terms with the human pathologies that have propagated them.

Here it is worth stopping to consider one significant way industrial capitalism is deciding to confront our current civilizational crisis, a crisis not only in our technics and our economic relations but a crisis in character and culture. In one of the essays in this book, written at the beginning of the 1980s, I railed against the space program and fascination with space probes, distant planets, and an otherworldliness that ignored our right-here, right-now ecological crisis. When we started organizing the book, I recommended eliminating that essay because I thought I had gone too far in suggesting that the direct way “primitives” knew the sky was superior to the mediated way most modern people do. I didn’t need that argument, I realized, and could have contrasted modern and archaic more meticulously. I might have avoided the romanticism of assuming that earlier modes were unambiguously “direct,” for example.

But the *salmones* liked the essay—and talked me out of cutting it. And so did events. While I was working on this Afterword, a tech billionaire, Tesla founder Elon Musk, fired a rocket into space, sending a sports car into the galaxies with a mannequin driver in a space suit at the steering wheel and the phrase “Don’t Panic!” stamped on the dashboard. This combination of insouciant wealth and vanity, sending one of the signature artifacts of possessive individualism into space to aggrandize a man of pharaonic wealth, had to be one of the most potent symbols of weaponized ego and avarice in recent memory.

“Life on Earth feels precarious, so we look to the stars,” wrote one commentator archly [Bonnie Malkin in “SpaceX Oddity: How Elon Musk sent a car toward Mars,” *The Guardian*, February 7, 2018]. In fact the more precarious things seem to be, the more space colonization is mentioned as either a perpetual-motion-machine solution to our “resource shortages” or a classic addict’s rationalization that “this time it will be different” or a Plan B confidence man’s hype. Some years ago Andy Weir’s 2011 novel *The Martian*, about a Robinson Crusoe on Mars, became a best seller and blockbuster film. With its cartoonish plot, laden with comic disasters that somehow turn out well and fantasies about mechanical solutions to unprecedented problems, the book and film provoked much talk about its scientific “accuracy” and the possibilities of life in space and

We have to wonder if it is possible to find a way to reject, dismantle, abandon technological structures with which deeply rooted human values may not be able to coexist. Is it possible to decelerate?

on Mars to escape a ruined Earth. So there was something to my earlier, hastily written rant, after all. And so, the piece stayed in the book.

Recently, I ran across an essay, “Excavating the Sky,” by the American writer and activist Rebecca Solnit [in her *Storming the Gates of Paradise: Landscapes for Politics*, 2007] where she reminds us that “the night sky is a clock, a compass, and a calendar for those who know how to read it.” Our ancestors, those nameless Leonardos and Galileos who watched the sky and came up with astronomy (and the gatherers, hunters, and farmers who learned from them), were intimate with weather and stars. This was my point, though less elegantly made, in “Science and Saturnism.” Today, the calendar and clock refer abstractly to cyclical time, “the earth’s daily rotation and its yearly orbit of the sun,” Solnit observes. “Once though, the heavens themselves were the timepieces people needed to read.” As an example she cites Hesiod advising, according to celestial conditions, when precisely to harvest grapes. Her essay is really about both the night and the day sky, which require attention to context. Many other sky, wind, and weather patterns, coming in cycles, were observed against specific landforms and noted for practical reasons (and surely also for pleasure) and her mention of the numerous examples of sky-savvy embodied in subsistence and spiritual practices is itself a pleasure to read. “Celestial observation requires a kind of triangulation” of time, knowledge of one’s earthly location, and the “observed heavenly body,” she adds, following a resonant metaphor: “You could say that the three form a constellation of knowledge.”

We are experiencing—we are causing—a vertiginous disappearance of places, species, landforms, weather patterns; also human cultures and forms of knowledge and sociation. The sky, day and night, is also disappearing; people live more and more inside, under artificial light. Largely digitalized, many children can’t even read an analog clock, with its faint suggestion of the daily round. The physical structure of cities, and also massive plumes of light and smog, block out the horizon and the starlight.

One can point a smartphone at the sky, even during the day, and see stars and constellations on the screen, it’s true. In a fit of desperate enthusiasm to learn more about the sky, some-

thing no one really taught me as a child, I had a rather startling lesson in the importance of context—triangulation, as Solnit might say. I borrowed a friend’s smartphone, downloaded one of several such apps, and pointed it at a few stars in the Detroit winter sky. But it gave me so much information, so many stars and constellations on the small screen, that I couldn’t figure out which were the two or three I wanted to identify. That was knowledge better acquired through lifelong practice of looking at the sky, in situ.

