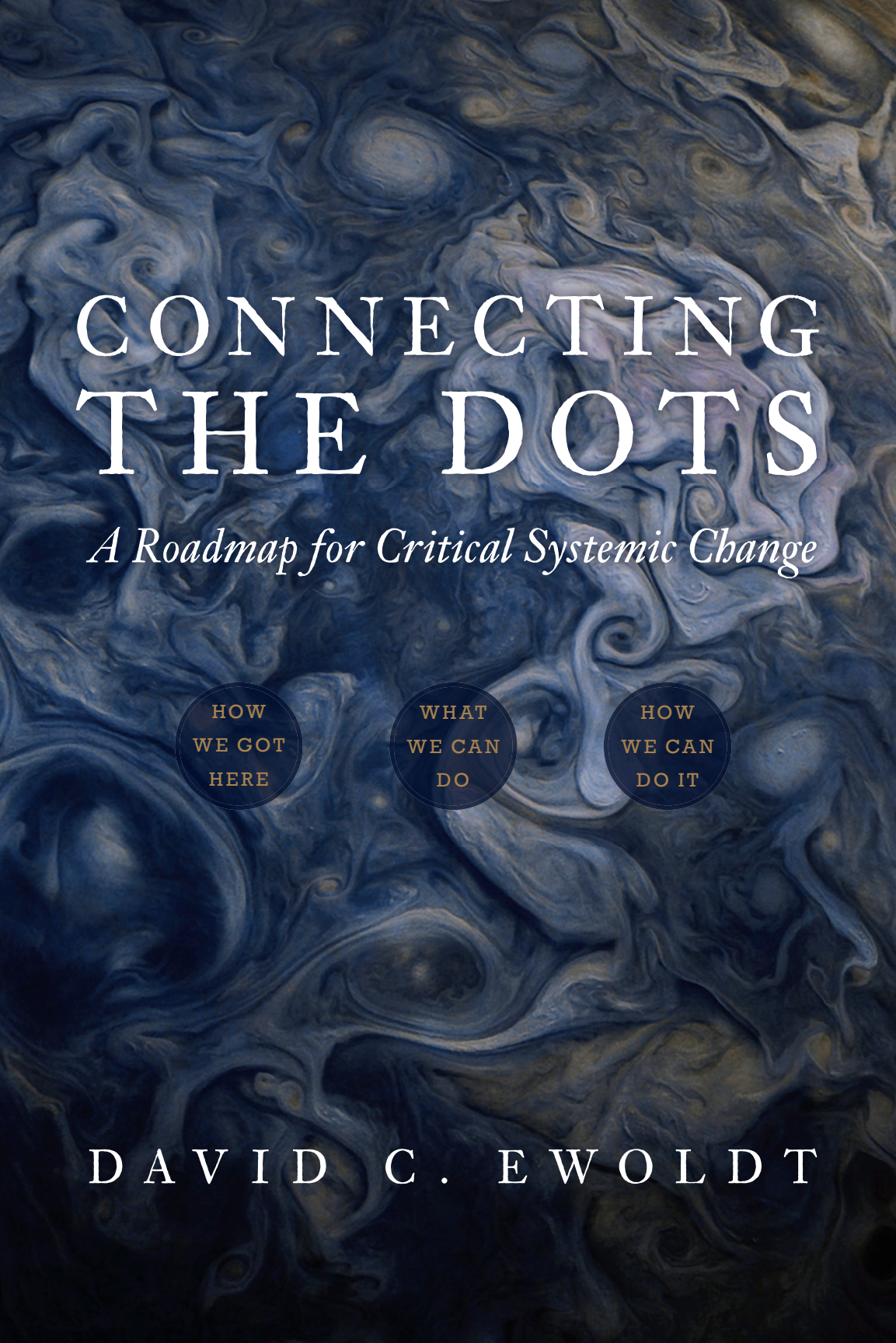
CONNECTING
THE DOTS
A Roadmap for Critical Systemic Change
HOW WE GOT HERE
WHAT WE CAN DO
HOW WE CAN DO IT
DAVID C. EWOLDT

CONNECTING THE DOTS


Disconnection
Global Warming
War
Ecocide
Waste
Peak Oil
Toxicity
Greed
Corporatism/ Industrialism
Dominator Hierarchies
Deforestation
Having More
Infinite Growth
Economic Cannibalism
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Bioregionalism
Natural Systems
Build Coalitions
Mutual Support
Sovereignty
Relationships
Relocalize Community
Diversity
Justice
Earth Jurisprudence
Sustainability
Being More

CONNECTING THE DOTS

A Roadmap for Critical Systemic Change

DAVID C. EWOLDT

Edited by Chet Gardiner and Allison Ewoldt

Connecting the Dots Press
Tucson, AZ

All formats of this book can be purchased at https://attractionretreat.org/connectthedots/ or at the BookBaby Bookshop: https://store.bookbaby.com/

Paperback ISBN: 978-1-09835-098-7
Ebook ISBN: 978-1-09835-099-4

Library of Congress Cataloging-in-Publication data is available at the website.

BISAC Subjects:
POL000000 POLITICAL SCIENCE / General
POL009000 POLITICAL SCIENCE / Comparative Politics
POL028000 POLITICAL SCIENCE / Public Policy / General
NAT010000 NATURE / Ecology

Designed and typeset by Leigh McDonald

First Edition printed by BookBaby: https://www.bookbaby.com/

Bee Banner on page 444 was created by Chet Gardiner from a public domain photo and anonymous quote. The photo used is the face of Kintpuash (1837-1873), Chief of the Modocs who was executed by the United States for trying to return his people to their ancestral home.

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EDITORS' INTRODUCTION

Reversing Our Handbasket to Hell

Dave's keen intellect, curiosity, and heartbreak about the converging crises threatening life as we know it motivated him to study many fields that he deemed relevant to solving our woes, including systems theory. His serious "dot connecting" began in the early 2000s when he discovered *The Natural Systems Thinking Process* developed by applied ecopsychology maven Dr. Michael Cohen. Another of Dave's sources for inspiration and information was systems theorist Ervin Laszlo, who explains In *The Whispering Pond* (1996) that leading edge scientists are now beginning to realize that "there is a constant and intimate contact among the things that coexist and co-evolve in the universe - a sharing of bonds and messages that makes reality into a stupendous network of interaction and communication." It is this 'sharing of messages' in nature that keeps it in balance. By connecting the wisdom of Cohen and Laszlo, Dave started wondering if it could be that the ultimate source of our multitude of life-threatening crises is simply that we as a species have forgotten how to "hear" the messages that nature uses to create and sustain the universe. And thus, the seed of this book was planted.

Dave passed away before *Connecting the Dots* could be published, so his wife Allison Ewoldt (co-founder with Dave of their non-profits) and their dear friend Chet Gardiner (computer maven, community activist and professional musician) picked up where he left off—assisted greatly by Leigh McDonald, who designed the book cover and typeset the manuscript. This first edition of the book is the result of their joint effort.

Dave's working title was *Connecting the Dots: Reversing Our Handbasket to Hell*. Our situation was dire when he passed in December 2018, and since that

time our handbasket has only been accelerating toward that flaming destination at an alarming, exponential rate. You are probably well aware that recent events have included an unprecedented frequency and number of monster storms, droughts and wildfires (and now wildfire induced tornados and double hurricanes!) as well as innovative new super bugs like Covid-19 that are providing proof that Anthropogenic Global Warming/Catastrophic Climate Destabilization is a major existential danger. At the end of the age of "cheap oil", we're viewing the massive global damage caused by the fossil-fueled capitalist consumption, exploitation and pollution machine and the expensive and existentially threatening global Forever Wars that feed it. We're witnessing the dominator hierarchy's inability to deal with our situation beyond increasing inequality which is fomenting civil unrest and enabling the "election" of a blatant symptom of the systemic disease to the "highest office in the land". Add to all of that the fact that now we're experiencing Great Depression level unemployment and general misery during a once in a hundred years Pandemic.

Connecting the Dots provides a greatly needed systemic perspective that begins to answer the most important questions demanding our attention today: "How We Got Here / What We Can Do / How We Can Do It?" In it, Dave constructs a solid, sustainable framework based on natural systems principles that is strong enough to hold a diversity of solutions and endeavors as they evolve in the future.

Many readers will be aware of some of the information in this book, but it is the integration of the "dots" that provides the potential for this synthesis to guide and support activists to make swift and long-lasting corrections away from our current trajectory toward collapse toward a sustainable future. The scope of our challenges is broad and deeply imbedded in culture, so the solution is multi-faceted—but because the "key" to the framework Dave provides is grounded in how natural systems work, its essence is simple: since Nature has been sustainable for billions of years, he guides us to remember how to think and act the way the rest of nature works. The ultimate goal is for individuals and organizations who hold fundamental values in common to form a massive global coalition around a shared vision of sustainability and natural systems principles with non-hierarchical relationships of mutual support and reciprocity at the core.

The good news is that we are seeing the growth of Popular Movements which, if they begin to coalesce their efforts as a Movement of Movements built on a truly sustainable framework, will have the potential to reach critical mass and provide effective opposition to—and replacement of—the unsustainable dominant paradigm. Connecting the Dots is a roadmap to help accomplish that.

Since getting Dave's vital message into the world at this extremely critical time in history is urgent and paramount, we decided to publish his work "as-is", maintaining his voice and letting the book speak for itself because it stands up well even without extensive editing.

Dave's website (http://attractionretreat.org/ConnectTheDots) is evolving to be a positive, proactive space that can serve as another effective tool as together we build a united front—the Movement of Movements that is necessary to implement the systemic changes that are vital to not only improving quality of life, but to sustaining life itself. Please feel free to visit the site and contribute your energy and ideas to this collective effort.

ACKNOWLEDGMENTS

This book is a culmination of work that has come before, as, I suppose, they all are. In this case my major influences were Michael J. Cohen, Ervin Laszlo, Riane Eisler, Jean Liedloff, and Theodor Roszak. To this basic mix was added Herman Daly, Eben Fodor, Jeremy Rifkin, and Roy Morrison.

As I started weaving these ideas together in 2001 based on a framework supplied by natural systems principles and discussing them with others, I became aware of the work of many others, foremost among them Derrick Jensen and Margaret Wheatley. As I researched supportive evidence, the work of many others became instrumental in refining and expanding some of these core ideas, such as Curtis White, Dale Allen Pfeiffer, James Howard Kunstler, Jim Nollman, Howard Bloom, Mitchell Thomashow, Barbara Marx Hubbard, Joanna Macy, Fritjof Capra, Cormac Cullinan, Mary Christina Wood, Richard Register, Michael Shuman, Daniel Quinn, Thomas Berry, Vandana Shiva, Arundhati Roy, Bill McKibben, Alan Durning, Julian Darley, and Richard Heinberg. A recent (for me) addition to this group is Bruce Levine, who brings another highly congruent perspective to this work.

The work of a number of environmental and social activists has also been instrumental, primarily Jan Lundberg, Kevin Zeese, Glen Barry, Starhawk, Paul Cienfuegos, Chris Hedges, David Swanson, and the Women's International League for Peace and Freedom. And I credit John Taylor Gatto for his critiques on the unsustainable ideology, history, and consequences of modern education that have been inculcating our society for centuries.

I must also mention the activists in service to Earth and life who have developed and refined many of the tools or their variants that we use and advocate:

Susan Partnow, Vicki Robin, Daimon Sweeney, Lynette Allen, Michael Bridge, Jon Young, Alan Seid, Tree Breeson, Tom Atlee, and many permaculturists and bioregionalists, especially Michael "Skeeter" Pilarski, E. Christopher Mare, Tyrone LaFay, David Haenke, Peter Berg, Albert Bates, and Gene Marshall. Added to this mix are the dozens of supporters, moral and financial, of our non-profit work over the past decade, the core team of Dave for Arizona, my 2010 campaign for Arizona State Senate, and all the people who have engaged in conversations with me on various e-mail lists and blogs over the past couple of decades.

I'm certain the second this book goes to press, I'll remember a dozen more. My deepest heartfelt thanks and gratitude to each and every one of you, especially my early readers—Chet Gardiner, Julius Gordon, Susan Willis . . . .

A very special thank you goes to my best friend John Abdon, who inadvertently set me down this path. Who could have guessed what a software consulting job on the island of Maui would lead to.

Perhaps most importantly (actually, no perhaps about it) has been the ongoing support and encouragement from my dear wife, partner and fellow ecotherapist, Allison. She was instrumental in formulating the core natural systems principles and is the silent co-author of much of this book. This book would quite literally not exist without her—she keeps me grounded. To actually find not just a soul mate, but a twin-soul is the greatest and rarest of gifts possible on Earth.

Finally, I must express my deepest gratitude and appreciation for the support provided by Danielle Charbonneau. She was drawn to our activism work in relocalization and with Transition Pima in Tucson. Thanks to her, I was able to spend three months free from distractions ensconced in a log cabin on top of Mount Lemmon to finally weave a decade of research into the roadmap you now hold in your hands.

DEDICATION

This book is dedicated to the memories of Barb Abdon, who faithfully put up with John, and was mother to nine of the best kids I've ever known—outside of my own, of course. And to Sharon Crozier, author of The Kick Butt Cancer Book, supporter, friend, and confidant. Both were victims of cancer, which I truly believe would have been less likely to occur in a less toxic world.

There are three people in my life whom I consider to be mentors. The first is my mom, who died way too early when I was in my early twenties. The second is Larry Vandervert, founder of the Society for Chaos Theory in Psychology, who introduced me to systems theory and set me on this basic path. The third is the maverick genius, reconnector extraordinaire, and damn fine banjo picker Michael Cohen. This book is especially dedicated to them.

I also dedicate this book to you, the reader. You recognize that something is terribly wrong with the way things are, and are caring and courageous enough to become part of the solution.

PROLOGUE

A Strategy for Building Critical Mass for Critical Sustainable Change

> "There is a principle which is a bar against all information, which is proof against all arguments and which cannot fail to keep a man in everlasting ignorance; that principle is contempt prior to investigation."
>
> HERBERT SPENCER

Earth and its biosphere, ecosystems and living organisms have been in sustainable balance for billions of years. Life self-organizes networks of mutual support that increase in diversity, complexity and support for the web of life. These simple facts should cause one to wonder why life as we know it may now be on the brink of extinction. In contemplating this question it seemed relevant to first examine how Earth's systems have been creating and maintaining life. The next obvious question became, What has caused us to move away from this?

Natural systems principles are the result of my research into these questions. When comparing what humans have been doing to what natural systems have been doing the evidence clarified how we got into our handbasket. Even though "Why?" is still an open question, a coherent case can be made that begins to answer that as well.

A foundational premise of this book is that the universe is friendly to life and its evolution. Indeed, the prime activity of living organisms is the previously mentioned mutually supportive self-organization and increasingly diverse relationships that support the whole. This activity leads to a vibrant and resilient life-force and creates the conditions necessary for evolution. This basic premise transcends religious and other philosophical squabbles over the how of life's creation (which remains an interesting question, of course), and is the foundation for the natural systems model of sustainability.

Humans are natural and integral members of Earth's living systems. We have the inherent ability to live as sustainably as any ecosystem. In an interdependent

and interconnected world, doing so is an absolute necessity to reverse our current ecocidal trends—one of which is growing inequity.

Viewing the state of the world in natural systems terms, it is clear that the status quo, the dominant story—Business As Usual in Industrial Civilization—is decreasing quality of life. Indeed, it's working hard to bring life itself to a rather ignominious end through the basic unsustainability of industrial civilization.

Rather than cultivating mutually supportive relationships, our dominant culture fosters rugged individualism and competition in an Industrial Growth Society, a term I first heard from Joanna Macy, who credits Norwegian ecophilosopher Sigmund Kwaloy. This term succinctly describes our cultural milieu, and I use it to encapsulate the following concept, the terms of which will be covered: Industrialism depends on Economic Cannibalism, both of which Corporatism enforces. It is a system controlled by self-selected elites built on hierarchies of domination and disconnection. This dynamic is maintained by mutually reinforcing feedback loops and is the foundation for the Industrial Growth Society, which, in the irony of ironies, is sociopathic.

Using a natural systems perspective provides both an explanation of how things went so wrong and a foundation for a rational, pragmatic alternative. In this book, I'll present the best evidence I've found to build a framework that supports a sustainable future built on ecological wisdom and integrity, and thus grounding social justice, economic equity, and participatory democracy. My goal is to make it clear why this shift in fundamental mindset is vital, and since most of you probably agree with that premise, more importantly, why it is reasonable to expect we can achieve it. I will outline the benefits of making new choices to create and support a systemic alternative that is more than just in balance but is holistically integrated with our planet . . . our life support system . . . the web of life.

Beyond the historical perspective to our plight, I will provide a toolkit to develop and practice non-hierarchical organization, communication and decision making skills—thereby laying a foundation for sharing leadership—and a process for determining a community or region's carrying capacity, assessing its resources and uncovering roadblocks to change. This toolkit supports actions that individuals, groups, organizations, and communities can begin immediately to stop the damage, start implementing new systems, and reverse our handbasket.

This is not merely an exercise in logical deduction. My analysis also draws from direct, experiential contact with living systems, as they exist in both pristine and toxic environments. I also examine human social systems that have attempted to remain as closely integrated with their natural environment as possible. Their

knowledge can be developed and built on. Their wisdom can help us approach the future from a life-affirming, rather than profit generating, perspective.

This book is not intended to be an anti-corporate rant, even when discussing the theft and enclosure of the commons (piratization, which is euphemistically referred to as privatization). Rather, I am telling it like it is from the perspective of people, other species and our living planet who have been negatively affected by the prime directive of industrial corporate policy and financial markets to put profit and power above people and planet. It doesn't matter what label you apply to these practices. My favorite is economic cannibalism, but most people just call it capitalism as a way of normalizing bad behavior and propagating a fundamentally flawed 18th Century understanding of human nature. It's past time to start honestly evaluating long held assumptions and face the inconvenient truths they lead to—to gore a few sacred cows. The corporate form today is simply the latest physical manifestation of a paradigm fundamentally at odds with life.

I realize some people will think I'm just being rude by making statements such as, "Wakey, wakey, boys and girls. It's time to take the red pill." But I want to point out that we are in a consensus trance, subject to a state of being that's been done to us, even though we may be complicit in maintaining it, oftentimes in ways we may not consciously realize. It's time to shake the fog of the consensus trance from our minds. Neither denial nor wishful thinking will make the damage we are doing by adhering to unexamined and inherently faulty assumptions go away. As Aldous Huxley pointed out,"Facts don't cease to exist because they are ignored."

Many excellent books detail some of the core problems facing the world due to Industrialism, although it is not uncommon to pin the blame elsewhere and confuse symptoms (empire, capitalism, patriarchy, technology) with cause. This book is different because it makes explicit the relationships among these individual problems and clarifies their common root. Most importantly, this book presents a process and methodology—a framework—that facilitates the development of pragmatic, effective and lasting alternatives to our existing destructive system. Every bit as systemic, this response is congruent with the way natural systems work to create and sustain life. This means it's congruent with true human nature when free of coercive manipulation for selfish ends. This is the missing piece so many others have been calling and looking for.

It is critical that we, as individuals and as interdependent global societies, embark on a campaign for our lives. This is how my wife Allison and I began describing our work when we hosted public screenings of the Peak Oil documentary End of Suburbia in 2004. The campaign's framework looks at the roots of the

global crises and the many ways these crises impinge not just on our own lives, but on life itself—connecting the dots. As the problems are systemic, so must be the response. Further, the proposed actions of this response and the tools they employ must be understood in relation to the problems they are purported to solve and the alternative they offer—reversing the handbasket.

Bringing about systemic change requires being sure we are responding to the root cause and not merely slapping another Band-Aid on a symptom. This is one area the coalition building I'll delve into later can have an important effect. Many of us are passionately involved in putting out the single-issue fires, without realizing they're being caused by the same arsonist.

Not only must we understand the dominant culture, we must recognize its myriad tendrils. We must also be honest with ourselves about the ways we're complicit—such as our unwillingness to withdraw legitimacy—in this system without assigning blame or wallowing in guilt. We must understand what our true strengths, tools and abilities are, and use them to oppose and replace the dominant paradigm by making new choices. We must understand the benefits that are possible from a culture developed through our abilities and responsibilities as living organisms to create relationships that work with the cooperative, creative life force. This is fundamental for all else.

As change agents we must have and use a framework that provides a roadmap for change that works for all nodes in the web of life. We must evaluate decisions and choices based on whether or not they support life—are they congruent with natural systems principles and do they facilitate the sustainability of healthy, vibrant and resilient ecosystems? Using this question is a simple and realistic way to begin reversing our handbasket to hell and transitioning into a sustainable future.

For a critical mass of people to fully achieve this requires agreement on:

1) the goal, which is sustainability and adoption of its ecologically sound and legally defensible definition;

2) the process to achieve this goal, which is a combination of relocalizing our lifestyles, communities and economies and reconnecting with nature;

3) the values we share that can uphold and guide this vision and mission; these values are expressed in the Earth Charter, an international people's declaration of interdependence;

4) being honest about the reason this transition is necessary, which is the underlying dominator paradigm of force-based ranking hierarchies from which the Triumvirate of Collapse (see Chapter One) has emerged. This is not a conspiracy of elite forces or secret societies. So-called conspirators are simply acting

out a shared philosophy. It's not secret, you can read all about it in any public library, or even on their own websites.

These four agreements provide the foundation for what may be our greatest hope for change—the development of widespread multi-issue coalitions of mutual support and action that can build the critical mass necessary to affect critical, systemic change.

In developing a viewpoint that is both comprehensive and cohesive, I refer often to natural systems, their core principles, and how the status quo deviates from or does not adhere to them. To help make the first chapters more understandable, here is a short glossary of terms you may not be familiar with, but which will be fully explained as the book progresses.

Dominator Paradigm—this mindset or worldview consists of ranking hierarchies (humans over nature, men over women, rich over poor, etc.) of control and power based on force, fear, and the threat of force. It is exploitive, competitive, aggressive, and destructive. It requires selfish hyper-individualism and the belief that any "other" (nature, people, culture) is inferior and thus it is morally acceptable to use these "others" for one's own advantage or desire.

Partnership Paradigm—this worldview is based on developing linking networks of mutuality and trust; it is nurturing, cooperative, compassionate, and creative; it places the highest value on relationships, community, and actualization of potential through interconnectedness.

Natural Systems Principles—the four core principles are: 1) mutual support and reciprocity, 2) no waste, 3) no greed, and 4) increasing diversity. These are the principles used by ecosystems to stay healthy, vibrant, and resilient—in a word, sustainable.

Rational Spirituality—A modern Deism based in systems science rather than Enlightenment science. It reintegrates our senses of reason and language with our emotional and spiritual senses. A spirituality for the partnership paradigm.

Sustainability—Sustainability is synonymous with life, and can be defined in an ecologically sound and legally defensible manner (see Chapter Seven). The basic concept means to maintain desired qualities over time. When you combine this with the realization that a healthy planet is necessary for healthy species and economies, the inescapable conclusion is that the integration of human social systems into a living world means we must adhere to the carrying capacity limitations of Earth's ecosystems. For human societies to be sustainable requires applying natural systems principles to justice, equity, and democracy.

Relocalization—a pragmatic, affordable process to achieve sustainability in the human built environment and economy. It includes returning to local

autonomy, producing renewable and non-toxic goods, services and energy as close to the point of consumption as possible, and reducing that consumption while improving environmental and social conditions. Relocalization is the antidote to global corporatization and an infinite growth economy. The core modules of this alternative to the Industrial Growth Society are steady-state local living economies and decentralized but interdependent bioregional networks whose democratic governance is based on an Earth jurisprudence.

Earth Charter Values—the core values the majority of the world's people hold in common which underpin the ethics used to create a sustainable future. The Earth Charter's four pillars are respect and care for the community of life, ecological integrity, social and economic justice, and democracy, nonviolence and peace.

Earth Jurisprudence—a philosophy of law and human governance that is based on the idea that humans are only one part of a wider community of beings, and that the welfare of each member of that community is dependent on the welfare of the Earth as a whole. This is the application of natural systems principles to the creation of systems of administrative law and policy.

In order to create multi-issue coalitions that can build critical mass, a cohesive and comprehensive narrative must be integral to the framework. It's hard to get people to embrace change if they don't think there's anything wrong, or if they believe there's no alternative or that it would make things worse. The radical right has been successfully hijacking the national conversation and consciousness by sticking to a simple common message around a small set of values, a common goal, and minimal arguing over strategies and tactics as long as they're congruent with the values and support the goal. Of course, upon a closer look, the right's values only support elite special interests. But we can learn from the strategy underlying their success.

Taking the message that we need drastic, systemic change to the mainstream has become easier as the public has increasingly become aware of a broad bipartisan consensus in Washington, DC: our elected leaders will be providing no leadership on any issue of any importance to people and planet. It is up to community-based coalitions and local government to provide an example of what leadership actually looks like and to garner the critical mass to support it.

One last thing before we jump into this. Throughout this book I'll often refer to "we" and "our." Unless the context makes it clear I'm referring to the generic "we" of humanity at large, or I explicitly state otherwise, the "we" is my wife Allison—an educator and also a practitioner in the field of applied ecopsychology—and myself. Many of the ideas in this book were incubated in conversations

Allison and I had that sprang from something one of us had read, or would read to each other as we lay in bed at night before falling asleep.

The work we are both drawn to and passionate about centers on helping people remember they have the inherent ability to think and act the way nature works, and that doing so is a critical necessity to protect our ailing Earth—only partially because it is the source and sustenance of who we are.

In particular, the refinement of the four natural systems principles came from our early work in applied ecopsychology. Our thought processes tend to run so closely along parallel tracks—hers the heart, mine the head—that in later conversations neither of us are sure who said what first.

Earth needs healing, and we need to focus on creating opportunities to reach our potential—individually and socially. I remain convinced that we can avoid systemic crash, or at the very least minimize its attendant chaos and suffering and still come out the other side with our core humanity intact. In the end, my sincerest hope is that this roadmap helps to inspire and motivate you to participate in building a sustainable future. In this manner we can assume our rightful place within the web of life. There is a better world out there, and it's just waiting for us to reconnect and rediscover how to be fully human.

PART ONE: THE DOTS

"Why is everything that's good for our bodies, our communities, our world, and our planet called the 'alternative'? That means everything bad for us is the accepted norm."

JULIA BUTTERFLY HILL

Stories can replace reality in the human psyche. They make up our paradigm or cosmology; our way of knowing and perceiving the world. The dominant story in Western industrial culture has three fundamental attributes from which all else emerges and is built on. These attributes are force-based ranking hierarchies of domination, separation or disconnection from the natural world (which includes our internal nature, our communities, and all that is naturally fulfilling), and a pathological sense of the other. In a culture of hyperindividualism, the "other"—anything apart from the ego—is seen as inferior.

From this paradigm emerges belief in the Divine Right of Kings and other forms of elite entitlement, the enclosure of the commons, putting profit above people and planet, debt for imperialism, humans as aggressive, greedy and self-serving, and the growth imperative of industrialism as all being natural and immutable. The damages that have accrued as a result of these beliefs include Peak Oil and other resource depletions, global warming, corporatism, oceanic deadzones, and the toxicity of our bodies. This paradigm is also leading to terminal collapse of economic growth (or free-market capitalism, the doomsday or pollution economy, or cornucopianism, which are all just variations on a theme).

In other words, these beliefs and their manifestations make up the diseased root of our rapidly converging global crises in the environmental, personal and social realms, and they are intimately interconnected.

1

HOW WE GOT HERE: THE DISCONNECT

"If a path to the better there be, it starts with a full look at the worst."

THOMAS HARDY

The Triumvirate of Collapse

The crises facing the world today are systemic, interrelated, and spring from a common root. While they negatively affect everyone on the planet, denial runs rampant and addictive substitutes for natural fulfillment have deadened people's awareness. Denial, however, can be overcome when we connect the dots, not only among the crises, but in how they affect our daily lives and futures.

Part of this denial springs from uncertainty. A major disagreement today among legitimate scientists is whether society is heading full speed into a brick wall or resolutely marching over the edge of a cliff. This springs from a disagreement, not over whether Peak Oil is real or whether global warming is real and has a major human caused component, but rather over how quickly they are occurring and how devastating their effects will be. And, of course, there's little certainty on whether there's anything we can do about these crises, or whether we could do something in time.

These crises are the consequences of an economy based on infinite growth on a finite planet enforced by elite hierarchies. Some call this form of economic cannibalism a doomsday economy, because it uses natural resources faster than they can be replenished, and creates wastes faster than they can be assimilated. This combination is turning the diminishing stock of materials necessary for life into a toxic stew. In an interconnected world, the proof of this toxicity can be measured in our own bodies.

One way to view these interconnected crises is as a Triumvirate of Collapse. I use the term "triumvirate" as a way to group similar concepts, understand their relationships, and uncover their common root. When we limit the number of variables under consideration, such as with dichotomies and dualisms, we will always underdetermine understanding—our explanatory efficacy decreases. The system would be better modeled using the mathematics of chaos theory, such as a Julia set with multiple attractor basins.

Triumvirates, however, provide a starting point for examining systems as a web of relationships—nothing exists in isolation. Western scientific reductionism, dualism, and linear cause-and-effect simply don't work outside of very self-limiting contexts in sterile laboratories (more in Chapter 12).

The Triumvirate of Collapse consists of:

1) Peak Oil, which is the end of increasing supplies of cheap and abundant fossil fuels and the corporatized economy which depends on them to fuel the infinite growth necessary to repay today's increasing debt and rationalize future stock market valuations.
2) Catastrophic Anthropogenic Climate Destabilization, more commonly known as global warming, responsible for ecosystem collapse and shifting habitat for flora and fauna. This is caused by abuse of the biosphere from burning fossil fuels, deforestation, sprawl and toxic pollution of the air, water, and land.
3) Corporatism, which is the loss of people's sovereignty to a merger of state and corporate power (the definition of Fascism) financed by usury to central banks and financial interests. The financial aspect is an interesting phenomenon in America, where any elected official who attempted to raise financial tax rates to match credit card interest rates would be run out of town on a rail.

Corporatism, however, cannot be divorced or disentangled from Industrialism and the imperative for economic growth. These terms and concepts merely provide different perspectives for analyzing a common set of interrelated phenomena.

Those of us who have been raised and educated in the Euro-American model of industrial civilization have a difficult time seeing how bad things really are. It's not just the Prozac haze inflicted upon us by the chemical industry and a culturally supported psychotherapeutic model that attempts to make us feel sane about living in an insane world (and apologies to the much smaller percentage who

truly benefit from psychoactive and mood-altering drugs). It's also the constant barrage of cultural messages, subliminal and otherwise, that we are incomplete or unworthy as our natural selves; that our miseries can be overcome with the promise of a synthetic or chemical salve; that we'll achieve success beyond our wildest dreams if we just change our brand of toothpaste, or buy the latest technological marvel richly encased in rare Amazonian hardwoods that required ten times its weight in fossil fuels to manufacture.

We don't even need the money in hand to satisfy our consumer desires—our credit's good at the company store which has been cleverly disguised as a nation-state. All we must do for delivery of Consumer Nirvana is wait until tomorrow. We're told to have faith, be patient, and it will arrive. In the meantime, please enjoy this plastic letter opener, tastefully embossed with the marketing message of the month. It comes in quite handy for our steadily increasing number of bills and collection notices. Business As Usual is just doing what it can to improve our quality of life.

Of course, in order to assure we achieve this material nirvana we must send our military into an increasing number of foreign countries to support multinational corporations in their theft of the raw materials we need, often by overthrowing a democratically elected government who would rather keep those resources for their own people. We're told that class hierarchies, aggression, competition, and infinite growth are the natural order of things. This twisted mindset is repackaged and sold to us as the American Way that we're entitled to. Anyone who opposes this vision is a mortal enemy of the State who is unfairly stealing your birthright, your livelihood, and your entire sense of self-worth and identity.

In the fast paced, hectic world this model of civilization creates, where shallow status-seeking is a national pastime, we're not allowed the time to stop and reflect that this isn't actually the way nature works. It's not what we actually want—it can't be, because it's killing us. It can't even deliver more than fleeting happiness—or, actually, addictive substitutes for this natural sense. This inconvenient truth is easily discernable to anyone who simply goes into a relatively intact and healthy natural area and takes stock of the health, well-being, cooperation, and community that is functioning rather well.

However, the Triumvirate of Collapse did not spring into being full grown from nowhere. Its antecedent is the Triumvirate of Disconnection which itself emerged millennia ago from a fundamental cultural shift toward dominator hierarchies. This impacts how we form relationships and which aspects of human nature we focus on, invest in, strengthen, and is the diseased root that must be dug up and replaced for a truly sustainable future. We began to promote competition

over cooperation; aggression over compassion; greed over altruism. I'll make the case that the negative attributes ascribed as intrinsic aspects of human nature should more rightly be seen as natural reactions to untenable situations. They wouldn't naturally arise, or would be manageable, were natural expectations of fulfillment being met.

Before we examine these interrelated concepts in detail, though, and then the rational alternatives that are more in keeping with who we really are, let's examine a phenomena of great importance to humans and society. We must become aware of the power of stories—the ability of language and our sense of rationality to appear to substitute for reality. This has direct relevance, quite literally, on everything else.

The Power of Stories

"When ideas fail, words come in very handy."

JOHANN WOLFGANG VON GOETHE

Words and stories have a phenomenal power to color our perception of reality and convince us that they are more real than the natural world and what our senses inform us through direct experience. At this point in the original manuscript, Dave included a powerful exercise you can try that allows you to experience a level of tension, discomfort and dissonance that being out of tune with the natural order of things can cause, followed by another exercise that helps you feel more in tune with the natural order. You can "take the test" for yourself at https://attractionretreat.org/PowerOfStories.html.

When the senses aren't in harmony, or supporting each other, that's green in orange, or G/O. That's the feeling most people get when watching FAUX News. It's that uncomfortable feeling you probably had when watching the embarrassing spectacle of former President GW Bush searching under his desk for Iraq's weapons of mass destruction when they were sitting on top of his desk all along in a folder labeled "False Flags."

Let's do a quick thought experiment. Clear your mind for a second, and think about a forest; preferably one that you've visited and are familiar with. Think about this forest in terms of the amount of board feet it represents, for your home, school, nature retreat, or the intentional community that you would like to build. This is commonly referred to as the utilitarian viewpoint, where the forest is just a bunch of trees; a natural resource that can help you fulfill a passion or meet a need.

Think about how you feel when you think of the forest this way. What types of feelings, thoughts, and emotions does this bring to your screen of consciousness? Take a minute or two for these to solidify in your mind.

Then, clear your mind for a moment or two again and think of that forest again, or a different one if you like. This time, though, imagine that forest as a cathedral, with the trees as a supportive community of sentient and sensuous beings (whether you believe in this reality or not, just play along for a bit) with their roots anchored in the ground, their majestic trunks reaching up into the sky, limbs spread wide with leaves to participate in the water cycle and absorb the free energy of the sun. Think of the trees in this forest as co-existing in a supportive community with other plants, and providing food, shelter, oxygen, and a playground for the other creatures of the forest—demonstrating by their very being a natural, sustainable, balanced way of life.

How do you feel when you think of the forest this way? What types of feelings, thoughts, and emotions does the forest bring to your screen of consciousness now? Take a moment or two to compare these two sets of reactions. Does one feel more G/G?

Remembering how to recognize and trust those senses of G/O and G/G are fundamental to our future survival. They are integral to the process of reconnecting with the creative life force in nature, which necessarily includes our inner nature.

Here's another example of how our words guide our perceptions and actions. When we act destructively toward Western people and property, we call it war. When we act destructively toward the Earth and nature-centered peoples, we call it progress.

> "The deepest crisis experienced by any society are those moments of change when the story becomes inadequate for meeting the survival demands of a present situation."
>
> FATHER THOMAS BERRY

Language and stories, of course, are not inherently bad. Language and rationality are two of the senses we have that help inform us of when we have maximum support in the moment, and they are instrumental in planning, knowledge, and cultural identity. But to keep them from enforcing disconnection and domination, they must have a life-affirming framework against which they can be checked and informed by our numerous other sensory "ways of knowing."

One critique of language blames it for humanity's separation from nature. I tend to look at life, humanity, Gaia, and evolution a bit differently. This makes

it difficult to tell where to begin responding to this critique, made even more difficult because I understand the frustration behind the motivation for change that causes people to look for why change is so necessary; to find the root causes; to answer, "Where did we go wrong?" However, I don't think the assumptions used and conclusions drawn will serve us well in the necessary work to create a sustainable future if those assumptions and conclusions draw exclusively from the dominant paradigm responsible for the underlying problems.

Language itself doesn't separate us from the natural world. The problem is a cultural belief that our words and stories are more powerful than nature itself—which they can appear to be. But nature remains the ultimate fact-checker. The power of stories actually becomes a necessary belief when the culture that propagates them is based on the foundational assumptions that nature is cruel and heartless, that life is about suffering or atoning for original sin, and that selfish desire underlies human motivation.

The disconnected use of language under a dominator paradigm contributes to the sense of "otherness" that underlies our disconnection from the natural world. It is not language itself, symbolic or otherwise. When one examines the multitude of senses (details in Chapter 8) that have evolved to keep humans in supportive connection with the natural world, we see that our senses of language and rationality are only a small percentage of our interactions within the web of life. Only when we start to believe these two senses are the only ones that count do we get so seriously out of balance that life on the planet becomes endangered.

Language isn't even unique with humans. As one example, when a male orca leaves its birth pod to join a new pod for mating, it must learn a new song—the language of the new pod.

Words do not necessarily separate us from nature. Words can integrate our sensual in-the-moment experience with our rational, conscious mind. Our responsibility is to remember how to use words properly; even to recognize that the silence between the words can be as important as the words themselves. One of the problems with Western languages is that they weren't developed to describe and reflect our connections.

As an example, think about the disconnecting story told in cigarette advertisements. The public is presented with attractive models smoking in breathtakingly beautiful natural areas—with the implied notion that natural settings are enhanced by smoking, or if you can't be there, cigarettes can substitute for and be just as good as being in nature.

Because these are just stories, we can create new stories to guide our path to a sustainable future; to chronicle and celebrate successes; to warn about what

doesn't work. For example, we can combine ancient indigenous wisdom with what we know now about permaculture and carrying capacity. We can exercise our free will to make rational decisions based on choices that are in harmony with the creative and life supportive aspects of the natural world that we are an intimate part of.

I've heard it said that symbolic language created time. This seems anthropocentric and based in human hubris. We know that elephants grieve the loss of a loved one. All species protect their young, which is an action with future consequences. The very cycles of nature are a process that proceeds through time, just as night follows day. The supposed philosophic quandary that time doesn't exist outside of human measurement is simply silly, but makes for interesting conversations if enough alcohol has been consumed first. As Einstein pointed out, time exists so things don't all happen at once.

Another misconception or story is that the division of labor or specialization is inherently problematic. We need look no further than the insect world to see the evolutionary advantages of allowing, and supporting, each unique individual the opportunity to develop their potential. The problem seems to me to stem from the assignment of artificial social status to the various roles instead of seeing these roles as aspects of a whole where all contribute to keep the entire web healthy, vibrant and resilient.

Another story blames our current mess on the development of agriculture. I'll cover this in detail in the next section, but evidence suggests that Neolithic farmers co-existed peacefully with hunter-gatherer tribes. They didn't use slavery or other forms of exploitation. It appears that these forms of hierarchy and subjugation were introduced by the Kurgan invasions of pastoralists, from the steppes of what is now Eastern Europe some 8,000 or so years ago into the agrarian societies of Central Europe. So, a better argument could be made that animal husbandry is more to blame than agriculture, but this still begs the question of why and how domination and disconnection occurred. What we can surmise is that there was a clash of competing stories or paradigms; domination versus partnership; subjugation of all other for personal benefit versus harmonious integration with the life-giving web that benefits all.

To wrap up this section on language, here is a reconnecting with nature activity known as the Nameless Activity. It's one of hundreds from Project NatureConnect, and one of the core dozen I use in my counseling work. More complete background on how this process works and the core activities are covered in Chapter 8.

While in the most intact ecosystem you have ready access to (which can be your backyard or even a terrarium), find or notice things that you are attracted

to, that call to you somehow (a bug, a breeze, a color, a community of trees). While sensuously connected to this attraction, ask it, verbally or in thought, who it is without its name. Become aware or examine what the moment consents to teach you. Then, in a manner that is comfortable to you, ask the attraction who you are without your name. See what percolates onto your screen of consciousness. Finally, thank the area or attraction for sharing its wisdom with you. Just as importantly, thank yourself for having the ability to benefit from this natural attraction. Repeat this activity with other attractions as often as you like. Sharing your experience with others has also been shown to increase the worth of the activity.

The Diseased Common Root—Dominator Hierarchies

> "The ranking of male over female is a basic model children learn early on for equating difference with superiority or inferiority, with dominating or being dominated—a model that can then easily be generalized to different races, religions, ethnicities, and nations."
>
> RIANE EISLER

When you look deeply to see if our rapidly converging global crises have any commonalities, you rather quickly discover that they do indeed. They all grow out of a dominator paradigm of force-based ranking hierarchies of domination and a pathological concept of otherness, both rooted in separation and disconnection—from each other and from the natural world; from all that is natural and naturally fulfilling.

The work of futurist and international legal expert Riane Eisler provides ample support for this assertion. I have loosely adapted the following section from her seminal 1987 book, *The Chalice and The Blade*—which by 1995 was in its 25th printing.

One of Eisler's basic premises is that our story as humans is neither as limiting nor as negative as we've been told. The chronic tensions, miseries, and bloodbaths of the past 8-10,000 years are not due to an intrinsic aspect of human nature but rather to a dominator detour of cultural evolution. If we apply a natural systems lens to patterns of thinking and living that are assumed to be just the way things are, we discover that we have the natural ability to create safer, saner, and more satisfying lives. We can naturally shift from a dominator to a partnership society.

Fundamental change comes not from government edicts or great battles, but from vast numbers of people changing their minds and making new choices. Further, having a systemic framework to provide guidance and a base for these new choices would be a great help—because if we don't have a vision for where we're going, we'll most likely end up somewhere else. One of the most important aspects to keep in mind as we think about change is that our institutions persist because they have legitimacy, which comes from the perceptions of people. People give legitimacy, and they can take it away. This is probably the most powerful force for change that exists in the human realm.

A cultural paradigm is a body of knowledge and the cultural stories that make up our socially accepted world view. What Eisler presents is an ancient rediscovered paradigm, an alternative to the business as usual class hierarchies that shape Western industrial civilization; an alternative that has the potential to shape our world in a powerful, positive, sustainable way.

The dominator paradigm is built on and intensifies pain, fear, and tension. It's based on physical and psychological control; power-over is the basis of domination. At its core, the dominator paradigm consists of force-based ranking hierarchies, where men are ranked over women or in the case of matriarchal societies, women over men, where humans are ranked over nature, where one culture or racial type is ranked over others, where one elite class is ranked above others by reason of birth, affluence or claim of divine right. These ranking hierarchies control through fear and force or the threat of force. This is the model we have been conditioned by and are starting to question—the necessity for war, the conquest of nature, the dysfunctional nuclear family based on separation, domination and submission that causes loneliness, tension and pain.

The rediscovered partnership paradigm is harder to define and recognize as it's neither covered in school nor in mainstream media. It is based on links of mutuality, not chains of domination and subservience. As an alternative to both patriarchy and matriarchy, partnership is based on mutual respect and empowerment. The partnership concept covers relationships at all scales—between men and women, parents and children, among organizations, communities and nations, to the body, mind and spirit relationships that are fundamental to a healthy and actualized self, as well as to the living world all these relationships are dependent upon.

But in light of all these naturally occurring relationships that tend to self-organize in mutual support, what tilts us toward brutality instead of kindness, war instead of peace, destruction rather than actualization? Would a simpler more religious way of life make sense? The routine slaughters by Huns, Romans and

Vikings, the Christian Crusades and the Spanish Inquisition show that pre-industrial societies exhibited intolerable levels of violence and injustice. Since going backward is not an acceptable answer, how do we move forward?