Let us pay homage, then, to our ancestors, those nineteenth century luddites, who have been done such a disservice. They never realized they would become the very representation of futile resistance to implacable, world-wrecking forces set in motion by a class of merciless plunderers, an early generation of captains of industry. They were doing what they could to defend their autonomy, their skills, their common lands, their egalitarian village culture, their family nexus—their entire way of life—from enslavement. They didn’t realize that they were ultimately powerless to stop “progress,” and that the world was on its way to becoming one big planetary factory. It’s been an anti-luddite story ever since.

Were they on “the wrong side of history,” not only mistaken in their understanding of where things were going but wrong-headed, too, fighting a new dispensation destined to be born whatever they said or did, “dripping from head to foot, from every pore, with blood and dirt” but ultimately beneficial? [quote from Marx in his essay on “The So-Called Primitive Accumulation,” in the first volume of *Das Kapital*] With the ground falling away beneath us, it is now at least reasonable to ask, with Mumford, what to make of the “counter-Luddites ... the ruthless enterprisers who during the last two centuries have in effect confiscated the tools, destroyed the independent workshops, and wiped out the living tradition of handicraft culture,” a process that occurred everywhere village culture produced its own subsistence through age-old skills and customs. “What they have done is to debase a versatile and still viable polytechnics to a monotecnics, and at the same time they have sacrificed human autonomy and variety to a system of centralized control that becomes increasingly more automatic and compulsive.”

Change life

Where do we live, then, and what have we, what shall we, become? As a practitioner of a cautious pessimism of the intellect I nonetheless feel that it would be a mistake—a capitulation to the error of adhering to fixed notions—to commit entirely to pessimism. Examining the bloody, painful thread of that other terrible human crisis of the color line, of race, of diversity and justice, the African-American poet Claudia Rankine observed in her devastating book, *Citizen*, “The state of emergency is also always a state of emergence.” In the matters I have addressed in the essays of this book, neither the dual, chiliastic fantasies of technological salvation or primitivist regression to overcome all separations, nor the blithe hope that things will simply work

themselves out, can capture this present moment—the Late Anthropocene, I guess—of crisis. And so, despite the absurdity of his context and the fact that he sent his message into a void where no one will read it, I think it useful to take the interstellar advice of the billionaire egocrat: “Don’t Panic!”

As addiction specialists know, changing one’s life is not merely a matter of eliminating a substance or behavior. It means changing one’s life. And socially, collectively *changing life* involves a dialectical process, both social and individual. One cannot recover through simple abstinence; being sober means turning toward a higher, or a deeper, form of life incommensurate with one’s former values—in this case renouncing the megatechnic bribe, of living like there is no tomorrow and making it come true. This brings to mind the idea of a “higher power” that, as twelve-step stalwarts insist, does not necessarily mean a personal God. It could mean an *inner* power of personal and collective spiritual transformation, indeed a kind of redemption.

While thinking about and writing this Afterword, I did discover one striking way I might have written the essays in this book differently, though I don’t think it would have made much difference to my political antagonists. I happen to have a copy of Ivan Illich’s small 1973 book *Energy and Equity*. I had never gotten around to reading it, though I admire him tremendously. Recently I was stunned when I opened it to an epigraph by the Chilean socialist politician José Antonio Viera-Gallo, an associate of Salvador Allende: “El socialismo puede llegar solo en bicicleta.” (“Socialism can only come by bicycle.”) Published during the year Allende was overthrown and a brutal military dictatorship installed in Chile, *Energy and Equity* argued that whether under capitalism or socialism, “high quanta of energy degrade social relations just as inevitably as they destroy the physical milieu.” Illich asserted, resorting to terms of addiction, that “even if non-polluting power were feasible and abundant, the use of energy on a massive scale acts on society like a drug that is physically harmless but psychically enslaving.” A community, he insisted, could “choose between Methadone and ‘cold turkey’—between maintaining its addiction to alien energy and kicking it in painful cramps.” But no society or community could be autonomously active while “hooked on progressively larger numbers of energy slaves.”

We were clearly coming to similar conclusions at the *Fifth Estate*, but I wish now I had read this little book in the late 1970s. Illich argued for a middle way between technological and anti-technological millenarianism—a formulation not unlike Turkle’s. The poor, he argued, could undoubtedly benefit from more energy and a few more machines, which could help abolish drudgery. The “overconsumers,” on the other hand, need (for their own sakes) to do with less wattage and fewer technological inputs and outputs, since “the avoidance of an even more horrible degradation depends on the effective recognition of a threshold in energy consumption beyond which technical processes begin to dictate social relations.” Forty-five years later, this modest proposal seems to be extraordinarily understated.