In *The Chalice and The Blade* Eisler weaves art, archaeology, religion, social science, and history together to provide an answer to these questions. She tells a new story of human culture and shows that war and the war of the sexes are neither divinely ordained nor a biological imperative. This new story provides validation that a better future is possible by examining what actually seems to have happened in our past.

From 7000 to 3500 BC, Neolithic societies created advanced art forms and technologies which disappeared for over 2000 years after these early societies were overrun by pastoralists from the steppes of Eastern Europe—what I've heard referred to as the Kurgan Cattle Culture. The art from this time period did not depict war, brutality, or slavery. This was a time of peace and prosperity spanning thousands of years, where differences did not equate to superiority or inferiority, and there's no evidence of the sexual inequality we've been taught is human nature. The theme of the unity of all things in nature permeate Neolithic art. This theme is reemerging today as a prerequisite for ecological survival.

About 7000 years ago we begin to see a pattern of disruption in the Neolithic cultures of the Near East. Societies that worshiped the life-generating and nurturing powers of the universe—symbolized by the chalice or grail—were overrun by societies who worshiped the lethal power of the blade—the power to take rather than give life—which is the ultimate power to establish and enforce domination.

Nomadic bands of herders who lived in the less desirable fringe areas began invading the prosperous, peaceful, and fertile heartlands. These nomadic invaders, ruled by powerful priests and warriors with their male gods of war and mountains, conquered central Europe, India, and the Middle East. These nomadic tribes included the Aryans, Kurgans, Achaeans, and the Semitic people we call Hebrews. They all imposed their ideologies and way of life on the people and lands they conquered. While they may not have had a common bloodline, they did hold in common a dominator model of social organization—male dominance, male violence, and an authoritarian control hierarchy. They also didn't develop technologies of production in order to create material wealth, but used technologies of destruction to steal and control wealth. Fast-forward to the Twentieth Century and we see how this plays out in America's foreign policy of enforcing corporate takings of resources (heirloom seeds being but one example) in Central, North and South America, Africa, Asia, and the Middle East—and now that the polar icecap is melting, they're heading there as well.

The core aspect of the dominator detour was on power over instead of power with. The power to dominate and destroy starts to supplant the view of power as the capacity to support and nurture life. The social structure becomes more hierarchic and authoritarian. Women, closely identified with the old view of life-giving power, gradually become reduced to the status they now hold—male controlled technologies of production and reproduction. The Goddess became the wife or consort of the male deities.

As more people from a widening range of perspectives are pointing out, we're again approaching a shift in cultural paradigms. Eisler says this shift is from a dominator to an advanced partnership society. But to achieve this, we need to understand everything we can about this lost piece of our past because it contradicts everything we've been taught for centuries. This knowledge needs reinforcement from other sources, because it is of paramount importance that we reclaim and trust it. This is not a call to go back, but to pick up from where we left off.

The new physics and chaos theory provide one such new source. Systems science shows not only that we're all interconnected, but that systems can and do change and they do so in a manner that supports more life. Whether we have a ranking or a linking social system will guide our uses of technology and our cultural evolution. The model we choose will affect our direction and determine whether we can achieve sustainable human societies.

Civilization and cultural advancement do not require war. Pentagon theorists assume that a peaceful society would lack the motivation to innovate or produce anything of lasting value. However, Eisler's data uncovered what might be the best kept secret in history: that all the fundamental social and material technologies civilization is based upon were developed before the imposition of dominator society. The principles of food growing; construction, container, and clothing technology; uses of wood, fiber, leather, and metal in manufacturing; law, government, religion, dance, ritual, drama, and folk literature; art, architecture, and town planning; sea and land trade, administration, education, and forecasting for the future. All these gifts of civilization arose under the guidance of a peaceful Goddess. We'll revisit this latter point in the section on civilization.

As Ervin Laszlo, the father of modern systems science, points out, the ills of the world began when the Earth Goddess became subjugated to the Sky Gods. It wasn't solely, or even necessarily, due to agriculture, domestication of animals, or the development of cities. As is evident today, though, these can all be done very unsustainably and cause much grief when based on an underlying paradigm of domination and disconnection.

Daniel Quinn describes these competing social ideologies as takers and leavers. In *My Ishmael*, he points out that agriculture is nowhere near the problem that locking away the food is, which was done to force people to work for elites. What once was provided freely through supportive community relationships became available only through servitude of debt or labor.

This new view of the past sets up conflict between the status quo and the search for an alternative as we face rapidly converging global crises. In the status quo dominator view, human and economic relationships developed from men hunting and killing. In the partnership view, the foundations for our society come from mothers and children sharing, from women and men using our unique human faculties together to support and enhance life. In the new view of cultural evolution, domination, violence and authoritarianism are not inevitable, eternal givens—they are choices. In Part Two, I'll make the argument that these negative aspects of the human condition are more usefully understood as reactions to untenable situations or acts—the very basis of the cultural PTSD we seem to be suffering under. In either case, a more peaceful, equalitarian world is not just a utopian dream, nor a quest to return to the mythological garden—it is a genetic memory. Partnership is a very real possibility for our future because it is based upon the way nature works. It would behoove us to build on and move forward based on what we now know.

It's hard to argue that these prehistoric (before men wrote about them) societies were less civilized than we are today. They employed technologies to make life more pleasurable rather than to dominate and destroy; today, millions of children starve while we create better nuclear weapons and force economic restructuring on developing nations to further swell the bank accounts of multinational corporations and financial elites. But many people today are not searching for a return to a lost innocence; they are seeking the mystical wisdom and spirituality of a partnership society; a recognition of our oneness with nature and the universe. Ecologists today recognize that this quality of mind is actually much more advanced than our current environmentally destructive ideology. Earth centered cultures intuited the interconnected nature of reality and lived as part of an interdependent system long before systems science became an accepted academic discipline.

From the dominator paradigm has emerged today's Industrial Growth Society and its official religion of mammonism—the deification of greed—whose gospel is a debt based usury system, a promise of prosperity (in some nebulous future) dependent on infinite growth in both material accumulation and population, and economic determinism—putting profits above people

and planet and using economic factors as the sole determinant to make decisions, to assign value, and to measure worth. Economic determinism helps clarify why Marxism and Capitalism do not differ fundamentally regarding sustainability—both systems are based on and support Industrialism with all the fervor of any evangelical.

These negative outcomes of the Industrial Growth Society have all been based on choices. They are all abstract social constructs, or stories; they are neither a historical necessity nor based in any known natural laws. Since they're all just stories . . . a better story can start with realizing that, as Paul Cienfuegos of Community Rights US puts it: "We the people are more powerful than we dare to believe." This is especially true when it comes to making new choices and creating the story on which we decide to bestow our legitimacy and guide our lives.

The Triumvirate of Disconnection: Dualism, Separation, Otherness

"The major problems in the world are the result of the difference between how nature works and the way people think."

GREGORY BATESON

Before we develop our new story we must examine other destructive concepts that are based on or validated by Enlightenment philosophy and deeply embedded in Industrial Civilization. These status quo concepts need to be seen as mistakes based on incomplete knowledge and faulty assumptions, and they need to be replaced with what we now know about an ecological view of life.

How do dominator hierarchies manifest? What other disconnecting stories have sprung from them? The case is often made that personal, social, and environmental problems stem from, to paraphrase Gregory Bateson, the difference between the way people think and act, and the way that natural systems function. The world today finds itself in dire straits, dependent on a global economy that is unsustainable because it leads to destruction of the environment and abuse of people's inner nature. Infinite growth requires the Earth to be both an endless supply of resources and a bottomless pit for waste. I know math skills in America are pretty poor, but this inherent contradiction is pretty basic.

No community can exist in isolation, or fail to be affected by problems such as global warming and the rapidly approaching end of an industrial growth economy dependent on increasing supplies of cheap fossil fuels.

> "Whatever affects one directly affects all indirectly. I can never be what I ought to be until you are what you ought to be. This is the interrelated structure of reality."
>
> MARTIN LUTHER KING, JR.

Due to the interconnected nature of reality, responses to global crises must be systemic and address the root cause, and not merely be a Band-Aid on one of the myriad single-issue symptoms. This is the underlying rationale of the natural systems foundation for Reconnecting with Nature, Rational Spirituality, and Relocalization. These combine and support one another in addressing root causes and provide a foundation for building effective, systemic responses. These will all be covered in detail in Part 2.

It is becoming more widely accepted that environmental problems and social injustices are really problems of attitude, or perception. The majority perception in the Western world is that we are apart from, and not a part of, the natural systems that give us life and sustain us. We are taught to see ourselves as outside, and ultimately in control, of nature itself. This disconnection then spreads to all of the other relationships—interpersonal and social—that define who we are as well as how we define and interact with reality.

The causes of our disconnection are enforced by both modern science and Western religion which tend to reinforce one another much more than they provide their own separate versions of reality. One of the causes of our disconnection is the idea that wilderness exists as something separate and evil. For example, Judeo-Christian doctrine uses wilderness as the object of projection for many a dark shadow. As Rene Dubois points out, the word wilderness is mentioned about 300 times in the Christian bible, and in each instance the meaning is derogatory. Deeply seeded in the Western psyche is the image of wilderness as evil darkness—both the wilderness within and the wilderness without.

> "Oh, what a catastrophe, what a maiming of love when it was made personal, merely personal feeling. This is what is the matter with us: we are bleeding at the roots because we are cut off from the earth and sun and stars. Love has become a grinning mockery because, poor blossom, we plucked it from its stem on the Tree of Life and expected it to keep on blooming in our civilized vase on the table."
>
> D. H. LAWRENCE

Classic Cartesian mind/body dualism is another disconnecting concept. The basic concept is that the mind can be separated from the body; that either can be understood without considering the other; and that their effect on one another is minimal and can normally be totally disregarded. For René Descartes, mind and matter were not just separate, but incompatible. This belief leads to the notion that nature is just a nonfeeling machine that follows strictly mechanistic laws (the Clockwork Universe). It supports the idea that we are "in here," nature is "out there," and there is no connection between the two. However, these outmoded and now fairly widely discredited 17th Century understandings of human nature form the basis for our economic and governance systems today. As Cormac Cullinan points out, "No wonder we have problems."

The third major disconnection is transcendence, the idea that spirit is separate from the body; that the soul transcends upward, and that it is incompatible and somehow even opposed to Nature.

Disconnection from the life-force is a traumatic event, regardless of the manner in which it occurs. One result of traumatic stress is dissociation—we build a partition in our consciousness where we repress experience and ignore our full and complete multi-sensory perception of the world. We internalize a dichotomy between wild and tame. We've built a culture that then isolates and insulates us from the natural world.

Today our disconnection and separation from Nature is a dissociation that manifests as a cultural pathology. Starting in the Neolithic era and continued today by the Industrial Growth Society, this split from Nature is reinforced and perpetuated. Some of today's mainstream religions do this by offering substitutes for natural spirituality, and the free market economy does it by pushing consumerism and growth as substitutes for natural fulfillment—for psychological and spiritual health and well-being.

We are well aware (even if in denial) of the damage our exploitive unsustainable actions inflict on Earth. We can see it in the air, taste it in the water, feel it on the land. Yet we don't associate this damage with our daily stress, general malaise, or other unhealthy aspects of our in-the-moment experience. Many feel unable to respond, or aren't sure of the best way to do so, since the dissociation is built into the institutions—political, educational, religious, and economic—that make up such a large part of our lives. Indeed, they define our culture, and to a large extent determine who we are as individuals.

The control hierarchy of the Catholic Church is inextricably intertwined in all this. The church's story dictates that the common person is not worthy of direct communion with god, so must follow the chain of command through the

priest, bishop, cardinal, and finally to the top of the hierarchy, the pope, who alone is allowed to talk with god. Forget about St. Francis and others who saw things differently. This hierarchical model of power, prestige and right is well replicated and refined within the Industrial Growth Society.

Transcendence, combined with separation and disconnection, provides the basis for a pathological sense of the other; this sense emerges from and becomes an integral aspect of dominator hierarchies. The dominator model creates the foundation of today's Industrial Growth Society. Anything outside of the ego is taken to be inferior, provided only for our individual amusement, and an ethically justified target of exploitation for personal benefit. The concept of an inferior other then extends beyond the ego to the social realm where it can be applied by an organization or nation. At this level the other can be a business competitor, the natural world, a different culture, or a different name for god. In every case, however, these differences are equated with inferiority.

"Man talks of a battle with Nature, forgetting that if he won the battle, he would find himself on the losing side."

FRITZ SCHUMACHER

Separation from each other, our communities, our inner nature, and the world around us causes us to confuse the difference between individualism (disconnected) and individuation (diversity within the whole). Disconnection and individualism lead to the myth that if we're separate, then we're immune to the consequences of our actions. These core beliefs of Enlightenment thinking provide a very useful myth for Industrialism. Our culture has evolved with a pathological sense of the other that is deep and long-standing.

But just in case we're not really immune, we've got technology. We've created the self-reinforcing beliefs that the Earth is our playground and that technology can both resolve any negative consequences of our actions and replace dwindling resources. Our culture assumes that we can create another pill to counteract the effects of the previous pill and that this is a more rational response than stopping the damage in the first place or creating systems that meet the needs of life. However, as ecopsychologist Philip Chard points out, we must remember that the human soul has its home in the soul of the Earth.

In order to save ourselves and our world, we must learn to see and feel the connections between the personal and the planetary. We must discover that our individual work has a collective significance. Psychotherapist Bruce Levine

phrases this as the need to build individual self-worth and collective self-confidence. This is of great importance to successful coalition development. Only by doing what makes us come alive can we find natural fulfillment in doing what really matters.

> "We cannot win this battle to save species and environments without forging an emotional bond between ourselves and nature as well—for we will not fight to save what we do not love."
>
> STEPHEN JAY GOULD

To paraphrase Gould, what we truly love is what we will fight to save. Some will at least engage in clicktivism (Internet activism), from some vague, almost guilty sense that they should, but if you were to try to pin them down to articulate why, most couldn't do it.

Derrick Jensen makes a similar point when he says that if people believe their food comes from the store and their water comes from the tap, they will fight to the death to protect that system. If, however, they understand that their food comes from the soil and their water comes from the stream, they will fight to protect that system instead.

What this points to is that the shift from an industrial growth society of exploitation and domination to a just, equitable, and sustainable partnership culture based on attraction relationships constitutes the intellectual and spiritual challenge of our time.

By finding the inspiration—by remembering our natural ability to actively participate in cocreation—we become aware that it is more than just possible to be successful in our work for life-affirming change. It is actually the natural order. We have the life-giving creative energy of the universe working with us.

In contrast to the Triumvirate of Disconnection, I propose an alternative framework called Rational Spirituality which recognizes and works to strengthen this innate natural ability. Rational Spirituality provides a way to rationally, emotionally, and spiritually reconnect strands of the web of life, both within and without, using all of the dozens of natural senses our species has repressed and denigrated for millennia. This sensory reconnection helps bring nature's integrity—and a sense of deep, natural fulfillment—into conscious thought. It results in improved physical, mental, emotional, and spiritual health, ultimately improving relationships at all levels, including with our planet, the matrix of our lives. I will greatly expand on these concepts in Part Two.

The Divine Right of Kings

Our detachment and isolation from nature, and our obsession with a secure autonomous existence independent of the forces of nature, leads us in a direction quite different from the direction of life. One illustrative belief emerging from this worldview is the Divine Right of Kings.

The Divine Right of Kings is the concept that certain people or families are ordained by God to rule and that elite hierarchies are divinely inspired—using the church hierarchy as a very successful model. In order to begin writing our NewStory, we must realize, in this aspect as in many others, that we routinely legitimize this concept as an immutable aspect of the natural order—by believing that elites really are elite. And since we accept the divine right of kings as being natural we should just shut up and be grateful for whatever scraps they throw over the wall to us mere peasants. In spite of the French Revolution, this concept held sway right up until the 20th Century in most of the world, and its ceremonial power still holds in many parts of the world. This can still be seen in Europe, for example, with titles like the Prince of Orange—who's actually a nice guy working on the UN goal of the universal right to water and sanitation.

The dogma of our cultural narrative has created a system that is destructive to life in general and bestows unearned wealth and power on a self-selected elite Kleptocracy—they are stealing our natural resources, our economic wealth, and our democracy. This combination of oligarchy, plutocracy, aristocracy, and theocracy provides the best single word to describe what our cultural reality and system of governance has created based on the theft of the commons. While its roots are in the divine right of kings and feudalism, today's Industrial Growth Society has created a ruling order that seeks to sustain itself at all costs by turning low-entropy resources (in this context, resources requiring little energy to maintain or that have much energy or potential to contribute to the creation of wealth) into high-entropy wastes (resources having no energy to contribute, and which rapidly lose form and valuable qualities without constant energy inputs). For those wishing to pursue the relationship between economics and thermodynamics, see the work of Frederick Soddy, Nicholas Georgescu-Roegen, Kenneth Boulding, and Herman Daly.

The Kleptocracy uses free-market fundamentalism, debt creation, a regulatory framework of corporate persons who have a "right" to pollute, profit supremacy, and race and class divides to control and exploit through dominator hierarchies that rely on the propagation and maintenance of fear. For example, in America's two-party political system, the Republicans use the fear of another

terrorist attack and the Democrats use the fear of another Republican administration to control the electorate and ensure it offers no challenges to the overarching Kleptocracy. This is all totally at odds with the natural systems principles from which sustainability emerges.

One way rule by elites manifests today comes from the "Noble Lie" of Leo Strauss. Plato's idea that certain elites must rule to maintain order inspired German political philosopher Leo Strauss, whose work is foundational to the American neoconservative movement. A full expression of this can be found in the Project for the New American Century, the manifesto of this movement. A necessary aspect of this philosophy is using the Noble Lie to keep the masses under control. This linkage was largely unreported in the corporate press outside of The New Yorker's Seymour Hersh.

The core idea of the Big Lie or the Noble Lie, and its modern relationship to the Divine Right of Kings, is the belief that modern liberal democracies are in constant danger from hostile foreign elements. When necessary, policy advisors have a duty to deceive both the public and elected officials in order to protect the nation.

Because people need to be led, they need strong rulers to tell them what's best for them. There is a need to keep the peasants in line because they can't be trusted to make the right choices—this is a capability reserved for the anointed few. Plato thought these rulers must be of the highest moral standing so as not to succumb to the temptations of power, but Strauss believed there was no morality, and the only natural right was the right of the superior to rule over the inferior.

Strauss also believed that religion was necessary for a healthy, well-run society. Secularism is seen as dangerous because it tends to support liberalism, relativism and people thinking for themselves, which in turn encourages dissent, which might weaken a nation's ability to handle external threats. Why all the focus on external threats? Because, like Thomas Hobbes, Strauss thought people were inherently wicked and aggressive, and these behaviors can only be restrained by a powerful nationalistic state. Humans must be governed to keep the base instincts in check, governance can only be established when people are united, and you can only unite people against other people.

Thus, a stable political order requires an external threat to be united against. As in ancient Sparta, peace is seen as decadent. Strauss believed we must constantly fight to survive, and that perpetual war is the natural order of things. If an enemy is not readily at hand, one must be invented. Whatever lies are necessary to bring this about are not just necessary, but noble. This is the background for comments made by Dick Cheney and Donald Rumsfeld that the war against terrorism is a war that won't end in our lifetimes.

And in case it's not intuitively obvious to the casual observer, this still grounds the aggressive, belligerent American foreign policy under Barak Obama. That it is all inherently undemocratic should be equally obvious. This also leads to the supremacy of the corporation and the dictatorial powers of a unitary executive. Primogeniture succession, anyone?

Other Enlightenment Mistakes

Much of the historical background information for the next few sections is taken from Jeremy Rifkin's *Biosphere Politics*. I highly recommend this book for anyone wanting more details, and his footnotes and bibliography are a treasure trove for the serious student.

Francis Bacon started off the scientific disconnection from nature in the late 16th Century with his scientific method. He based this on separating ourselves from nature, believing this was necessary in order to gain objective knowledge. With the scientific method, nature could be "forced out of her natural state and squeezed and molded." Bacon's scientific method was based on power, control, and coercion—"the power to conquer and subdue" nature, whom he referred to as a "common harlot." Bacon introduced the concept of perpetual war against nature, and secularized the dictum of St. Thomas Aquinas—to be in this world but not of it.

René Descartes went on to define nature as a clockwork mechanism and developed the concept of mind/body dualism. Combined with Sir Isaac Newton, the foundation was laid to transform "worthless" matter into valuable wealth. The goal, according to Descartes, was to "make ourselves masters and possessors of nature." His vision stripped nature of its aliveness. Next up is John Locke, perhaps the worst of the lot, who declared, "Land that is left wholly to nature, is called as indeed it is waste." Locke believed that as long as humans were vulnerable to the forces of nature they could never be secure, and that "the negation of nature is the way to happiness."

Thus the philosophical justification—the scientific and rational validation of the dominant Western religion of the times—paved the way for our intellectual and emotional separation from nature, and cleared the way for our physical separation in the enclosure movement as people were removed from their ancestral grounds. Some historians call this the revolution of the rich against the poor.

Enclosure of the Commons: Piratization

The commons are a medieval European concept. The commons included the oft-unspoken awareness that we belong to a greater whole, something larger

than the self that we share with others. Enclosure was a process of using ditches, hedges and fences to inhibit the free passage of people and livestock and put the land into private control.

The enclosure movement, also known as the privatization of the commons—but which I believe is more accurately described as piratization—is the physical process to enforce the Enlightenment philosophy of our separation from nature. It involves removing people from their ancestral grounds and using money to substitute for community obligations and relationships that had functioned just fine for over 600 years. The value of a person became tied to how much money they were worth instead of the value of their contribution to a healthy, well-functioning community.

The feudal hierarchy had its base in the village commons which was overseen by landlords, the monarch, and finally the pope. Feudal landlords owned the land, but leased it to freeholders (in perpetuity), leaseholders (three generations), and to customary tenants who had no legal rights and worked the land for a percentage of what they produced or for other work. With the introduction of the money economy, this shifted to rent or taxes.