We have crossed all thresholds, and entered into the “hyper-industrial Armageddon,” which Illich predicted would unfold if nothing was done.

It would have been useful to say in our debates, if only for the sake of argument, that yes, we could see that some development might be a good idea. We certainly didn’t take human suffering lightly. We did raise the question (at least in verbal discussions) that Illich’s middle way entailed considering what it took to produce and use even this limited machinery and energy, and how societies might go about limiting the expansion of machines and energy use, which no one seemed to be doing. “As soon as a poor country accepts the doctrine that more energy more carefully managed will always yield more goods for more people, that country is hooked into the race for enslavement to maximum industrial outputs,” Illich argued. But “beyond a certain median per capita energy level, the political system and cultural context of any society must decay.” Things get too big and go too fast.

What we hear in the present context is that this or that cybernetic technology or energy system is *required*. But the question remains: Energy for what? Machinery, computers, for what? Required for what? And what is inevitably traded away for these alleged gains? Toward the end of his two-volume *Myth of the Machine*, Mumford called for society to “take counter-measures to slow down the ‘automation of automation,’” to create a true “economy of plenitude—including the luxury of turning one’s back on specious luxuries.” Speaking in terms of redemption, and even salvation, he argued that humanity would need to overcome its “present addiction to private motor transportation” as well as many other industrially-induced compulsions. To do so required “something like a spontaneous religious conversion: one that would replace the mechanical world picture with an organic world picture and give to the human personality the precedence it now gives to its machines and computers.” An epistemological luddism, as I see it, is an open-ended inquiry into our problematic relationship with technology and mass society, and thus with ourselves. It is inevitably a process of conversation, deep listening, discovery, practical work, radical democracy, cooperative action, and communitarian renewal. It is also a process of conversion, requiring us to rethink our notions of freedom, to avoid an excessive attachment to previously-held ideas, and to re-establish an age-old ethic of care.

Responsibility for ourselves and others

What will it mean to effectuate social and ecological recovery—which brings to mind so many other words from the family of the letter “r”: restoration, reinhabitation, reparations, reconciliation, redemption, revitalization, revolution, and the green notion of regeneration? I am thinking of an evolved concept of Peter Kropotkin’s mutual aid and Martin Luther King’s “Beloved Community,” the values in the Jewish idea of *tikkun olam* (healing the brokenness of the world), as developed by Bernie Glassman and other adherents of Engaged Buddhism, and Buddhist monk Thich Nhat Hanh’s deep ecological idea of “Interbeing,” in which relationship with and responsibility for

Even if non-polluting power were feasible and abundant, the use of energy on a massive scale acts on society like a drug that is physically harmless but psychically enslaving.

ourselves and others (including other species and the Earth) are connected—a true Net of Indra.

Czech writer, political prisoner, and politician Václav Havel wrote famously, with a leavening of dark comedy, on the theme of hope. In a short essay in which he describes falling into a sewer and nearly drowning in excrement, he once mused, “If bringing back some human dimension to the world depends on anything, it depends on how we acquit ourselves in the here and now”—which means, I guess, in the midst of this shit we are presently suffering. Hope is “a state of mind,” he continues, “not a state of the world ...” But what is this state of mind? He explains [in “Audacities of Hope” in the October 1993 issue of *Esquire* magazine]:

Hope is definitely not the same thing as optimism. It’s not the conviction that something will turn out well, but the certainty that something makes sense, regardless of how it turns out. It is this hope, above all, that gives us strength to live and to continually try new things, even in conditions that seem as hopeless as ours do, here and now. In the face of this absurdity, life is too precious a thing to permit its devaluation by living pointlessly, emptily, without meaning, without love, and, finally, without hope.

Therefore, hope—perhaps an amalgam of cautious optimism and cautious pessimism—is a mystery, like learning how to re-establish functioning egalitarian human communities, or balancing liberty with responsibility, renunciation with true fulfillment. It’s like figuring out the difference between the serenity to accept what we cannot change and the courage to change what we can—and acting on it.

This can be intimidating. It’s all a process of learning inevitably from our mistakes at a time when we have so little time to get things right. And: we may not get it right. We may fail. We can’t bargain with outcomes. In the long run, anyway, even with the best of outcomes, we are not entitled to the fruits of our practice. This is Krishna’s battlefield advice to Arjuna in the *Bhagavad Gita* (and for this reason one of Gandhi’s favorite passages). And so, how to live? Our prospects are fraught, but we may as well let them be exhilarating, too, for they also remind us that even in these darkest of days, as my friend Fredy Perlman used to say, “Anything can happen.”

Encouraging: The state of academic eco-leftism

A new generation of young post-Marxist eco-leftist theorists tend to be activists as well as academics.

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JENNY CAMERON: Conjoint Associate Professor in the Discipline of Geography and Environmental Studies at the University of Newcastle, Australia. She is currently Deputy Chair and Secretary of the Community Economies Institute and was a founding member of the Community Economies Research Network. As an activist and academic she has been involved in research and teaching activities that shed light on the extant economic diversity that could form the basis for building post-capitalist worlds now.

SANGEETHA CHANDRASHEKARAN: Geographer at the University of Melbourne. She is Deputy Director of the Melbourne Sustainable Society Institute and senior research fellow at the Center of Excellence for Children and Families over the Life Course. Sangeetha's research examines issues of equity and justice in environmental change. She has focused on the energy transition in Australia and the role of the state in marketization of the sector.

BORIS FRANKEL: Principal Fellow at the Melbourne Institute of Sustainable Society, University of Melbourne. He is a prominent author, teacher, and media commentator. His most recent books are the trilogy *Fictions of Sustainability: The Politics of Growth and Post-Capitalist Futures* (2018), *Capitalism Versus Democracy? Rethinking Politics in the Age of Environmental Crisis* (2020), and *Democracy Versus Sustainability* (2021).

JASON HICKEL: Economic anthropologist. A Fellow of the Royal Society of Arts. He is a Visiting Senior Fellow at the International Inequalities Institute at the London School of Economics. He serves on the Statistical Advisory Panel for the UN Human Development Report 2020, the advisory board of the Green New Deal for Europe, and on the Harvard-Lancet Commission on Reparations and Redistributive Justice. His research focuses on global inequality, political economy, post-development, and ecological economics, which are the subjects of his two most recent books: *The Divide: A Brief Guide to Global Inequality and its Solutions* (2017), and *Less is More: How Degrowth Will Save the World* (2020).

ANITRA NELSON: An activist scholar affiliated with the Melbourne Sustainable Society Institute, University of Melbourne. She is author of *Beyond Money: A Postcapitalist Strategy* (2022) and *Small is Necessary: Shared Living on a Shared Planet* (2018); co-author of *Exploring Degrowth: A Critical Guide* (2020); co-editor of *Food for Degrowth: Perspectives and Practices* (2021) and *Housing for Degrowth: Principles, Models, Challenges and Opportunities* (2018).

RUPERT READ: Reader at the University of East Anglia, specializing in philosophy of language, philosophy of science, and environmental philosophy. He was one of five contributors, including Nassim Nicholas Taleb, to a paper titled "The Precautionary Principle (with Application to the Genetic Modification of Organisms)"; this paper has been downloaded approximately a quarter of a million times. In 2004 Read was elected as one of 13 Green Party city councillors in Norwich. He was re-elected in 2007. In 2009 and 2014 he was the Eastern Region Green Party's lead candidate for the European Parliament elections.

Influences . . .

David Abram, Samir Amin, Kate Aronoff, Patrick Bond, Berta Cáceres, Ajay Singh Chaudhary, Noam Chomsky, Herman Daly, Federico de Maria, Stanley Diamond, Arturo Escobar, Gustavo Esteva, Frantz Fanon, Lorenzo Fioramonti, Jack D. Forbes, John Bellamy Foster, Mohandas Gandhi, André Gorz, Ian Gough, David Graeber, David Harvey, Tim Jackson, Giorgos Kallis, Martin Kirk, Naomi Klein, Serge Latouche, Ursula Le Guin, Peter Lipman, Robert Macfarlane, Joan Martinez Alier, Riccardo Mastini, Marcel Mauss, Carolyn Merchant, George Monbiot, Jason Moore, Lewis Mumford, Fredy Perlman, Ann Pettifor, Vijay Prashad, Daniel Quinn, Kate Raworth, Asad Rehman, Ariel Salleh, Juliet Schor, Vandana Shiva, Marshall Sahlins, Julia Steinberger, Peter Victor, Immanuel Wallerstein.

They're saying . . .

What to do: Scale down, slow down, democratize, decentralize. Objectives: Post-capitalism, decolonization, decommodification, degrowth. Values: Cooperativism, egalitarianism, communitarianism, bioregionalism, indigenism. Strategy: Ecosocialist policies at the macro level; prefigurative praxis at the micro level; Red-Green alliances.



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TOP: Thoreau RIGHT: Gary Snyder BOTTOM: Edward Goldsmith LEFT: John Rensenbrink



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