Medieval European agriculture was communally organized and highly democratic. This latter point is something that gets conveniently overlooked in American history texts. Peasant councils communally decided crop rotations, number of animals that could graze, water allocations, and forest management.

Beginning in the 1500s in Tudor England, the enclosure movement—which required acts of parliament—put the commons in private hands and removed the right of the community to use it. People were forced off the land, and cropland was turned into pasture for sheep to supply the demand for wool in the growing textile industry. Bankers loaned landlords money to buy up common lands for sheep—people starved and sheep were fattened. Landless peasants were forced into the new industrial cities to supply factory labor, and the urban and industrial revolutions were underway. Machines were used to expropriate and convert the resources of nature into the assets of industrial civilization—to transform "worthless matter" into valuable wealth. Former peasants became "the first refugees of the modern age," and this can be seen as the beginning of the economic warfare that continues to this day, as detailed by John Perkins in Confessions of an Economic Hit Man.

The land that people were forced from became a resource for short-term market exploitation. To keep up with growing urban market demand, soil conservation practices were abandoned. Land that had been fertile for hundreds of years was soon depleted. Land became something you no longer belonged to, but a commodity to be possessed. Reciprocity was replaced with an hourly wage.

This marked the beginning of Thomas Hobbes' philosophy of perpetual warfare in the mid-17th Century, of all against all in the competition for what were presented as scarce resources, even though they existed in adequate supply prior to enclosure. Anyone who didn't go along with this would be marked as prey for the greed and avarice of the merchant class.

The privatization of the commons was partially justified by telling people that they were now free from "the iron grip of the collective will." What was deliberately hidden from them was the truth that privatization allows a few individuals to maximize their self-interests with no accountability to the larger community, and it was the larger community who became the ultimate loser. This new individual right to freely exploit nature and people came at the expense of an even more basic right—the right of freeholders to retain their land—and it took special acts of Parliament to strip members of the commons of their right to hold out against privatization.

Today the enclosure movement can be seen in Central and South America as transnational corporations enclose and level the rainforest for agrofuels and cattle grazing for the export meat market. 1/3 of Mexico's food crop goes to livestock, while 1/3 of Mexico's peasant population go their entire lives without tasting beef. The same thing is happening with the corporate and national enclosure of the seas. World fisheries are depleting due to resource optimization and profit maximization, and mineral extraction of the seabed is following suit. Global warming now brings us face to face with the irony of our folly. In our 500 year war against nature, as we have sought to capture, enclose, and consume the natural world, we have become enclosed by the waste of our consumption.

Another major aspect of today's enclosure movement is corporate globalization. The tendrils of this movement are labeled WTO, NAFTA, GATT, IMF, and World Bank. This entire paradigm is based on the domination and exploitation inherent in piratization, and is leading us down the path to further ruin.

As the piratization of corporate globalization expands, we're told the global South has a "right" to develop. And in order to catch up to the North in their degree of development, all environmental and labor protections must be swept aside.

Now, the North does bear the brunt, if not all, of the responsibility to clean up the messes it has made, not only of the biosphere, but the deadening of the human spirit as well in its propagation through propaganda of consumer lifestyles, economic growth, and elite control hierarchies.

But the "right" to step into the same slothful consumer lifestyles of irresponsibility and disconnection from all that is meaningful is no more correct for the South who have been led to believe they want it than for the North that has had it

for too long. Especially when it is no more than a cover scam to keep the wealthy elite in their accustomed positions of illegitimate power.

The South has no more "right" to squander the resources of the only planet we'll ever have than the North does. What they do have a right to is to be treated fairly, with dignity and respect. They have a right to benefit from advances in medicine and sanitation, knowledge about family planning, and what it means to live within the carrying capacity of their bioregions.

The "right to develop" is a code phrase used by wealthy industrialists and their masters in the central banks to continue exploitation of people and planet in order to secure personal profit. The promulgation of this right protects and expands the enclosure and privatization of the commons. It also corrupts the concept of private property to include that which cannot be owned by any human—ecological services.

Debt for Imperialism

Wars are too expensive to tax directly on the people without fostering open revolution. So, governments borrow the money from banks and guarantee land, resources, and monopolies to corporations and other special interests to profit from the exploitation of conquered lands and peoples. Thus they can repay the loans through tax revenues.

Wasn't this a major sub-plot behind the American Revolution?

Banks have always thought they could loan more money than they had on deposit based on the assumption that tomorrow's growth will pay today's interest on yesterday's debt. In the following chapter on Peak Oil, we'll see how nature is forcing reality on this assumption. But, we continue to believe that we can all benefit forever from each other's mutual indebtedness. This is highly irrational, but we want to believe economics is a rational science because in the dominant paradigm, our lives depend on it. However, any system that is based on the invisible hand of the market is best known by its rightful name—mysticism. Rifkin makes the point that it's really the barrel of a cannon, not an invisible hand that drives the economy.

The historical context for this requires understanding that the modern nation-state and business corporations are indispensable partners in the project of Industrialism. Their mutual conjoining is based on and requires them to enclose, commodify, and exploit people and natural resources to expand production and consumption for private self-interest and to secure an autonomous existence from the forces of nature.

Prior to the Enlightenment, villages and city-states were organically grounded in place, and that is where they drew both their legitimacy and their authority. The nation-state is an abstraction that is neither organically nor spiritually bound together. Its principle purpose is to turn Earth's endowment into private wealth, and it is the first governing structure whose existence is mainly for economic purposes.

Medieval governance in feudal principalities was a makeshift affair based on the personalities of the local ruler and was limited in its geographic reach. By the 16th Century, with growing populations, urbanization, and intercontinental trade, a more sophisticated form of government was needed to match the more sophisticated transportation and communication this trade required. Greater amounts of taxes were necessary to build roads and ships, and feudal principalities and city-states were assimilated, by force if necessary, into monarchies and then nation-states.

Thus the modern bureaucracy was also born. The political rule of local tradition and oral agreements gave way to codifying relationships in abstract legal documents. This eliminated many of the few human bonds that were left after the enclosure of the commons, and further normalized Cartesian dualism and rational, objective Enlightenment science.

The legal form of the corporation also came into being at this time, first in Italy. They began as partnerships for single trade excursions, then evolved into joint liability firms: 1532 saw the first limited liability firm. In 1553 the first joint stock company, the grandfather of today's corporation, was chartered in England. This was a mutual profit arrangement, with the state providing "legal protection at home and military protection abroad."

The corporate charters of the time were created to secure foreign markets, and so they included the power to negotiate treaties as well as make wars. When the British East India Company ruled over India, it had the largest professional army and navy in the world. This is Blackwater/Xe's ultimate fantasy of conquest and domination. This worldwide enclosure movement provided the foundation for Industrialism. It was based on domination, commodification, and colonialism and it took the Enlightenment values of mechanistic thinking, objective detachment, industrial efficiency, and material progress everywhere it went as it enclosed the planet.

The final piece in the debt for imperialism saga is the intimate role played by the military. Combined with the state and corporations, this triumvirate has complete domination over the vast majority of Earth, its resources, and its peoples. Commercial and military conquest go hand-in-hand, and the state provides their legitimacy to further the goals of Industrialism.

The politics of empire is conquest. Coercion and force are necessary to exploit people and planet, and this is an extremely expensive—just in monetary terms—undertaking. In Elizabethan times and under Spain's Phillip II, almost 75% of government spending was on war or debt repayment for previous military adventures. Europe's financial houses gained windfall profits from war loans, which provided much of the capital for the Industrial Revolution.

Today, the U.S. military and defense industry (including associated subcontractors and support industries) uses roughly half of the liquid fuels that are consumed by the U.S. on a daily basis. Since U.S. oil fields peaked in 1970 (exactly when predicted), and global supplies were known to be approaching peak around 2000, the war in Iraq was necessary to secure the last known relatively unexploited reservoirs of high-quality crude oil on land. We need to fight wars to secure more oil so we can fight more wars to protect and shore up Industrialism. This has become an intimate aspect of the core philosophy of imperialism today.

Industrialism and the Growth Imperative

This section presents a historical background on Industrialism, and comes mainly from Roy Morrison's *Ecological Democracy*. As with Rifkin's book, I highly recommend it for those wanting more background information. The aspects of industrialism and the growth imperative that we're dealing with today that have mutated into the Industrial Growth Society is the subject of Chapter 4.

Here's how I'm defining and using the term Industrialism: A way of organizing society around economic determinism and infinite economic growth. Constant growth in the economic sector takes precedence over everything else. This requires turning low-entropy resources into high-entropy wastes at ever increasing rates. Its adherents believe that an economy that doesn't grow is stagnant, and will revert to barbarism and spell the end of civilization; that economic growth is the only possibility to lift people out of poverty. Industrialism is built on and is run through power and control hierarchies of business, financial, and governing elites who control the military to do their bidding all in service to the dictates of Industrialism.

Economic determinism assumes that our highest calling in life is to be an economic actor. Everything else is subservient to this goal, and nothing else could possibly provide the same degree of meaning and purpose in life. Production and consumption is the be-all and end-all of human society, and whether they are dealt with under the economic principles of socialism, capitalism or a mixed-market is irrelevant to Industrialism. This defines Business As Usual for

about the past three centuries, and is one of the main areas where we simply must start being honest about what we're doing and the actual results. Because, if we don't change direction, we'll end up exactly where we're headed. Trite but true.

Morrison points out that the concept of Industrialism should not be mistakenly confined to mechanistic factory automation; it is a way of organizing the world that reduces all the world's substance to resources to be used as inputs to the industrial process, and all the world's people to either customers or workers. It does this for two primary reasons—to maximize its throughput (bigger, faster, more) and to maximize profit and power. Both of these are then used as the primary indicators to measure Industrialism's state of health and degree of success.

Because of Industrialism, we cannot be "denizens of a living sensuous world," but are reduced instead to customers at a theme park called America, Inc. And we're busily trying to export this model to the rest of the world, perhaps thinking that if the rest of the world shares our pathology, it won't reflect so badly on us.

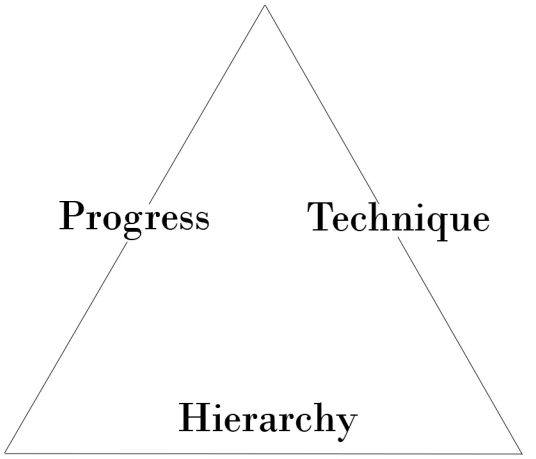
Business As Usual means continuously growing production, consumption, and toxic wastes, which means the status quo is an unmitigated ecological catastrophe, requires war, and leads to inequality and poverty. Another defining characteristic of Industrialism is that "the negative consequences of industrial practice are called 'externalities,' as if the poisoner had not intended the death of the victim." Externalities are the costs of social and environmental damage that are borne by the public instead of the responsible party. Many people today mistakenly attribute these qualities exclusively to capitalism, but they are the 'price of progress' in socialist economies as well.

Capitalism and Industrialism rose to power during the Enlightenment period, although commercial capitalism was in place before industrial capitalism. The commerce, science, and religion of feudal Europe combined with power hierarchies to lay the foundation for Industrialism, but Industrialism can exist without capitalism. Capitalism has merely proven to be more efficient at maximizing the prime directives than socialism has.

What started out as a struggle to defend the moral economy of the 17th Century from industrialism morphed into an 18th Century working class struggle for justice within industrialism which morphed into a 19th Century acceptance by the working class that "a perfected industrialism could deliver it from the clear and present agonies of capitalism." While capitalism shaped industrialism, the core ideology is industrial power—not money or private profit—in the blind pursuit of growth. This is shown here in the Steel Triangle of Industrialism.

Industrial capitalism and socialism are hierarchical systems of power that embrace technique to worship progress. The pursuit of private profit itself is not

The Steel Triangle of Industrialism



Progress: a code word that defines exploitation and destruction as beneficial. Industrial changeand growth is good, regardless of consequences.

Hierarchy: the ordering principle of inequality. These are Eisler's dominator hierarchies, which channel love and aspiration into obedience, and defines this obedience as good.

Technique: Science, technology, bureaucracy—captures human creativity and reason into the service of progress and hierarchy, and defines this captivity as the search for truth and the highest good.

the core problem, as can be seen by its banishment under socialism. "Industrialism is a civilization gone mad by following its own logic."

Another excellent point made by Morrison is that the so-called post-industrial Information Age does not mean that Industrialism is going away. Moving workers from the factory floor to the computer desk is simply an evolutionary step in Industrialism. No aspect of the Steel Triangle—the Triumvirate of Industrialism—loses its efficacy.

The effects of Industrialism as an organizing principle of our social order are deep and insidious. Industrialism is more than the factory system of production efficiency, specialization, interchangeable parts, and wage labor. As both machine and method Industrialism creates "a psychology that makes repression a virtue and defines accommodation to the intolerable as normal." We become the machine, not merely its servants. Charlie Chaplin alerted us to this truth in his 1936 film *Modern Times*.

Industrialism is the application of Descartes and Newton's clockwork universe to production and consumption as the underlying motive drivers of social relationships. The steel triangle combines with the pathological sense of the other to normalize exploitation for personal benefit, whether power or wealth.

The paradoxes of Industrialism—war and ecological devastation in a world said to be based on rationality and logic, and the ability to produce material abundance and excess as more people are plunged into poverty—provide the basic rationalizations for unnatural behavior. After all, these negatives are merely the price of progress.

Industrialism must also be understood as a megamachine whose roots go back to the labor-powered megamachine of pharaohs and kings. As Lewis Mumford says, this was an expression of the divine right of kings to bring the power and glory of heaven into the earthly realm, and the fruits of this effort accumulated to the elites who controlled it. This also subjugated and dissolved communal and individual sovereignty and initiative.

Freedom and aspiration run counter to Industrialism. As integral aspects of human nature, they must be tightly controlled through story, force, or both. Thus, as Morrison points out, the downfall of Industrialism will not be by "barbarians at the gates, but by the awakened within."

> "The great enemy of the truth is very often not the lie—deliberate, contrived and dishonest, but the myth—persistent, persuasive, and unrealistic. Belief in myths allows the comfort of opinion without the discomfort of thought."
>
> JOHN F. KENNEDY

The power of story, or myth, is integral to the continuation of Industrialism. One of the most powerful myths of Industrialism is its presentation of the difference between public and private. Whether it is the personal and private being invaded by the public—the capitalist myth, or the public good being destroyed

by personal greed—the socialist myth, they both serve to "justify the actions of the industrial system as necessary and reasonable."

Myths have traditionally served as ways to provide meaning and guidance in both the secular world and within religion. Under Industrialism, however, myths serve as distractions and obfuscations. For example, the capitalist myth of the private realm derives its power by disconnecting us from our sense of community—from the participation in public activities necessary for a complete self. The public is made out to be the inferior, despised and feared other.

Social attributes of community, such as cooperation and caring, are denied to the public realm which is simplistically reduced to government bureaucracies that are arbitrary, inefficient, and corrupt. These same attributes are not applied, however, to corporate bureaucracies. Rifkin and others point out that this cultural mythology turns into the accepted concept of public as evil, inferior or intolerable and where freedom is equivalent to separation from community. We are taught to see community not as a refuge but as a threat because it exists in the realm of the public, which is purported to be exclusively equivalent to an oppressive government.

Morrison also points out that along with the demonization of community, "family values" are placed on a pedestal, but these are not well-adjusted and secure families in community. These family values exist only as a code-phrase for a "symbolic allegiance to patriarchal nuclear families, combined with nostalgia for an idealized past." And it's a past that, ironically, has been destroyed by capitalist industrialism.

Psychology, within the framework of domination and industrialism, disconnects symptoms from their social roots. We are not allowed to see, understand, or challenge what is actually occurring to us. Industrial psychology believes itself to be value free in applying reductionistic science to its pronouncements on human behavior. Foremost among the fathers of modern psychology was radical behaviorist B. F. Skinner, who followed Descartes' lead in dispensing with the mind and sought mechanisms that could be "reduced to learning and behavior—industrial inputs and outputs."

In fact, Skinner took it a step further and got rid of people completely, using rats as an analog for human learning and behavior, which was useful in explaining both consumer and industrial behavior. As I'll point out in the section on the spectacular failures of radical behaviorism, his findings only work in a very limited and temporary manner. It also points out one of the disconnects of Industrialism. Our willingness to apply the behavior of rats to shoppers doesn't extend to

the discoveries of the toxic effects of industrial chemicals, which are discounted in humans because they only affect rats.

Of course, part of the blame for our continued disconnection today can be laid on the doorstep of Sigmund Freud. Morrison's observation that Freud's pitting of Eros, the life force, against Thanotos, the death instinct, supports Industrialism's need to pit the individual against community. Industrialism requires the repression of life itself in order to further its own values.

The psychology of repression points to another internal inconsistency within Industrialism. While Industrialism has shown a remarkable ability to crush and control, its expansion requires more than acquiescence—it requires creativity and participation. "To allow the exercise of freedom and yet not allow freedom itself—that is the conundrum of industrialism."

One of the problems that Americans have is that they've never learned that both socialism and capitalism are economic theories, which are separate from the system of governance they are implemented under, which can be anywhere on the spectrum from democracy to authoritarianism. The reason this isn't part of the curriculum of American education should be obvious—it would cause too many embarrassing questions to be asked concerning what we actually have in America.

Communism has never actually existed on the world political stage, but does serve as a useful red herring as well as a straw man, depending on context. Authoritarianism and totalitarianism masquerading as communism have conveniently supplied an enemy for the adherents of capitalism, which itself manifests as personal greed, exploitation, and consolidation of wealth and power in a Kleptocracy. While communism and socialism require democracy to properly function, capitalism cannot function efficiently with democracy. This is one of those inconvenient truths.

What seems to me to be the real downfall of Marxism was that it merely swapped the owners of production, and it didn't address the inherent liabilities of industrialism—the unsustainability of infinite material growth and a debt-based usury system of economic cannibalism founded on fiat money which allows central banks to effectively own governments and the militaries they control.

The core problem with both socialism and communism today, which ends up leading them both to the same social inequities as capitalism, is that they adhere to the hierarchical, dominator enforced system of Industrialism. Not in theory perhaps, but in all current examples. Under capitalism, Industrialism serves the individual and profit; under socialism, Industrialism serves the group and power. But under both economic systems, Industrialism puts profit and power above people and planet—community and democracy are subordinate to the power of

markets and plans. Industrialism, as well as whichever economic model it uses, is inherently unsustainable. Not even complex financial instruments will be able to save it in the end.

The Industrial Model of American Public Education

Education in an advanced, supposedly civilized society should be much closer on the spectrum toward a right, as opposed to a privilege of money or birth. Public education in America sucks (for lack of a more concise or appropriate term), and it's not because of overcrowding, right-wing defunding, or incompetent teachers. These are, once again, just symptoms. American public education was designed to suck.

Systems thinking is an innate ability of being human. We can think like a system because we've evolved as a system within a system. We're wired for it, and it's a distinct survival advantage to do so. However, beginning in the late 1800s, the American public education system was changed at the request and with the support of America's most powerful and influential industrialists. Systems thinking (basic connecting the dots) and critical analysis were intentionally dropped from the curriculum as being counter to the goals and best interests of the Industrial Growth Society. All one needed to know was which lever to pull at what time in the proper sequence. Education became linear, focused on cause and effect, and the only "why" that mattered is because you were in servitude to the company store. "You load sixteen tons, and what do you get? Another day older and deeper in debt."

In the book *An Underground History of American Education*, New York State Teacher of the Year John Taylor Gatto documents how this came to be. Gatto is credited with popularizing the term dumbsizing to refer to an educational system designed to keep us uneducated and docile. This was necessary in a mass production economy where education is counterproductive—educated people tend to question authority and are difficult to control. A poster seen in a university library sums it up: "Reading? Why on Earth would you want to do that? You might start to get ideas!"

The American education system was modified to purposely stamp out the ability to think critically, to indoctrinate children into age-segregated, 50-minute classes with the desks in orderly rows and announced by a Pavlovian bell, to emphasize rote memorization, and to be overseen by unquestionable authority figures. Schools today enforce conformity and kill natural creativity, inquisitiveness and the innate love of learning that every child has within them.

This is done because an educated labor force is bad for industry. Industrialists can't have people thinking for themselves or actually understanding history. In 1888, the Senate Committee on Education wrote, "We believe that education is one of the principal causes of discontent of late years manifesting itself among the laboring classes." The cause of the Populist Uprising that required such urgent eradication was that the common man was too well educated and could easily see where industrialism was heading, and just as importantly, what their only role was designed to be.

So, the liberal education system was systematically changed—sometimes for personal gain, and sometimes in a naive attempt at Utopian social engineering. John Dewey, for example, wrote in 1897, "Every teacher should realize he is a social servant set apart for the maintenance of the proper social order and the securing of the right social growth."

Elwood Cubberly, who became the Dean of Education at Stanford, wrote in his 1905 dissertation that schools should be factories "in which raw products, children, are to be shaped and formed into finished products . . . manufactured like nails, and the specifications for manufacturing will come from government and industry."

The Rockefeller Education Board continued this philosophy as they financed the creation of many public schools. "In our dreams . . . people yield themselves with perfect docility to our molding hands. We shall not try to make these people or any of their children into philosophers or men of learning or men of science. We have not to raise up from among them authors, educators, poets or men of letters. We shall not search for embryo great artists, painters, musicians, nor lawyers, doctors, preachers, politicians, statesmen, of whom we have ample supply. The task we set before ourselves is very simple . . . we will organize children . . . and teach them to do in a perfect way the things their fathers and mothers are doing in an imperfect way."

William Torrey Harris, US Commissioner of Education from 1889 to 1906, wrote, "Ninety-nine [students] out of a hundred are automata, careful to walk in prescribed paths, careful to follow the prescribed custom. This is not an accident but the result of substantial education, which, scientifically defined, is the subsumption of the individual." He also wrote, "The great purpose of school can be realized better in dark, airless, ugly places . . . .It is to master the physical self, to transcend the beauty of nature. School should develop the power to withdraw from the external world." This is why the public schools the Rockefellers were funding looked so much like windowless prisons.

President of Harvard from 1933 to 1953, James Bryant Conant wrote that the change to a forced, rigid, potential-destroying educational system had been demanded by "certain industrialists and the innovative who were altering the nature of the industrial process." In other words, the captains of industry and government explicitly wanted an educational system that would maintain social order by teaching us just enough to get by but not enough so that we could think for ourselves, question the sociopolitical order, or communicate articulately. We were to become good little producer/consumers, with the elite of the population—the children of the captains of industry and government—to rise to the level where they could continue running things. This was all fully supported by President Woodrow Wilson, who said in a speech to businessmen, "We want one class to have a liberal education. We want another class, a very much larger class of necessity, to forego the privilege of a liberal education and fit themselves to perform specific difficult manual tasks." Shades of the Divine Right of Kings!

Gatto also points out the role played by Carnegie and other wealthy industrialists in broader social engineering. Carnegie in particular tied donations of the now famous Carnegie organs to small churches in return for using the pulpit to push the Protestant work ethic and convince people that slaving for their industrial masters was both natural and godly.

One of the strengths of Gatto's book is the evidence that ignorance and apathy are not the natural state of humanity. This includes the Colorado coalminer who testified before authorities in 1871 that eight hours underground was long enough for any man because "he has no time to improve his intellect if he works more," and the Jewish Student Riots where thousands of mothers in Yorkville and East Harlem protested that their children had been put on "half-rations" of education—that mental exercise had been removed from the core of teaching.

The Junior Achievement Program is a prime example of industrialism in today's public education system. This K-12 curriculum prepares students to be better producers and consumers instead of learning how to respect and care for the community of life—or even learn that it is a community.

In an educational system where teachers have no time to do much more than help students memorize answers for standardized tests, the Junior Achievement Program brings in a complete curriculum the teachers don't have to spend any of their own time preparing. Just as importantly, the program supplies energetic, earnest presenters who are only too eager to mold young minds into supporting the status quo, and who don't feel the least bit guilty—and for the most part aren't even aware that they should feel guilty—about the damage their propaganda is

causing. Much like modern psychotherapy, they actually believe they are being helpful in accustoming students to accept exploitation and subjugation.

The administrators of Western public education realize that in order to maintain a social strata of efficient workers and satisfied shoppers you don't want to have too much real education. It also helps to have a whole lot of Prozac and Ritalin on hand for those whose brains just continue to function in spite of the best efforts of the dominator paradigm. The problems with the Protestant work ethic of keeping one's nose to the grindstone are that the main results for the individual are the disfigurement of the face, the inability to smell nature's sweetness, and being too worn out at the end of the day to participate in democracy.

"A great deal of intelligence can be invested in ignorance when the need for illusion is deep."

SAUL BELLOW

There are, of course, other aspects of disconnection, separation, and otherness. The above provide enough of a background, though, for what we're up against today in our economic system, social institutions, and our governance. They also give us a robust enough framework for understanding how the damage—the rapidly converging crises—emerge, and thus for what we need to start doing differently if we hope to have a livable world to pass on to our progeny.

2
PEAK OIL

"Having to squeeze the last drop of utility out of the land has the same desperate finality as having to chop up the furniture to keep warm."

ALDO LEOPOLD

Since there are currently more good books on Peak Oil out there than you can shake a stick at, all you're going to get here are the highlights of the phenomenon and its relationships. Please see the suggested reading lists on the Association for the Study of Peak Oil or the Post Carbon Institute websites for all the details you could ever want.

First, let's be clear. Reaching the peak of global oil extraction and production isn't equivalent to running out of oil. Reaching the peak means that we've now used up at least half of all the economically recoverable liquid fossil fuels. From this point on we'll have to put more energy and resources into the system in order to get less out, while the growth economy continues to scream for more. This effort will become more difficult and be more environmentally devastating. It will also continue becoming more expensive, as will everything else in the economy that depends on fossil fuels—chemicals, pharmaceuticals, plastics, synthetic fibers, food, transportation, energy, housing, and even much entertainment.

And it could very well turn out that we're actually well past the half-way point, as all the stated reserves aren't actually recoverable due to geologic factors. Plus, stated reserves have an unknown fudge-factor built in to them, partially because OPEC export rules require exports to be based on reserves. For the first half of the petroleum fueled growth economy, the oil was easy to get and of high quality—what's known as light sweet crude. For the second half, which unfortunately won't last the same 100 years if we continue burning it at today's increasing rate, we're stuck with crude oil known as heavy sour—more difficult to extract and more expensive to refine—and the even more environmentally

devastating, difficult to obtain, and expensive tight oil deposits known as toxic tar sands and shale oil.

As a point of reference (and these figures vary rather widely depending on who's counting), in the 1950s, for every barrel of oil equivalent in energy, 30 (some say 100) barrels of oil were produced This is the Energy Returned On Energy Invested (EROEI) ratio. space. Today we only get about 5 barrels of oil for every barrel of energy put in to the system. When this ratio drops to 1:1 it won't matter if gasoline is selling for $1,000/gal, it will no longer be used for an energy source. The laws of physics and economics will finally coincide.

Here's why EROEI is especially relevant today. Hydro and nuclear have a ratio of about 10:1 (and this totally ignores the environmental destruction, and low grade ores drop nuclear down to 5:1), solar PV about 4:1, and agrofuels are about 1.3:1 at best (some studies show a negative EROEI). But modern industrial culture requires an EROEI of approximately 10-12:1 to power itself and provide all the amenities we have come to depend on. Clean renewables simply don't have the "energy density" required to keep the Industrial Growth Society humming along at anything close to its present scale—although their adherents continue to insist that they do.

It's also instructive to bear in mind that many of today's oil reservoirs are being over pumped—which will lead to early collapse of the fields due to geological factors—in order to keep production as close as possible to current levels. This is, however, a losing battle which was clearly articulated by Vice-President Dick Cheney himself. In a 1999 election speech while still CEO of the energy services company Halliburton, Cheney stated, "By some estimates, there will be an average of two-percent annual growth in global oil demand over the years ahead, along with, conservatively, a three-percent natural decline in production from existing reserves. That means by 2010 we will need on the order of an additional 50 million barrels a day." [emphasis added] This is why most countries' strategic petroleum reserves are being kept stocked up, but they're only a few weeks to a few months' worth of supply. The Obama administration recently released a report predicting a production shortfall of 10% by 2015.

To examine the whys of this phenomenon, we have to jump ahead a bit to both global warming and corporatism.

Central bankers loan out more money than they have on deposit, at what can only be considered as usurious interest rates, based on the assumption that tomorrow's growth will pay off today's debt. Since the start of the industrial revolution in England, which was fueled by coal (after they deforested pretty much the entire British Isles), this has been a fairly safe bet. The phenomenal rate of

growth, both in the economy over the last 200 or so years and in the human population (expanding markets need more producers but especially more consumers as production efficiencies rise) over the last 100 or so years has been due to the extraordinary amounts of energy that can be derived from the millions of years' worth of stored ancient sunlight commonly known as oil, coal, and natural gas.

However, we now have a convergence of crises. Burning all these fossil fuels is a major contributor to global warming, which is exacerbated by the loss of forests due to other needs (cattle grazing, housing, agriculture) of a growing population. Burning coal to fuel power plants, in addition to the regular greenhouse gases, also emits large amounts of sulphur, which causes acid rain, which kills off more forests as well as lakes and streams. Plus all the easy to get coal is gone, so mountain top removal is now the extraction method of choice, which devastates more large sections of forests—and further pollutes water sources. But, we need more forests in order to suck up (sequester) at least some of all the excessive carbon dioxide we're pumping into the atmosphere from burning all these fossil fuels.

This is a stark example of connecting the dots.

And it brings us back to a global growth economy that is entirely dependent on increasing supplies of cheap and abundant fossil fuels in order to pay back, with interest, the debts of global corporations and governments—debts which are mainly incurred to wage wars to secure the resources to feed the growth machine (and the reason the growth machine and the war machine are indistinguishable).

Things don't look good for the Industrial Growth Society when the energy to power growth is becoming scarce, let alone increasing in price. This relates directly to the obscene profit taking of the major oil companies today, and America's misadventure of illegally invading the sovereign country of Iraq to control the third largest oil reserves on the planet.

Oh, and don't forget, industrial and economic growth is also killing the planet and all life on it.

In fact, now that it has come up again, let's think about how and why our current economic system—indeed our entire way of life in the overdeveloped Industrial North—is killing life as we know it. And, why this is about to come to a rather rapid halt, voluntarily or otherwise.

The much touted American dream that we have all been conditioned to aspire to, a lifestyle of suburbia, two cars, a big house (and a bigger lawn), is being discovered to be not only a shallow substitute for real happiness, but is also destroying our world. People are waking up to the fact that American foreign

policy, officially claimed to be to export the American Dream to the rest of the developing world is killing us for it would require five planets the size of the Earth—two to supply the resources, and three to hold the waste and garbage—if the current global population of around seven billion were to achieve this dream. It's called a dream for a reason. As George Carlin famously pointed out, you have to be asleep to believe it.

The one aspect of modern life that allows us to ignore rationality and science, and to even consider the possibility for global achievement of "the dream" is cheap and abundant oil. Or at least we've been misled into believing that oil met those two criteria.

On the cheapness point, oil is cheap in America for two main reasons: It's heavily subsidized with public tax dollars, and the environmental and social costs are externalized. According to Oil Change International, annual fossil fuel subsidies in the U.S. are somewhere between $10 and $52 billion. The personal, social, and environmental health effects can only be estimated, partly due to bad record keeping. However, were these costs to be directly included in the price consumers pay, gas at the pump would be about $12-$15/gallon.

On the abundance point, the concept of peak oil can be counter-intuitive, especially when we've had classical economic theory drummed into our heads for hundreds of years. We're told that the market will adjust to changes in supply and demand. If people want more, prices will increase, extraction and production will increase, and then prices will stabilize.

But the discovery and production curves of fossil fuels show otherwise. Discovery peaked about 40 years ago, and we currently use about four times more than we discover. Fossil fuels are finite natural resources. This is simple geophysical reality. Contrary to what some peak oil contrarians like to believe with the abiotic oil hypothesis, Earth's center is not a rich creamy nougat of continuously replenishing fossil fuel.

It's important to remember that peak oil doesn't just mean we will no longer be able to drive our cars to the malls twice a day. It also means the malls won't be filled with the cheap plastic stuff we've come to depend on as a substitute for a fulfilling life. Home heating fuels will be in short supply and prohibitively expensive. This doesn't bode well for clap-trap McMansions that have been built miles from nowhere and require zoned central air conditioning units. And, quadrupled rates of crop yields from an agricultural industry entirely dependent on fossil fuels will no longer be possible. This is perhaps Western culture's most dire problem.

Oh no, more connecting the dots.

It's common to wonder today, Do we really need oil to eat? Well, yes. Oil and natural gas are used as the primary feedstock for modern industrial agricultural in the form of pesticides, fertilizers, and herbicides. These feedstocks created what was known in the 1940s as the Green Revolution (but not "green" in the current sense of the word—rather a very oily black, which unfortunately too much of today's mainstream environmentalism still is). American farmland has basically become an empty sponge onto which we pump chemicals manufactured from petroleum along with diminishing supplies of fresh water.

In addition to other dubious and unsupportable claimed benefits, one of the reasons the biochemical industry would like people to accept GMO (genetically mutated organism) additions of vitamins and minerals into the food stock is because there's none left in the soil. It's why the USDA recently doubled the adult minimum daily requirement for fruits and vegetables. The ones you buy at a conventional grocery story have about half the nutritional value they contained in the 1960s—in the case of broccoli, 73% less Vitamin A. It's possible today to buy Florida oranges that have absolutely no Vitamin C in them. This is a one example for why eating organic foods is actually less expensive—you don't have to buy as many nutritional supplements—as well as better for your health. That organic foods are better for the health of the planet goes without saying.

It's important to be aware that approximately 10 calories of fossil fuels are required to produce every 1 calorie of food eaten in the US. The size of this ratio stems from the fact that every step of modern food production is fossil fuel and petrochemical powered.

In addition to transportation, food, and modern medicine, mass quantities of oil are required for all plastics, all computers and all high-tech devices. The construction of the average desktop computer consumes ten times its weight in fossil fuels.

How we use the remaining oil—more freeway, sprawl and stripmall culture or relocalizing production and lowering consumption—is one of the more important questions facing humanity today.

Let's take a minute or two to imagine what would happen to the typical American as they headed for their car to go to work in the morning if we removed all the things made from fossil fuels. I've adapted and expanded this from a message I ran across on an energy related e-mail list from an oil industry engineer. This will give us some idea of how much the industrialized world and materialist lifestyles are dependent on petroleum-based products.

The first thing to go will be your nice business dress or suit and tie of a fashionable wool blend of Polyester, Dacron, Rayon, or Orlon—these are all

petroleum based, man-made fibers. All plastic is petroleum based, as is elastic. So, the waistband on your underwear just became non-functional, and the polycarbonate lenses in your reading glasses and plastic contact lenses are gone, too. So, you're going to be standing there in your driveway with a little pile of cotton and wool around your ankles, getting a bit chilly and not seeing too well.

While we're at it, let's toss out your credit cards (plastic), the heels from your shoes (polyethylene-based rubber), and your all-weather watchband (faux-leather that is actually plastic). And we better get rid of that driver's license too—the lamination is made from petroleum, as is the ink. And let's not forget the ink that your money is printed with—yes, the ink which most currency is printed with is also a petroleum based product. As you stand with what used to be a suit around your ankles, you're also completely broke.

And so, rightfully embarrassed to be displaying to the world how much junk food you've consumed—much of it made from or preserved with petroleum—you spin your nakedness around and reach for the door of your car. But the plastic door handle is gone. And the car itself looks quite a bit different and doesn't function the same either.

The gas, oil, transmission fluid, brake fluid, wheel bearing grease, seat covers, steering wheel, dash pad, and tires are all gone. Every single wire in every single electronic device relies on petroleum-based coating as insulation, so the electrical system would be a smoldering mess the second you turned the ignition key.

Of course the car itself, made from steel and aluminum which depend on fossil fuel for mining, shipping, smelting and manufacturing goes away as well. But, it won't really make much difference, because the asphalt (a petroleum refining by-product) road won't be there either. Some pundits say the major future use of roads may be to tear them up to burn as a home heating fuel.

If you were to go into a modern house today and take away the plastic, about the only thing that would be left would be the ceramic toilet and a few light fixtures. But since the plumbing is made from PVC, the toilet wouldn't work anyway. Everything in your refrigerator will also quickly decompose because 90% of the packaging materials we use today are made from petroleum.

These examples of life without oil are just the tip of the iceberg.

30 million years to create, 150 years to use up half—and that was the high quality, easily refinable, and less expensive to extract half used by a fraction of a growing population that is demanding more.

Cheney's 1999 assessment of oil decline is supported by the estimates of numerous non-political, non-industry scientists, many of whom believe global oil production will peak and go into terminal decline no later than 2020. An

increasing number of scientists are benefiting from hindsight and accumulated data to state that conventional liquid fuels peaked in 2005, while all liquids (agro-fuel and tar sands included) peaked in 2006.

Some industry experts aren't as optimistic as Cheney was in 1999. For instance Andrew Gould, CEO of the giant oil services firm Schlumberger, recently explained the global decline rate may be far higher than what Cheney predicted: "An accurate average decline rate is hard to estimate, but an overall figure of 8% is not an unreasonable assumption."

What does this all mean? Global economic growth is coming to an end because it is, at a very fundamental level, unsustainable. Since our entire financial order—interest rates, pension funds, insurance, stock markets, complex derivatives and debt instruments—is predicated on growth, the social and economic consequences will be cataclysmic, especially for those who base their entire identity on it.

When big business advocates and free-market fundamentalists try to appear concerned about rising fuel costs for their effect on low income populations, what they're really saying is that they are worried that they may no longer be able to depend on exploiting armies of no-benefit wage-slaves. The disruption to the hopes for a recovery of economic growth from people not being able to afford to drive to work are significant, to say the least.

The world has never faced a problem like this. According to the Department of Energy's Hirsch Report, without massive mitigation more than a decade before the fact, the problem will be pervasive and will not be temporary. Previous energy transitions were gradual and evolutionary. Oil peaking will be abrupt and revolutionary.

The experts agree that we must start building an alternative infrastructure now, not after collapse begins, as then it will be too late. The International Energy Agency says we're "running out of time" and "forecast a depleted energy supply in the next decade." This is the most obvious connection in our economic system today, and one of the few mainstream instances of its reporting. "Energy availability underpins economic growth, and without the opportunity for future repayment of debt the financial system as we know it could stop working." Global warming compounds this crisis with a future containing fewer food and fresh water supplies. A recent Pentagon primary planning review asserted that "climate change, energy security, and economic stability are inextricably linked."

A Bundeswehr report by German military analysts acknowledges Peak Oil and points to a likely reduction in standard of living that might render societies less stable and make them more attracted to extremist political positions. Investment will

decline and debt service will be challenged, leading to a crash in financial markets, accompanied by a loss of trust in currencies and a break-up of value and supply chains—because trade will no longer be possible. This will lead to the collapse of economies, mass unemployment, government defaults and infrastructure breakdowns, ultimately followed by famines and total system collapse.

The logical conclusion is that if we continue insisting that standard of living is equivalent to quality of life, we will leave ourselves susceptible to political extremism as material-based growth economies dependent on fossil fuels collapse into chaos. And please take note that these pronouncements are coming from organizations that can hardly be said to be controlled by left-wing ideologues.

It is becoming evident that the financial and investment communities are beginning to accept the reality of Peak Oil, which ends the first half of the age of oil. They accept that banks created capital during this epoch by lending more than they had on deposit, being confident that tomorrow's expansion, fuelled by petroleum-based cheap energy, was adequate collateral for today's debt. The decline of oil, the principal driver of economic growth, undermines the validity of that collateral which in turn erodes the valuation of most entities quoted on stock exchanges.

Kenneth S. Deffeyes, Princeton geologist and professor emeritus of geosciences, estimates that when this moment of awakening occurs on Wall Street, about $7 trillion dollars will be lost literally overnight. In addition to outright greed, might this have anything to do with why financial markets turned to toxic investments in sub-prime mortgages, currency intervention, and outright collateral debt fraud in the attempt to prop up their net worth?

The main takeaway from all this is that the concept of Peak Oil isn't fringe; it's mainstream. It's not a conspiracy—by either tree-huggers or BigOil—it's a geophysical reality. Looking at root causes shows that we're not really addicted to oil, as many mainstream pundits and certain former presidents state; we're actually addicted to growth.

Today's industrial growth economy depends on increased consumption, use, and waste. We're told to not conserve, to not alter consumptive lifestyle patterns of purported ease and convenience. But why is the system of consumer convenience so highly touted? Because we're overworked, underpaid, and no longer have the time to do what really matters—to express our passions, to develop our skills and interests, to spend quality time with family and friends.

George H.W. Bush, after the Rio Summit in 1992, regarding participation in any global effort to reduce greenhouse gas emissions—let alone leading the effort—declared that the American way of life is not negotiable. This has become

a prime neoconservative sound bite ever since. Many people remember former vice-president Dick Cheney repeating it.

Former Republican leader Trent Lott said we will not have Americans using less. But the world is running out of both resources and time. These elemental facts don't go away just because they're ignored, denigrated, or denied.

One very important thing to remember is that Peak Oil doesn't necessitate a gloom-and-doom end-of-civilization scenario. The Industrial Growth Society will come to an end, but this presents the opportunity for the human race to focus on actually becoming civilized. We may not have the necessary fossil fuels to keep our economy of waste, profit and infinite growth running, but this gives us the opportunity to finally have progress and find prosperity in the things that really matter in life. It's time to change the paradigm.

What can we do to bring about this change and minimize the suffering that will accompany an unplanned collapse we are not prepared for, or that magical thinking insists won't occur? The short answer is to reconnect and relocalize--rebuild the long missing community networks of support in the essentials of food, education, healthcare, energy, shelter, transportation, and the arts. As the competitive hydrocarbon man dies out, we can welcome in the cooperative sustainable person.

Why "Free" Energy Isn't a Solution

Of course, we've all been conditioned by and largely accepted the main myth of Industrialism: Growth is necessary for progress and prosperity. We simply must find some way to go on livin' large. If we don't grow, we'll either die or revert to barbarism. Many people I talk with can't seem to honestly decide which of the latter they think would be worse.

Adherents of this myth cover the spectrum. I've had a number of conversations with free-energy advocates and conspiracy theorists who claim Peak Oil is a scam and part of the plan to keep "free" energy, two-hundred miles per gallon carburetors, and other perpetual motion "discoveries" out of the hands of the masses.

Zero-point energy and cold fusion are both valid fields of study from a theoretical perspective. What people tend to not understand is the scaling factor in bringing them to reality (what works in a small scale may not work as well or at all at a large scale and consequences often exhibit the exponential factor). Plus, these technologies are currently based on linear Newtonian mathematics—which only works up to a point in a dynamic non-linear universe. At some future time this might either be overcome or lead to efficiency breakthroughs in other energy technologies, and I do believe that open and funded research in these areas should continue.

It seems as if people are desperate to buy into this strange combination of conspiracy theory and fantasy. The conspiracy theory is that we're being kept from wonderful technologies that will set us all free and make life wonderful and beautiful, and the fantasy is that we can get something for nothing and that the second law of thermodynamics doesn't really hold. While the 2nd law might not be exactly correct, my engineering background leads me to believe that something very much like it is. While I admit to the theoretical possibility of some type of zero-point or quantum field energy that we might be able to harness, powering the Industrial Growth Society and its underlying paradigm of domination and separation with free energy will only be marginally better than what we have now, and only from a limited pollution standpoint. If the entire history of previous attempts at human meddling in natural systems is any indication, probably worse.

Yes, there probably is something very similar to what Ervin Laszlo calls the subtle field, or the 5th force in quantum mechanics. I personally believe that there is. I call them attraction relationships, Brian Swimme calls them allurements, others refer to it as the life force, or simply Love. But "free energy" is a bit of a misnomer at best. Yes, energy patterns of various types provide the basic structure of the universe. You are a complex set of energy relationships. But you're not going to power the Industrial Growth Society. You can't create something out of nothing. As to whether or not we'll ever be able to tap the underlying cosmic energy field, or whether or not we really even need to, are, however, open questions.

The fact is, we don't need free energy. Returning to a partnership society, and focusing our highest values on being more instead of having more would reduce energy demands by an order of magnitude. But to defend our overly consumptive lifestyles and a population beyond the planet's carrying capacity is ecocide—and this is what the free energy folks, as well as the techno-fetishists and the so-called environmentalists who have shown their true colors by embracing nuclear energy, are calling for. What we need to do is "power down," not find a replacement energy source for a paradigm that is anti-life.

To answer a common critique from free energy advocates, how could Peak Oil activists possibly be playing into the hands of BigOil? Locally produced and distributed renewable energy sources removes the power from centralized energy monopolies. The search for endless energy, free or otherwise, is little more than the continued worship of greed and materialism—or at the very least acceptance of the unexamined and unprovable assumption that growth is necessary for progress and prosperity. Peak Oil activists aren't lamenting the end of the oil age because they're going to miss it, but because of the damage to the social fabric it will cause if the majority of people are unprepared.

Now, I don't want to unnecessarily alienate potential allies, but the main difference between free energy and relocalization advocates is the former talk about technologies that are being kept from the masses, and the latter are providing plans that communities can put into service today. Peak Oil activists aren't Luddites, technologies they embrace include neighborhood-scale Community Supported Manufacturing in areas such as micro-hydro, wind turbines, and passive solar technologies coupled with Energy Descent Action Plans.

My main points of caution are that 1) we, as a species, are not currently mature enough to handle "free" energy, 2) even if that weren't the case, existing clean and renewable energy technologies are perfectly capable of meeting the energy needs of a sustainable global population, and 3) energy-descent or power-down could be accomplished in a manner that would actually increase quality of life. The solution to Peak Oil is actually much simpler than the Disclosure Project or the Pleiadian Agenda or . . . It just involves getting back in balance with the natural systems principles that sustain life on this planet. The solutions to the global energy crisis are social, not technological.

The reality based environmental literature has presented quite a few solutions to the energy crisis. The perceived "problem" with these solutions is that they don't maintain the status quo of a growth economy that is quickly destroying the planet and all life on it, nor do they maintain elite systems of entitlement. When energy experts who are involved with relocalization efforts start talking about powering down, the typical reaction from both the political right and left is reminiscent of a youngster who puts their fingers in their ears and loudly proclaims, "La la la la la . . . I can't hear you."

It's very true that current renewable energy sources can't meet current, let along projected, energy demands. But why is that presented as if it's a major shortcoming? We are, after all, both killing Earth's ability to sustain life and killing life (which we continue to think doesn't impact or include us) with our "demands." New energy sources are not what it's going to takenecessary for humanity to "survive our perilous situation."

Agrofuels and Other Mainstream "Alternatives"

Industrialism depends on cheap and abundant fossil fuels—in denial of the life-threatening toxic and climatic effects of acquiring and burning them—and now that these are running out, the search is on for viable alternatives.

But this desperate quest to maintain the growth myth allows us to continue ignoring that conspicuous consumption and unrestrained breeding must be dealt with. Part of this myth is that it's not realistic to expect three billion or so people to give up their energy-intensive lifestyles cold-turkey. This accepted necessity to continue the Industrial Growth Society provides the legitimacy to continue down the path of economic cannibalism toward the cliff of ecocide.

I do believe that biofuels (which are both qualitatively and quantitatively different from agrofuels, which use industrial agriculture practices to turn farms and forests into fuel depots) will have an important, though limited, part to play in future world energy needs. However, it's physically impossible for any proposed fossil fuel replacements, or even a combination of them, to replace the sheer amount of fossil fuels we're currently consuming unless we become an ethereal race that doesn't require food. And maybe even shelter. What's so difficult for me to understand is why people are having such a hard time realizing that power-down is going to be necessary, and that a rational, objective analysis of this need leads to the conclusion that doing so will actually improve quality of life.

Oh, yeah, maybe it's because the evening news and the Sunday morning talk-shows aren't talking about any of this in even a semi-serious manner.

Personal transportation pods, increased materialism in general, and the myth of security through autonomy from nature are some of the addictive substitutes for our connection to Earth, our communities, and our own inner nature. These substitutes all require massive amounts of energy.

One on-line conversation I was involved in was kicked off by an article by Vinod Khosla, "My Big Biofuels Bet," in one of the newsletters of the Church of the Techno-fetishist, Wired Magazine. Khosla is a venture capitalist invested in agrofuels, so a bias toward pro-ethanol/biodiesel assumptions was to be expected. An article sidebar by the author titled "Six Ethanol Myths," provided most of the fodder for the conversation. The article, though, started off with another myth, that "waste," either farm or consumer, is a renewable resource. From an ecological or even common sense perspective, this is utter nonsense. Nature doesn't produce waste, and our industrial and agricultural processes had best come to grips with this reality if the experiment of human life is going to continue.

The six ethanol "myths," when viewed from a systems perspective and taking externalities and sustainability into account, are a much closer approximation of reality than their proponents are willing to admit. When comparing energy ratios all energy consumed in the respective processes must be examined. The critique presented of David Pimental, Professor Emeritus of Ecology and Evolutionary Biology at Cornell University, especially his statement that making a gallon of

alcohol is like pouring a gallon and a half of gasoline on the ground, because ethanol plants actually use coal or natural gas, not petroleum, is disingenuous at best. Fossil fuel is fossil fuel and energy equivalency is well known. Let's at least be honest.

Every sane argument against switching to widespread ethanol usage is dismissed as a myth, with no logical coherency. For example, when pointing out that switching to ethanol would be expensive, the retort is that it costs "as little as $10,000" per retail gas pump to handle E85. For the argument that cars running on ethanol get lower gas mileage, the retort is that they only get 25% worse mileage, but, a miracle is going to occur so this doesn't matter. The land required for ethanol crops is handled similarly. Ignore the fact that America is a net food importer, we'll just shift the land used for export crops to growing fuel crops. This disconnect from reality and basic mathematics is one reason our economy is in the shape it's in.

Better mileage or a different fuel source isn't going to change the contribution to environmental degradation and global warming from the automotive manufacturing process or roadbuilding. Ethanol doesn't significantly reduce CO2 emissions, and may actually increase other greenhouse gases such as sulphur and nitrogen.

All I'm going to say about "clean coal" is that it's an oxymoron almost rivaling "smart growth." Period.

Connecting the Alternative Energy Dot to Agriculture and Overpopulation

That the overpopulation question is a political hot-potato should be an indication of whose interests this serves. One of the main factors in solving it requires giving women control over reproductive choices. When this is the case, birth rates decline. If one is afraid to speak truth to power, and help dispel ignorance, nothing much will change. People appreciate honest answers, and global population can be voluntarily decreased without infanticide or other draconian measures. I dedicate a section to this in Part Three.

I heard Rabbi Michael Lerner talk here in Tucson, AZ a few years ago, and with a straight face, in an otherwise excellent talk covering the realities of global warming, imperialism, environmental degradation, social injustice, etc., he told the audience that the Earth has sufficient resources to put an end to poverty and hunger; our only problem is equitable distribution. I'm never sure if it's willful ignorance or simply delusion to deny that even with the current system of grossly inequitable

distribution, global fisheries are depleting, fresh water supplies are depleting, about half of the productive topsoil in the world is simply gone, etc, etc.

If you do the math, the result is that with a global population of seven billion, true equitable distribution with a goal of true sustainability would allow each human on earth to have about one carrot and one glass of water per day. This is the answer a carrying capacity analysis delivers. True sustainability is directly related to how many people, how much they consume, how much waste they produce, and an ecosystem's ability to assimilate and regenerate. While it may be theoretically true that we could end hunger with today's fossil fuel intensive agricultural and distribution systems, the only thing this would do is hasten petro-collapse, global warming, and the loss of the other 50% of the world's topsoils. Then where will we be?

Current bio-intensive organic agricultural techniques look promising, but in keeping with the need to return what is taken from the soils, not only will there be no "waste" for biofuels, but we, as a culture, might have to get very comfortable with both humanure and composting the dead.

The argument is often advanced that Rabbi Lerner was building on Frances Moore Lappe's book, *Diet for a Small Planet*. I'm a fan of Lappe's critique of Eurocentric patriarchy, but *Diet for a Small Planet* is 35 years old now, global population has just about doubled since then, and her bias in promoting the social significance of vegetarianism doesn't make for good science. Good ethics . . . perhaps. But that's another topic.

I'm in full agreement with Lappe that global-agribusiness is exploitive and destructive. It's also the only way you're going to even marginally feed 7 billion people, which is part of the status quo's justification for continuing it. Yes, I know that organic techniques can produce higher yields, but they require more land overall for crop rotation and fallowness. It's also worth pointing out that about 2/3rds of the global population are already vegetarians. So it's going to behoove us to find sane ways to get our population under control. Otherwise, as fossil fuels and other resources deplete, the military-industrial machine of the elites will do it for us in ways that none of us really want to contemplate—if Nature doesn't beat them to it.

Greed and capitalism are indeed both guilty of significant portions of the resource depletion figures. The mindset of the Industrial Growth Society depends on increasing numbers of producers and consumers in order to keep markets expanding . . . I'm not arguing against that at all.

But, I've been researching this from a carrying capacity perspective for years now. The liberal orthodoxy of Lappe, et al that we can have our cake and eat it too

is fairly easy, if uncomfortable, to challenge. Depending on the assumptions used, and how quality of life is defined, a sustainable global population may actually only be about 600 million. However, based on research done by others, I tend to put the figure at 2 billion—but those 2 billion are going to have to be very mindful of how they treat the Earth and each other, and that figure also assumes a healthy Earth.

But being honest enough to admit that we've over-bred the planet's carrying capacity has very little, if anything, to do with a Malthusian endgame. In the late 1700s Thomas Malthus warned of a forced return to subsistence-level conditions once population growth had outpaced agricultural production. Invoking Malthus is very much like crying conspiracy theory when someone connects the dots in a manner one doesn't agree with. Malthus was looking for justification and explanation for dominator hierarchies, even though he didn't frame it in that perspective. He also was ignorant of the natural systems perspective concerning what people will do to find fulfillment when their natural sources for fulfillment are cut off or withheld. The paradigm responsible for this withholding was in full swing during his time with the enclosure movement, Baconian science, and the Church's drive to equate nature and all forms of wilderness, including our inner wilderness, with evil.

> "A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends to do otherwise."
>
> ALDO LEOPOLD

There are indeed some cultures who pleasured themselves to death and destroyed their environment. There are others who didn't, some of whom saw the mistake they were making as it was happening and made the necessary corrections. In *Collapse: How Societies Choose to Fail or Succeed,* Jarrod Diamond uses Japan as one example of the latter. I'm of the opinion that we have the potential to fall into the latter category, do so joyously, and improve our quality of life while we protect and preserve the rest of life.

Another aspect of the falseness of modern culture is the desperate clinging to the status quo of infinite growth by so-called "sustainability" advocates who are trying to "green" consumption and who are convinced that Peak Oil is more of a problem than catastrophic climate destabilization. They are helping to sound the alarm bell about the peak of global oil production, but rather than helping prepare people for energy limited lifestyles, they seem to be solely concerned

about finding a replacement energy source to continue fuelling the doomsday economy, sprawl, and the creation of more minimum wage, no benefit service sector jobs as our only hope for economic vibrancy.

In what appears to me to be a case of false prophets, the Rocky Mountain Institute—what I call the main Church of the Techno-fetishist—is trying to lead this charge off the cliff in a scene that will be remembered by future generations as Lemmings Driving Hybrids. They are not offering a viable alternative to stripping the earth bare of its resources and otherwise meddling in the natural systems cycles (agrofuel crops, nanotech, etc.) that maintain a balanced, healthy, and vibrant ecosystem providing for the continuation of life. The best they can come up with are "carbon credits."

Yeah, that's the ticket. Let's continue offering financial incentives for raping, pillaging and burning our life support system. This all combines to provide a clear example of the Techno-Rapture—by embracing technology you'll be saved when Earth systems collapse.

And Then There's Nuclear

A number of people have commented on environmental writer George Monbiot's recent coming-out for the captains of industry with his fresh and exciting love affair with nuclear energy. So, I don't want this to seem like piling on, but this issue isn't going to go away as long as we (Western industrial humans) continue to cling to the growth myth, or even continue with the assumptions that "economic recovery," "increasing energy demands" and a "return to normal" are even in our best interests—either short or long term.

In his article "Seven Double Standards" which came out in March, 2011, Monbiot starts by asking why we don't hold other forms of energy to the same standard we're trying to impose on nuclear. So, let me start by giving the short answer: Because they don't produce thousands of tons of radioactive waste for which we still don't have a feasible method of disposal. Low level radiation is not the issue—although as we're coming to find out, it should be one of the central ones. While most of the seven points he makes are good ones, especially why we unquestioningly accept deaths as a matter of course in the coal industry, they are mainly a distraction from the questions we should be asking.

Monbiot is within the environmental majority in seeing the benefits of greatly reducing our overall ecofootprint. I believe he genuinely cares about the welfare and well-being of people, other species, and Earth itself both now and for the future. He believes that anthropogenic global warming and the reasonable

probability for disastrous consequences accurately describes reality and that the status quo response is wholly inadequate.

But, like too many others today, he frames his response to life threatening crises in the terms and with the assumptions of the dominate paradigm that created these crises. It is taken as a given that human ingenuity will rescue us and we can go on with livin' large in a green economy using clean renewable energy—never mind those pesky little concepts like entropy, conservation, and finitude.

While more accurate than many over the years in his descriptions of the damage being done and the sure likelihood of further increases in destruction and suffering by staying the course of Business As Usual, Monbiot doesn't seem willing to lay the blame on Enlightenment thinking, let alone examine the deeper roots from which this mindset emerged and is being nourished. He falls rather firmly in line with Maggie Thatcher in claiming "There Is No Alternative." Even though Monbiot insists this isn't what he's saying, he pulls in references from others who also claim abandoning nuclear power will surely result in increasing greenhouse gas emissions.

Monbiot believes in a false dichotomy that comes straight from industry PR when saying the only two possible alternatives to increasing nuclear energy capacity are to either burn more fossil fuels (and we agree that's a singularly bad idea), or "to add even more weight to the burden that must be carried by renewables."

Now, there is no doubt that industrialism places a heavy burden on renewables. But, surprise! Industrialism is a burden on humanity and Earth. There is also no doubt that human ingenuity must be pressed into service, and starting to do so sooner rather than later would be a singularly good idea. However, stating these are the only two possible paths for humanity's energy future is a case study for the opposite of ingenuity.

We don't need the majority of the stuff that's being produced (let alone new versions every six months), and we don't need wars of empire. Dealing with those two issues alone would remove the need for any new nuclear power capacity, remove the need to replace reactors ready to be decommissioned, and remove well over half of the need for fossil fuels. If we were to start manufacturing what we do need to be built to last and be easily repairable, implement some sensible conservation measures (like not keeping our cities lit up like a cheap Nevada whorehouse at night), and decentralize (but remain standardized and safety regulated) the energy grid, we'd be just about down to an energy demand that renewables are already producing today and well within their ability to pick up any additional slack if needed.

Then there's building our homes and businesses to require less heating and cooling instead of using the cheap ticky-tack construction approach and all the other low-hanging fruit options everyone is already familiar with. Estimates are that these latter changes alone will get us 23% of the way down to where we need to be just on greenhouse gas emissions, so they're a good idea regardless of their additional energy savings.

If we also factor in the high percentage of people leading lives of quiet desperation (Thoreau) we start to see even more clearly and completely how much less energy we actually "need". Because if what we're doing now isn't making us happy, will doing even more of it make us happy, or just a whole lot unhappier? We'll expand on this theme in Chapter 8.

When is the environmental left going to become willing to start supporting organizations and electing representatives who are willing to speak this truth and begin implementing the relocalization alternative that can be shown to improve quality of life? To help people understand that sustainability has real meaning and that it is within the capabilities of humans to decide to start moving in that direction? One thing I can pretty much guarantee is that we won't develop a sustainable future as long as people who should know better keep insisting that it either can't happen or isn't necessary.

I'm starting to see mainstream editorial writers talk about the need to at least switch fuel sources "without either bankrupting or enslaving the citizenry," such as M.D. Harmon in the Portland Press Herald. They realize that biofuels are too expensive to produce without government subsidies, but then the logic flies out the window. We don't need Saudi oil, we just need to lift the ban on drilling offshore and in ANWR, and approve the Keystone Toxic Sands Pipeline. We need more nuclear power plants, lots of them, really fast. Our demand for energy must be met, and this demand must continue to grow for the sake of a healthy economy. This latter is often coupled with the myth this is the only way to lift the developing world out of poverty, with poverty narrowly defined with the Western consumerist model. Sanity seeps back in slightly when they admit we sure can't look to the government to solve this problem, but disappears even quicker with thinking that capitalism can be counted on to solve our energy problem, as long as all regulatory and environmental fetters are removed.

The willful ignorance of the supposedly educated and well informed never ceases to amaze, but mainly mortify, me. Don't call for conservation, don't call for efficiency increases (in the product, its manufacture, and its use), and don't insist on using the Precautionary Principle. Don't think about any of the other factors I've previously mentioned, and definitely don't call for ways to do more with less.

And whatever you do, don't dare mention that the problems we're facing with rising energy costs, shrinking supplies, and increasing biospheric toxicity are a direct result of capitalism's growth economy in support of Industrialism.

This is economic cannibalism. Its only logical consequence is ecocide while material wealth continues its upward consolidation into fewer hands until the whole system finally catastrophically implodes.

The only unknown is which will occur first—the implosion or a biosphere inhospitable to life.

It's time to honestly face the damage our energy demands are doing to the environment and to our spirits. And then to examine how quickly we can implement a rational alternative.

It's time to shift the foundation of the debate. NOW. We are running out of time to discover the dynamic resiliency and increased opportunities in steady-state local living economies. It's time to start strategizing to power down instead of sucking up every last iota of fossil fuels—or shifting even a fraction of the "demand" to the more potentially destructive nuclear industry—in order to support overly consumptive and wasteful lifestyles which require an economic model of infinite growth to service debt that has absolutely no basis in reality. Growth economies contravene the laws of physics. It's not just loss of habitat and species being driven to the brink of extinction. It's the ability of the biosphere to support life as we know it that's being lost as we keep breaking links in the food chain simply to continue corporate profits, keep the GDP graph on a positive slope, and the ruling elite firmly in control as they continue to successfully carry out class warfare.

The degree of madness that underlies this frenetic activity is approaching the unfathomable. And it seems to have terminally infected even the best minds of the environmental left.

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The reality of energy consumption, environmental devastation, and unrealistic standards of living show that shifting current energy demands to "cleaner" technologies is not the answer for the long term viability of either the human race or the planet. The sheer amount of electricity we produce, consume, and waste is a contributing factor to global climate change, environmental destruction, and global social injustices.

The current rush to turn coal into transportation fuels and refine tar sands into oil is a classic case of the frogs in the slowly boiling pot, except in this case

we frogs are willingly turning the flames up ourselves. It's time to honestly look at the damage our energy demands are doing to the environment and, ultimately, to our spirits.

The solution to increasing energy demands can be divided into a number of parts: conservation; efficiency and lower power requirements for housing, business and industry; lifestyles that have a smaller ecological footprint; local production and distribution of both renewable energy and goods; and a shift in the cultural values that currently equate more worth with more consumption. And none of this requires either austerity or a return to chopping our own wood and carrying our own water. The average American has an ecofootprint of 23 acres, while the average Italian has an ecofootprint of 9 acres, and they're hardly cave-dwellers. While even 9 acres is still too high, it's a good indication of how far out of balance the American way of life is that we're trying so desperately to protect.

The Real Costs of Energy

I'd like to add a few questions that the current ecological audits performed on different energy sources seem to miss. In regard to biofuels for automobiles, we must ask what the underlying reason is that we're producing them. Is it to continue propping up a failing system that keeps us disconnected? Are our travels meant to help enjoy life, or as an escape from the rat race? Do our travels serve our own and the web of life's best interests, or are we commuting and traveling to serve corporate masters? Are we producing biofuels to keep from rebuilding our cities on a more human scale? To keep from investing in mass transportation? To support the pathos of individualism?

A biofuel operation—just like any other enterprise, business, or production process in the current industrial growth paradigm dependent on resource extraction and energy consumption—creates waste, pollution, and toxins as production by-products at all stages of the production and consumption process.

Might it be wise to first ask a much more fundamental question—of what necessity is the product or process, and might not the application of the precautionary principle lead to the conclusion that we either don't really need it, or that there might be a much more sustainable way of meeting the need the product or process is intended to fulfill? Then, the above considerations must be dealt with as well as ensuring people are fully aware of full costs and who bears the responsibility of paying for them.

At least part of the biofuel discussion, and a major part of the agrofuel discussion, seems to be assuming that mechanical processes are always superior

and/or preferable to human labor. One good example of this not being the case is the mechanized fishing industry in the Pacific Northwest.

It takes about 19 calories of energy to get one calorie of fish to your dinner plate (and this isn't counting the energy it took to extract and process the raw materials to build the ship). This is at least partly due to ignoring natural systems principles. In the case of salmon, when is a salmon at its prime for human consumption? Well, after it has spent a couple of years out in the ocean, and is returning to the mouth of the stream or river where it was spawned. That's right, folks. There is no need to go chasing salmon all over the ocean, they swim right back to us.

The mechanized fishing fleets were also never able to reach the same level of productivity as the Coast Salish tribes. On the Columbia River, the best year ever for the mechanized fishing fleets was a total catch of 13 million pounds. It is estimated that the native tribes were able to pull about 19 million pounds out of the river. However, the mechanized fishing fleets and canneries did reduce labor costs by putting a whole lot of people out of work, and consolidated wealth and power in the hands of a few. Is this the process biofuel advocates want to make more efficient and power with renewable energy?

Energy markets tend to analyze their product from a very limited perspective—the form of energy inputs and the efficiency of its use. When they talk about the full cost of using energy they only talk about its production and delivery—not the destruction of its extraction or the social consequences of its use and polluting by-products. Energy, regardless of the form, is seen only as a net social good.

How much energy use is simply to maintain the status quo of growth? How much of it is to power phantom loads (digital displays and instant-on TVs)? The answer to that is that it requires a 1,000 megawatt power plant to power America's TV sets when they are "off." It was estimated in the 1980s that it took the output of one medium size nuclear reactor just to power people's hair dryers on a daily basis. A more efficient hair dryer doesn't address this fundamental disconnection.

An ecological audit of energy must first have this level of analysis applied to it. It's not just indiscriminant growth we must be wary of. Because another underlying assumption of biofuel advocates is that we can have a 1% ecologically-audited growth rate, and a 1% ecologically-audited rate of return-on-investment based on the capacity of photosynthesis to fix solar energy into biomass usable by living systems.

However, as anyone who's seen Professor Albert Bartlett's presentation on exponential functions knows, even a 1% growth rate has a doubling period. See the growth section for an example of how disastrous even a 1% growth rate can be.

Natural systems do not grow indefinitely. They grow until maturation, and then they go into a maintenance, or steady-state, phase. But this doesn't mean they become stagnant. They continue to develop, become more advanced, and more efficiently contribute to the continuation of life. This provides the core concept we must adhere to as we discuss sustainable economic development. To be sustainable, we must stay within carrying capacity limits. Which means that first, within the best of our abilities, we must become willing to determine what those limits are.

Powering Down to a Post-Carbon World

While I have more to say about this in the chapter on relocalization, for now let's acknowledge that it's time to shift the foundation of the debate.

Once upon a time, consumption was considered to be a disease. But powering down does not mean donning a hair-shirt and returning to the cave. Rather, low-energy lifestyles can mean more leisure time, more time to pursue personal interests and education, more time for friends and family, and less hours spent slaving away for someone else's profit. To try to defend, or pray for, a techno-fix in order to continue our current slothful, wasteful Western lifestyles is a dead-end tactic.

It is said that technology is necessary to solve 21st Century problems, and finding enough energy to meet the soaring demands of the world is but one of them.

The way to meet the energy needs of the 21st Century is to start by examining the verboten question of how much energy we actually need. Does our current energy use really increase our quality of life? Who is really profiting from the centralized grid and the seemingly insatiable thirst for more electricity generation? The vast majority of energy use on this planet goes to consuming, exploiting and destroying the planet and all its children. We are all getting sicker in the process which only benefits the prevalent Western disease-care medical model.

What would happen to our energy needs if we were to shift from a culture of having more to a culture of being more? What if we had the time in our lives to enjoy life more—where we weren't so pressed for time that the extra 15 seconds to let the TV warm up wasn't an irritation, and more importantly for this context, so when the TV was turned off, it was really off?

Can't we use our intelligence to realize that burning fossil fuels is destroying life? Thinking we can control or improve upon Nature is hubris, and we could get much further by working with Nature and the creative life-affirming processes of life.

If we look at how Nature does it, we see that there is an intricate balance maintained, a dynamic, integrated harmony where nothing takes more than it needs, and everything gives back to keep the system healthy—that living systems self-organize to create mutually supportive attraction relationships that support the whole in order to be able to realize their own potential. Martin Luther King, Jr. had it 100% correct when he pointed out the interconnected nature of reality.

The corporations and banks that pay for policy and control popular media treat the people of Earth as consumers, and they expend much energy in protecting the myths that people are entitled to cheap and abundant energy and that demand must grow in order to have prosperity and well-being. The story of Western materialism is that the path to prosperity and fulfillment leads through the megamall, and then into a second mortgage, and let's throw in a couple of extra credit cards (and also convince yourself that 36% interest isn't usury) to finance the increasing mountains of consumer debt.

People believe and support this myth because part of the story is that there isn't an alternative. Or, the alternative presented by corporate media in advancing their agenda is one that entails austerity and suffering. The alternative to the so-called life of leisure is presented as a return to barbarism and a life of toil and hardship tending the fields and flocks, engaged in a constant war with an uncaring and hostile environment, and requires tight control and submission of our own "wild" instincts.

People have forgotten that the universe is friendly to life and its evolution, and that when any species stays within its environment's carrying capacity, nature provides an abundance.

Systemic problems require systemic solutions. We each can do many things to become more sustainable and lower our individual and family ecological footprint. And, taken together, these individual efforts do add up to a lot. But nowhere near enough.

So, we all end up feeling guilty about not doing enough. We talk about sustainability, but find ourselves apologizing for not being a better example. We talk about it being a path that will take generations.

We're kept from seeing the true underlying problem by ample supplies of Prozac and monster truck pulls and cheap Budweiser beer that are kept readily available and within easy arms reach—by only working a couple more hours of overtime or by taking out sub-prime second mortgages that get handed out like candy at Halloween.

This aspect of the system isn't going to be changed by individual virtue or by gathering a large enough circle to Om together—necessary as those might be to

maintain any future sustainable society as well as contribute to overall quality of life. The rules of the game are rigged, and as long as we keep playing the game, no significant or lasting change will occur.

As the system is set up today, survival often depends on making "bad" choices. People who don't make what many of us would consider "sustainable" choices aren't necessarily bad or evil people. We are all victims of an increasingly toxic system based on an ideology of domination of the other for personal gain. As just one example, the National Academy of Sciences estimates that 28% of developmental disabilities are in part caused by exposure to toxic chemicals.

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I really don't like sounding too harsh, but I think it behooves us all to engage in a serious conversation about the very real possibilities, based on a whole lot of evidence, of what powering down means, how it relates to the assumptions we unquestioningly accept from scientism, and our belief that rationality is the only one of our 53 senses that we need pay any attention to—regardless of the fact it fools us into thinking that we are separate from, better than, can improve upon, or are in control of natural systems. It's time to start looking at what it might mean to become responsibly contributing members of the web of life, and how we can go about achieving this.

Let's start slowing down and moving into lifestyles that value being more over having more. Let's accept that industrial style efficiency is not the only, or even the best, measure of success or progress. Making these changes is not only possible but will increase our quality of life and open us up to increased opportunities to reach and expand our potential. It's time to get back into harmony with natural systems principles instead of thinking we're not subject to these principles.

Since we're an integral part of nature, all life will benefit.

3
GLOBAL WARMING

Should we decide we need to focus on a single issue from among our rapidly converging crises, or decide which one to assign priority number one, my vote goes to global warming. While Peak Oil spells the end of lifestyles of consumer material affluence, global warming could spell the end of life itself (at least on a time scale relevant to humans), not just to the way we've become accustomed to living.

I've already mentioned this in the beginning of Chapter One, but it bears repeating here. One major disagreement among climate scientists today is over whether society is heading full speed into a very thick brick wall or resolutely marching over the edge of a very tall cliff. In all seriousness, though, the major area of disagreement isn't over whether global warming is real and has a major human caused component, but over how quickly it's occurring and how devastating its effects will be.

I'm not going to spend much time debunking the myriad arguments used by those who deny global warming or its anthropogenic causes, those who believe that a miraculous evolutionary adaptation will occur, or, only slightly more likely, folks who envision a techno-miracle. These arguments include solar cycles, volcanoes, cow farts, the ability to breathe and eat toxins without slowly dying, hockey-stick falsified, and all the non-alternatives for energy mentioned in Chapter 2. If you're particularly interested in science based refutations for any or all of these, my suggestion would be to spend some quality time on the RealClimate.org website.

The techno-rapture I'll deal with briefly, but mainly let's simply be brutally honest about where we are and what powered the basket that brought us here.

Doing so will greatly enhance our ability to devise responses that don't repeat past mistakes and help us distinguish symptoms from causes. Let me also state the near impossibility of disentangling Peak Oil from global warming in any of this analysis. One of the hardest parts of writing this systemic book was deciding in which chapter some of these dots best fit.

One argument used by critics of any attempt to deal with global warming is that our efforts won't make any significant difference, but they conveniently ignore the fact that our actions are what got us here. They point to statements such as the one made by the lead scientist working with Al Gore on the production of the documentary *An Inconvenient Truth* who said that if every country signed up for and met the standards for the Kyoto Protocols, the global temperature would only be impacted by 6 tenths of a degree.

This is basically true. Within the environmental movement, the Kyoto Protocols have been known all along to be basically ineffectual in anything other than advancing the conversation a little bit. The limited lip service given the Kyoto Protocol was an attempt by the Clinton administration to make it look like the U.S. cared enough to do something while making sure nothing happened that might adversely impact profit margins. Even though we've politically known about global warming at least since the late 1950s, a 5% reduction below 1990 levels won't do much when the rest of the world, led by the U.S., continue to increase greenhouse gas emissions 3-5% a year. As opposed to the overly conservative and watered down government and industry vetted reports, the majority of climate scientists clearly state we need a 90% reduction within about the next twenty years to keep from reaching a couple of irreversible tipping points in Earth's ecology and its ability to regulate climate within the narrow range necessary to support life as we know it—assuming we haven't already set these tipping points irreversibly in motion. If comfort and convenience are what we're trying to protect . . . we might want to bump up the priority we give our life support system.

The bottom line for me is that since we created the problem, we can do something about it. The only real unknown is the effectiveness in the available timeframe.

Fortunately, the science-based reductions in greenhouse gas emissions and deforestation are actually doable, and meeting them will increase people's overall quality of life—a subject covered in the second half of this book. It's something people can make the decision to participate in. We can combine the creative principles of nature or the creation (whichever framing you prefer) with our gift of intelligence to write a new story. We can put aside the old story that says profit is

more important than people or planet, that the more money one can accumulate makes one better or of higher status, and that the individual is supreme and can, and should, stand alone to be judged worthy of power and control over others. And yes, I am going to continue reiterating this basic point over and over. It is germane in many contexts. It connects many dots.

Telling and living this new story is perhaps our most important work. In line with the above, part of this new story is acceptance of the difference between personal and social efforts and effects. Regarding global warming, it has been calculated that if every American fully applied every suggestion Al Gore makes in An Inconvenient Truth, we'd only be 23% of the way toward achieving science-based carbon reduction goals and saving our life support system. This is why, in addition to installing squiggly light bulbs and taking cloth bags shopping with us, we simply must stop the industrial paradigm of infinite growth at any cost—because the actual cost is one I doubt we're willing to pay. This paradigm is responsible for the other 77% of greenhouse gas emissions (as well as all the other toxic side-effects of industrialism) that people have no individual control over, but that we can, and must, build the critical mass to stop. As David Holmgren, co-founder of Permaculture, says, "large scale energetic and environmental factors shape history more than ideologies and the heroic actions of individuals."

Another argument used by global warming naysayers is that the earth has gone through climate cycles before. We have no control over those cycles, although occasionally there is a grudging admission that we might be able to slow them down or speed them up by the way we live. But, for the most part it's going to happen anyway, so we may as well just learn to adapt.

Yes, periods of global warming and cooling have occurred before, and will occur again, due entirely to natural processes. The cycles of life, like the seasons, will continue on both personal and planetary scales. They are aspects of the Creation itself, and there is nothing humans can do to change that—although, as even some denialists are willing to admit, we can muck it up quite a bit.

Solar radiation does affect climate. The eleven year solar flare cycle is estimated to have contributed 2-5% to warming, with the five percent being on the generous side. But the warming we're experiencing today has been on a one hundred plus year upward trend. The temperature increases correspond to increases in atmospheric CO2. Plus we must now deal with the fact that the forests and oceans are saturated; instead of being carbon sinks, they are now carbon emitters; and their ability to absorb CO2 is dropping by about 3% every ten years.

One of the things that brings human-induced global heating into clear perspective for me (as we let ourselves fall prey to the distraction of arguing over

whether we should focus on mitigation or adaptation) is the evidence that the last time the earth experienced a warming period of the same magnitude (approximately 4 degrees C) that we are currently on course for due to the buildup of greenhouse gases and other effects of industrial processes, it took about two thousand years to happen, and the only large land mammal to survive this was the ancestor of the pig. We are on course to pump even more greenhouse gases into the atmosphere within about a 200 year time span. Not much time to adapt, especially for a species where a generation is measured in decades, as opposed to some insects who have multiple generations every year.

This ties in to the clearest scientific dot requiring connecting in the argument over whether our time and resources should be directed toward mitigation or adaptation. Even the World Bank now admits that the planet is on track to experience 6 degrees C of warming by 2100 if we stay the course of business as usual.

At 6 degrees of warming the plankton in the ocean dies. There goes about 50% of the oxygen on the planet. At six degrees of warming plants de-nature; they lose their ability to produce proteins. There goes the other half of the oxygen on the planet.

Could one of the bright denialists, or better yet, one of the universities who are doing the unconscionable disservice to their students of channeling their research exclusively into adaptation technologies explain to me how large air-breathers, such as humans, are going to adapt to a world with no oxygen?

What I find most troubling is that we're doing all this damage to our life support system almost entirely for greed and power over others. Not that this is new to the human condition or unique to industrialism. Jesus was aware of money's contribution to human misery when he overturned the moneychanger's tables in the temple over 2000 years ago.

However, it seems to be much more insidious today. We're either being lied to or kept in the dark about the causes of our rapidly converging crises, and we're not supposed to question the growth economy or the free-market capitalism (economic cannibalism) that fuels it. Financial markets are really a giant Ponzi scheme, but we're not supposed to notice that with anything more than a wink and a nudge.

Yes, billions of years in the future the sun will engulf the earth and life on this planet will become a small and fading universal memory. But the time frame I concern myself with is the next seven generations. And we find ourselves at the uncomfortable—and rather embarrassing for a supposedly rational, intelligent creature—point where the present generation may be the first in modern times to not outlive their parents, and it is entirely of our own doing.

This makes us responsible for correcting it. Not that things will ever go back to the way they were. But we can stop making things worse, and start contributing to the healing.

The first difficult step, however, is fully recognizing and admitting our responsibility and complicity which includes realizing that catastrophic anthropogenic climate destabilization has more factors than merely greenhouse gas generation.

These factors are numerous. There is a small but significant effect known as global dimming which stems from particulate pollution, and is partially masking the full effects of global warming. We have destruction of rainforests for rare woods, cattle grazing, and cropland to grow agrofuels. We're overfishing the oceans as they simultaneously become more acidic from both warming and pollution which is destroying plankton—the very foundation of the global food chain. We continue to generate mountains of waste and think there is an "away" we can throw things to. We continue deforesting and denuding the natural world to create more sprawl and the extra roads it requires, which contributes to the heat island effect.

Whole lot of dots to connect, huh?

Each of these consequences of human activity constitute a crisis by themselves, and they are all being exacerbated by overpopulation and overconsumption—the progeny of the holy grail of infinite economic growth.

However, we now have a convergence of crises, with more dots to connect. In addition to the coal and forests example in the previous chapter, there's now more plastic (made from fossil fuels) than plankton in the oceans. We're destroying the foundation of the food chain. We must also be cognizant of every link in the food chain we break through loss of biodiversity. No food chain, no food. That's about as basic as it gets.

We're constantly being told that any proposed replacement solutions for the growing demand for energy must meet the supposed requirement to not only cause no harm to the economy, but must stimulate further economic growth. We have forgotten that money can't buy happiness, although it can buy a steady stream of anti-depressants—an addictive substitute for true health.

Instead of facing up to what must be done, we're being handed science fiction Rube Goldberg schemes (known as geo-engineering) to put giant parasols in space to reflect the sun's rays, seed the oceans with iron oxides, or decrease CO2 in the atmosphere with carbon capture and sequestration (known as the kitty litter solution—bury it and fervently pray it doesn't come back up). All these techno-fixes are being suggested to allow fossil fuel based industries to continue on their merry way of profit-taking until we've used up the entire world's

supply. Of everything. And in the meantime, don't dare put any competition in their way through investments in rational alternatives such as wind, solar or geothermal, and definitely don't touch the billions in subsidies and tax breaks that dinosaur industries get. Did you know that ExxonMobile now has a book value larger than France?

Why Hybrid Cars Aren't a Solution

Hybrid cars share some of the same problems as agrofuels do when they're presented as a solution to industrial energy production and as a means to mitigate global warming. These pseudo-solutions are presented as a way of maintaining the Industrial Growth Society. The following critique applies just as much to an all-electric vehicle as it does to a hybrid.

The core problem with hybrids is that regardless of how automobiles are powered, our reliance on them continue the project of sprawl and auto dependence. The more fuel efficient the car, the further people are willing to drive—because the impact on the pocketbook tends to take priority over the impact on time. As we sprawl we pave over even more of our diminishing supply of productive farmland and other areas necessary for the web of life on which we depend to remain healthy. As the suburbs get further from the cities, we stay in our cars longer, which does nothing for our personal health and increases our disconnection. This is the "drive 'til you qualify" model of home financing.

Approximately (depending on how and what you measure) 50% of the greenhouse gas contribution from personal transportation pods over their expected lifespan occurs in the resource extraction and processing of the raw materials, in the manufacture of the vehicle, and distribution to its final destination. Hybrids and electrics still require tires, lubricating oils, and all the plastics and synthetics in a car's interior and electrical system. This is one of the reasons why increasing CAFÉ standards for vehicle miles per gallon in conventional internal combustion engines has so little real effect on lowering atmospheric carbon loading or dwindling natural resources. It is, at best, a baby step. As Swami Beyondananda (Steve Bhaerman) points out, isn't it about time for God's children to start acting like God's adults?

A quick mention of the techno-fix of a hydrogen economy is relevant here because of the clamor for hydrogen fuel cells for automobiles. An interesting twist on this came up in early 2005 during discussions about banning internal combustion engines from the lake that supplies the drinking water for Bellingham, WA. One boating enthusiast suggested using hydrogen fuel cells, or even atomic fuel

cells—since submarines use them. This way people could just go on water-skiing and generally recreating in their drinking water without missing a beat.

Here's one reason hydrogen fuel cells aren't going to work. Most of the following information was taken from the website Life After the Oil Crash.

A single hydrogen fuel cell requires 20 grams of platinum to be strong enough to withstand the necessary pressures. If the cells are mass-produced, it may be possible to get the platinum requirement down to 10 grams per cell. The world has 7.7 billion grams of proven platinum reserves. There are approximately 700 million internal combustion engines on the road. 10 grams of platinum per fuel cell x 700 million fuel cells = 7 billion grams of platinum, or practically every gram of platinum in the earth.

Unfortunately, the average fuel cell lasts only 200 hours. Two hundred hours translates into just 12,000 miles, or about one year's worth of driving at 60 miles per hour. This means all 700 million fuel cells (with 10 grams of platinum in each one) would have to be replaced every single year. Replacing 700 million oil-powered vehicles on the road with fuel cell-powered vehicles, for only 1 year, would require us to mine every single ounce of platinum currently in the earth and divert all of it for fuel cell construction only.

There are two additional minor difficulties with this. One is that 80 percent of the world's proven platinum reserves are located in South Africa, whose political stability is still in question. The other is that platinum has some rather important military uses. Do any of you really think the Pentagon would allow the depletion of platinum reserves to occur so Amory Lovins' vision of the hypercar can be realized?

Atomic power suffers many of the same problems. Known uranium reserves could meet the current energy needs of the global population for about 25-40 years, so I doubt it will be used in pleasure boats or for any other recreational purpose. Plus there's the radioactive waste disposal problem. It might also be slightly difficult to water ski in a radiation suit—although people may want to start wearing something similar anyway due to the increases in skin cancer from the thinning ozone layer.

We just may be forced to find another way to pleasure ourselves to death.

Carbon Caps, Trading, Credits, and Offsets

Global warming continues to advance more rapidly than expected. But so far, the only "progress" in addressing this crisis is the market based schemes that allow contaminating industries and nations to continue with business as usual

and add another profit center to their portfolios—the global trade in carbon offsets and credits, which are little more than permits to pollute.

Both REDD (Reduction of Emissions for Deforestation and Forest Degradation) and CDM (Clean Development Mechanisms) allow polluters in the industrialized nations to use peasant and indigenous lands and projects in developing countries to "offset" continued pollution. This allows polluters to avoid having to actually reduce pollution while simultaneously stripping indigenous and peasant communities of their rights over the carbon-absorbing lands they have preserved for millennia.

This is, quite literally, equivalent to launching an offensive on their territories; it is 21st Century colonialism; it is the continued privatization of the atmosphere to feed private greed. An excellent book that details the drawbacks and failures of some of these schemes is Green Gone Wrong by Heather Rogers.

There's a "green" gift suggestion making the rounds during holiday seasons that's touted as a way of making a difference. Called carbon offsetting, it's a way of financially contributing to renewable energy in an amount equal to how much carbon you contribute yearly to global warming. While no one wants to admit it, this is the modern equivalent of medieval indulgences.

So, I have a question. Does carbon offsetting actually do anything besides assuage a little guilt about killing the planet? I mean, look at the term they chose for this scheme. Offset, not stop or even reduce.

This seems to me to be—at best—an attempt at payoff, or little more than a financial incentive to continue supporting destruction, but I'm sure there must be something more to it than that—at least from all the hype it's getting from mainstream (large and well-funded) environmental organizations.

One of the better explanations—from the environmental advocacy point of view—of what carbon offsetting or becoming carbon neutral means, as well as some of its promises and rationalizations, comes from the website of Dr. David Suzuki, whose passion and commitment to a healthy environment as well as for social justice is both well-known and widely respected. Let's examine a few of the salient points presented on his website.

"A 'carbon offset' is an emission reduction credit from another organization's project that results in less carbon dioxide or other greenhouse gases in the atmosphere than would otherwise occur."

What this turns out to be in the real world is that Plant A doesn't do something, which allows Plant B to do it instead. There is a transfer of money accompanying this agreement, and this is supposed to be an offset of overall harm to the interconnected system on which life depends.

"The buyers of the offsets benefit because they can claim that their purchase resulted in new non-polluting energy, which they can use to mitigate their own greenhouse gas emissions. The buyers may also save money as it may be less expensive for them to purchase offsets than to eliminate their own emissions."

Isn't all we're actually accomplishing with this scheme slowing down the overall rate of increase? And once again, money wins out over environment. You can abuse me in any way you want, just give me enough money to make the payments on my hot tub and Hummer. And this is supposed to be a "principled" stance for the environmental movement? Did they skip the same ethics class most business majors do?

When are we going to realize that we can't compromise with evil? Less bad is not good. Compromise still leads to systemic collapse, thus is not sustainable, and is probably the major option that really does need to be removed from the table.

"[S]elling offsets from tree planting projects is particularly problematic for a number of reasons, including their lack of permanence and the fact that these projects do not address our dependence on fossil fuels."

What they also don't address is our underlying addiction to consumer society and blind faith in the myth of infinite growth.

"Significantly, only offsets from energy efficiency and renewable energy projects qualify for the Gold Standard, as these projects encourage a shift away from fossil fuel use and carry inherently low environmental risks. Tree planting projects are explicitly excluded by The Gold Standard."

Translation: We've even invented a standard to ensure you that as little as possible happens to seriously challenge the status quo. The one activity that doesn't generate any income for polluters is excluded.

"Gold Standard projects must meet very high additionality criteria to ensure that they contribute to the adoption of additional sustainable energy projects, rather than simply funding existing projects. The Gold Standard also includes social indicators to ensure the offset project contributes to sustainable development goals in the country where the project is based."

This part actually does make sense, and I think it is why so many people buy into the rest of the story instead of bothering to search for alternatives to creating whatever harmful product is under consideration.

Net energy use must decrease, and the efficiency of the decreased use must increase. Current variables that impact this equation are excess consumption, excess population, and excess greed—not topics of conversation in polite company, especially the incestuous relationships amongst these variables. A fantasized

techno-fix or accounting sleight-of-hand is much more palatable in maintaining the grand illusion of the consensus trance.

"Finally, all Gold Standard projects have been independently verified by a third party to ensure integrity."

Oh, great . . . and by someone with the sterling reputation, say, of Arthur Anderson, Inc.? Maybe by the rating agencies that triple-A'ed toxic mortgages?

Ok, in all fairness to our cultural loss of the ability to think systemically or critically, a lot of good people buy into the theory behind carbon trading schemes, and they do so because they truly care about the plight of the planet and a future that is at least livable by humans. It does make sense, in a very limited way, to attempt to curtail our addictions to all the stuff that pumps excess carbon dioxide and other greenhouse gases into the atmosphere by shifting some of our dollars to industries that don't pollute as much on the assumption these industries wouldn't exist at all without at least this level of support, and the pollution from the old industries won't be increasing . . . or, hopefully, at least not at the same rate.

However, let's face it. This is the typical behavior of addicts. We'll get off heroin, just give us the methadone.

I mean . . . do the math while considering the whole system. With increasing demand, there is no net decrease in either natural destruction and resource depletion or to human exploitation. CO2 may (or may not) decrease at a specific site, while methane, nitrogen, and sulphur may increase somewhere else (hopefully in a different country so it's easier to ignore). Regardless, deforestation and oceanic deadzones keep increasing, glaciers keep disappearing, and Prozac profits just keep rolling in.

It's time here to repeat the admonition to wake up; take the red pill; cast off the consensus trance! We really don't have anything to lose but a toxic, dying planet.

Try honestly imagining the alternative of not coming to our senses and continuing merrily along with the status quo. Oh, excuse me. We'll offset it.

Proponents of the various carbon schemes, which include "cap and trade" (cap but not reduce or significantly hinder their "right" to pollute), respond that no, a carbon offset establishes the fact that there is a cost to carbon pollution. Once it is in place the market will establish a true value to that pollution.

Well, yeah, that's pretty much what I said above. If you have enough money, we're willing to let you destroy the planet in any manner you please. The only factor that warrants consideration is the economic one. This is even reflected in the way proponents phrase it—the value of pollution. When an activity displays

a bias toward harm, do we curtail the activity, or simply decide that paying off the victims still keeps the profit margins at an acceptable level?

Are we going to continue pursuing the structural inequity, with nothing but an unfounded promise of a better tomorrow from the Industrial Growth Society, or are we going to power-down and learn to maximize our potential within the biosphere's carrying capacity?

While some proponents of the carbon schemes will admit the concern about giving polluters an option to merely pay for what they are doing as they keep on polluting is valid, they then try to qualify their support by saying it will take time to make a transition from fossil fuel to renewable resources, and they see the polluters as those who will subsidize this transition.

I don't buy this rationalization at all. It's been pretty widely reported that conservation would save about 25-50% of energy use. Decentralizing the national grid would save about 35%. Not producing so much needless crap would save an unimaginable percentage. The only thing this mainstream transition argument supports, knowingly or not, is the time needed to shift elite control structures without losing their grip on power or their ability to continue propagating the myth that growth is necessary for prosperity and well-being. What this transition argument is really trying to protect is the myth that elite control, based on one or another permutation of divine right (like arguments for eugenics over the centuries), is really in the best interests of the "masses."

We do need to shift investment to clean and renewable energy sources. But can we escape the fact that carbon offsets are a way of attempting to work within an inherently destructive and exploitive system? This is one of those inconvenient truths. Plus, pollution is not a right or a privilege; it is a crime. You can't compensate dead bodies and degraded ecosystems with piles of cash. What would make more sense to me is to simply tax carbon emissions, as well as the advertising that supports materialism, out of existence and put the money into quality of life initiatives that meet the goals of a sustainable future based on ecological wisdom and social justice.

I believe there are many avenues this can take, but first we must come to a social agreement that this is the goal and on how we intend to measure progress toward this goal. This would both tone down the posturing and more easily illuminate spin. Part Two provides a framework for doing this.

The aspects of an equitable and sustainable culture that we should be talking about include restoring community, creating walkable cities, building consumer goods to last and be repairable, restoring pride in craftsmanship, and shifting status and value to how much one contributes to society instead of how much one

can accumulate from it. The old saying, "He's done so well for himself," should become a critique, insult, indictment; it shouldn't be seen as praise but as a marker of degree of sociopathy.

Plus, as numerous climate and energy experts keep repeating, we don't have the luxury of time to create a long transition strategy.

And not to be facetious, but it seems to me that a shift to a sustainable future could be done today—it is within the realm of physical possibility and violates no known natural laws—with no harm to anyone but central bankers and stock brokers.

When I make this point in on-line conversations, one immediate response is that without central bankers and stock brokers there is no research and development, no innovation.

To which I reply, more than a little incredulously, who funded the wheel? Pottery and glazing? Agriculture and plant hybridization?

Humans, after all, are creative, if nothing else. We are inherently inquisitive and innovative. Banking actually stifles innovation, because only innovation that benefits banks receives funding. If it doesn't further or support the industrial growth paradigm, and provide an obscene return on investment, it is not fundable, insurable nor an IPO candidate.

This line of argument is similar to stating that if it weren't for the Patent and Trademark Office, none of these technologies would have occurred. This is the same line of "reasoning" subscribed to by Pentagon planners, who assume aggression and competition are both natural and necessary for innovation, which is then used to justify the existence of a military because there will never be peace if we want to have human advancement. What this all is is patent nonsense.

The point to be aware of here is that this is just one of the many layers of social deadwood that have managed to create a destructive story that we continue to provide the legitimacy for.

The argument is also made that it seems disingenuous to use a technology such as the Internet, which was funded by bankers, to promote a shift in society that only harms bankers and stock brokers.

As opposed, say, to continuing support of a system that harms everyone else and the planet they depend on for basic sustenance, let alone any possibility for well-being? Let's be real. First, the Internet was funded by taxpayers. Plus, the only harm the needed shift is going to do to members of the self-selected elite might be a bit of job retraining and the need to re-evaluate what provides their sense of self-worth.

Please consider: What real goods necessary for the continuation of life do bankers and stock brokers actually provide?

Might the necessity and funding arguments be related to a general confusion in the public among technologies, appropriate technologies, and appropriate use of technology?

Rather than relying on the manipulation of fear and scarcity, can't we come up with a better way to meet our needs and evolve our culture? We are, after all, supposed to be intelligent, rational creatures with the freedom of choice.

Of course solar, wind, and other alternatives yet to be available off the shelf need investment; many people want to do something; and most of them would rather not have it resemble rearranging the deck chairs on the Titanic.

I'm of this mindset as well. But I keep thinking that our efforts will be best spent if directed. Stopping global warming is not a direction. It is a response, necessary as it may be.

We (the environmental and social justice movements) find ourselves in the situation common to high school youth, who when bored, say "let's just do something, even if it's wrong."

To have a direction implies a goal. If we were all to simply agree that sustainability is the goal, and use the Earth Charter for our common, shared values and to provide a framework for sustainable development, then we'd have a yardstick by which to measure progress and with which to evaluate proposals. Do they further us along the path to the goal, or are they just holding measures that do little to nothing to address the cause of the problem we find ourselves faced with?

I'm of the opinion that we no longer have the time for holding measures—especially since a viable alternative is available that requires neither a techno-miracle nor a savior. It also happens to increase numerous indicators of what most people consider to be quality of life.

The alternative of reconnecting and relocalizing according to natural systems principles are the subject of Part Two. Since these same principles created us—they are a natural part of who we are—it makes sense to me to apply our intelligence to ways we can benefit from these principles in our lifestyles and communities.

But instead, we exert all this energy going through all these extremely convoluted rationalizations to justify a social system based on greed, aggression, domination, and competition—none of which actually contribute to the creation or continuation of life. The best that can be said for any of them is that they may temporarily maintain an individual life, and generally at great cost.

Anyway, that was quite the dot-connecting detour to get back to the various carbon trading schemes, and the need to start a conversation about the fact that the pollution economy is the path to imminent ecocide. We need to knock it off instead of financially rewarding it, and we need to start creating things in a new way—a way that's in balance with natural systems and that honors the intrinsic value of life.

Carbon Capture and Sequestration

Another proposed techno-fix is carbon capture and sequestration. The main impetus for this technology—and this should come as no surprise—is to continue the Industrial Growth Society as unimpeded as possible. The basic mindset is to clean up our messes after the fact instead of having a rational discussion on how not to make them in the first place (the process), or whether we even should (the need).

Some of the traditional arguments against a clean-up approach is that it is too expensive or labor intensive; that if we ignore it long enough it will go away; and the classic "dilution is the solution to pollution."

The kitty litter solution is the most appropriate name I've heard applied to CC&S. Bury it and hope it doesn't come back up. No idea if it actually works, no calculation on whether it will require more energy than what is delivered from the overall system.

What it all finally comes down to is that even the proponents say that the various carbon trading scams . . . err, schemes . . . are really little more than a system that allows polluters to pay others to cut their emissions so they don't have to. But the reality is that it's even worse than that. The megapolluters aren't paying others to reduce their own pollution, but to keep it from increasing. Thus, there is actually no overall reduction in greenhouse gas emissions.

What we're basically saying with cap and trade, CDM, REDD and all the rest, is that genocide is just fine with us as long as we're paid. Governments are in effect telling industry that they can kill people as long as they pay up first.

Having a license to kill takes on a whole new meaning.

. . .

Illustrative of the well-intentioned but myopic mainstream response to global warming, the United Nations Foundation released a report in 2007, "Confronting Climate Change: Avoiding the Unmanageable and Managing the

Unavoidable," which is the final report of the Scientific Expert Group on Climate Change and Sustainable Development. This is just one of scores of cases I could have chosen.

The overall goal of this study was to examine ways to reduce emissions, poverty, environmental degradation, and contribute to sustainability. They quite forthrightly admit to the seriousness and urgency of responding to the challenge of global warming. And they conclude that the way to do this is by increasing economic opportunity—a codephrase for increasing consumption and strengthening export economies.

You know, doing even more of what got us into this mess in the first place. This meets the definition of fanaticism—doubling your speed when you discover you're going the wrong way.

The report authors admit the current path will lead to chaos, yet they steadfastly continue to ignore, or refuse to examine, how much of the current path is interrelated and feeds back on itself in order to maintain itself. There is no connecting the dots. They pride themselves on rationality, but seem to think the second law of thermodynamics is irrelevant. Ignoring physical reality is the only way the fantasy of economic growth can continue—based as it is on the assumption that the pie can get infinitely larger, that it can be cut into infinitely more pieces, and that each piece can get infinitely larger. This is more of the mystical thinking at the foundation of modern economic theory and its claim to be able to lift everyone out of poverty.

The Scientific Expert Group feeds the wishful thinking of many mainstream environmental groups that we can get away with increasing atmospheric CO2 levels to 450 ppm while admitting the current 390 ppm level is causing disruption and hardship.

Their suggestions include transportation efficiencies that center around more people driving more cars that are slightly more fuel efficient instead of finding alternatives to people scurrying around all the time from even wider flung areas. They advocate incentives to property developers and managers, incentives to agrofuel growers, and incentives for clean coal to reduce our carbon footprint without harming economic growth. But I found no advocacy for building people friendly cities.

Why? Because the current path is founded on the market-based economy of the Industrial Growth Society. This is not a system that can be reformed. It must be replaced wholesale. A growing population with a growing appetite that is centrally managed to maximize benefits to the few at the top of the hierarchy is not only unsustainable, it is deadening to the soul. The goal of a sustainable

future will not be met if the realities of overconsumption and overpopulation are not dealt with. The misuse of the concept of sustainable development (when what they mean is the oxymoron "sustainable growth") is simply nonsensical on a planet already well into the overshoot range of both environmental and economic carrying capacity.

Another aspect of the consensus trance that is made crystal clear in this UN report is the assumption that artificially produced energy is a requirement for progress and to better the human condition. The phrase "developing countries with economies in transition" springs from a paternalistic mindset of exploitation by elites.

There is indeed a new path that must be taken, but it cannot be blazed by protecting the status quo of increasing the homogenization necessary for industrialism and the debt based usury system that supports it, regardless of the energy source.

Instead, the path must be blazed using natural systems principles if our goal is to create the sustainable future all living systems have evolved to expect.

Carbon Tax

One of the things I find most frustrating in left/liberal/progressive activism is how well we let the other side control what we do—what we think is even possible. I don't think I've ever heard anyone from the right repeat the mantra, "Don't let the perfect be the enemy of the good." We've come to believe that change is a slow incremental process. We continue to allow ourselves to be fooled into believing that compromise is actually a good thing.

While I grudgingly support Congressman Pete Stark's Carbon Tax Bill as the best of the current lot, and have gotten involved with Citizens Climate Lobby to get it passed, let's be perfectly honest—at least with ourselves.

A carbon tax is actually a phenomenally bad idea. Not because it's only a baby step and we're past the time to start acting like adults. It moves us in the wrong direction and simultaneously condones ecocide. It makes people think catastrophic anthropogenic climate destabilization is actually nothing to worry about because it can be easily mitigated by charging polluters $10-$20 per ton (when it should be closer to $900), which will go to the consumer, which means hey, we can buy a few more squiggly light bulbs and go on livin' large. Nothing to worry about, everything's under control.

A carbon tax (or any other type of pollution fee or license) basically gives The Powers That Be a very good indication of how cheaply we can be bought off.

And if we're to have any chance at all of turning things around as quickly as qualified scientists are saying we need to, we can't continue to allow ourselves to be bribed. Our own denial of reality is going to come with a very much higher price tag—one that can't be mitigated with a simple cash infusion.

And the thing is, we know what needs to be done (turning off Industrialism), yet we continue to allow ourselves to buy into the claim that we can't do that because it isn't politically feasible—that it won't get through the current Congress. Well, there is one thing I can guarantee—change won't occur if we continue to talk ourselves out of it, and especially if we try to talk others out of it.

I've been saying for years that all we need to do is recall a couple of the denialists from Congress, and am continually told that can't be done. Well, now we have the examples in Wisconsin and Arizona that prove that it can be done. In just about a year. And it will only take recalling a couple of them to put the fear of god into the rest over losing their cushy jobs and perks.

A Call for Action

Another inconvenient truth is that we can't "solve" global warming any more than we can solve Peak Oil. Finding a "solution" tends to make people believe that once the problem is solved, we can go back to business as usual. What we need are creative, effective responses and alternatives to the status quo paradigm that can only exist with waste, pollution, competition, exploitation, and infinite growth. We must get our lifestyles back in balance with the very real limitations of the natural world.

What we don't need is the sector of the mainstream environmental movement that is repeating and supporting outright industry propaganda. They're advocating "clean coal" which is an ecological myth, and calling for "smart growth" which, as Professor Albert Bartlett says, gets us to the exact same place as dumb growth, we just get there first class. The entire concept of growth needs to be turned on its head. Growth benefits no one but central bankers—and environmental non-profit funders. This is not radical ideology, it is basic economics.

Incrementalism and compromise are not signs of moving forward or progress; they are methods of protecting the status quo by ensuring its continuation.

Mitigating global warming and moving to a sustainable future entails a number of things, the most important being an acceptance of what carrying capacity and sustainability actually mean. Building on these concepts, and the decentralization championed by the bioregional movement, relocalization—a pragmatic process to build a sustainable future—provides the missing and generally

ignored alternative to the incremental reform that does nothing to change the underlying paradigm.

We don't need new energy sources. Conservation and efficiency are important, but not as important as powering down our profligate energy demands, difficult as this seems to be in a culture that uses planned obsolescence and conspicuous consumption as a means of obtaining status and defining progress.

Editorials in the New York Times have talked about the need for mandatory reductions in greenhouse gases, pollution taxes, carbon credits, and the search for promising technologies that could mitigate global warming with only minimal harm to the economy at worst. Articles concerning personal changes one can make that meet these goals are showing up with increasing frequency as well—the too familiar top ten lists.

You know, buy different types of new light bulbs, a different kind of new car, new low-flow shower heads, and buy carbon offsets as a new type of gift.

This ruse of putting the brunt of the blame, and the burden of responsibility, on American consumers for America's 25% contribution to the anthropogenic causes of global warming is increasingly common and should greatly disturb thinking people.

Yes, Americans are addicted to oil, as even former President GW Bush admitted. However, what Americans are really addicted to is growth. Let's not forget that addicts need a pusher. Who are the pushers that feed this addiction to oil that energizes the culture of materialism? Who constantly entice more addicts, starting their dependency campaigns while youth are still in the crib? Who are these pushers who are actually even more addicted themselves to the power (in every sense imaginable) that can be derived from fossil fuels and that lead to global warming and environmental devastation?

The answer to these questions should be obvious. It's industrialists and their immediate masters in the global banking cartels. It's the adherents to the holy grail of a growth economy. How convenient that mainstream (corporate) media never mentions the role of these elite sects in either the crises or their responsibility to deal with them.

So, what can we do?

Fortunately, an alternative that addresses the above issues exists, and it is congruent with the creative direction of life itself; with who humans really are; it actually amplifies the positive aspects of human nature (compassion, cooperation, nurturance) while helping to ensure the negative aspects that we currently prioritize (aggression, competition, destruction) lose their strangling grip.

Change does need to begin from where we are. Currently we have been hoodwinked into valuing money more than life. So putting a price on pollution, toxicity, radiation, deforestation, greenhouse gas production, etc. and so on is a good place to start for a transition strategy toward a sustainable future. This should cause us to start honestly examining what it is in our lives that is truly valuable and gives us meaning and purpose.

If we also start to articulate the viable alternative provided by reconnecting and relocalizing, and its very real possibility of increasing quality of life, we can be inspired and motivated to help build this necessary alternative that values those things that really matter, and others will be inspired to join us. We will discover the increased well-being—and even the status and respect that can be gained—from being a responsibly contributing member of the web of life.

Then we can get to the question the mainstream continues to studiously avoid asking.

Is it really new technologies and market-based schemes that we need, or a new way of relating to and being in the world?

Saying that it's become clear that practical ideas for cutting carbon emissions will meet strong public opposition is a classic case of blaming the victim, and it points out an aspect of our complicity. Saying it's "the public" is a disingenuous way of assuring our compliance with the dominator story. We blame the public, when it's really the vested interests who oppose any changes or challenges to the status quo—those who profit from, and exploit in other ways, the public.

The public is merely conditioned to reflect this view. The spin from the vested interests is given prominent and regular coverage. The right-wing talking heads blather on about Peak Oil and global warming being nothing more than a liberal conspiracy to raise taxes; left-wing talking heads blather on about global crises being nothing more than a elite conspiracy to create artificial scarcity and benefit from higher profits. Either way, the result is the same. As long as the masses are fed this basic story, we will remain firmly ensconced in the myth of entitlement, of wanting more but not wanting to pay for it, such as more roads and cheaper gasoline without raising taxes. These demands are then met by cleverly hiding how the public actually is paying for it through subsidies and other economic externalities.

Although, when it comes to taxing fuel, it probably should be argued that we'd be shifting the burden of financial responsibility to the wrong party by raising gas taxes, when what we should be doing is removing the subsidies we provide to the energy cartels, and charging them for the environmental and social degradation they cause. The full, true costs of doing business should be reflected

in the price of the product, which would put gasoline at about $12/gal or even a few dollars higher.

That this would cause grievous harm to the economy almost goes without saying. This would, however, be one effective way of opening the conversation on the myth that the health of the economy is more important than the health of the planet and the millions of species it supports.

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So, where are we today in regard to tipping points such as the runaway greenhouse effect? Well, not much has really changed over the past few decades. We're still mainly faced with a lack of understanding. I say this because the interrelated nature of tipping points is not well understood, although systems scientists have been pointing out the necessity for serious study for decades now.

The biosphere has evolved to support life through an interlocking network of mutually supportive relationships. The destruction or degradation of any of these linkages could be the tipping point (and the web of life activity from environmental education provides a visceral example of this), and the culprit would most likely only be recognized in retrospect.

Recent studies show land vegetation absorbing less carbon than assumed by computer models due to decreasing soil nutrients. So, it could be the inability of either the oceans or the forests to absorb any more CO2, or overall forest loss leading to decreases in oxygen production and microclimate disruptions, or ocean acidification which leads to plankton loss and disruption of the food chain, or glacier and icecap melt leading to deepwater current changes and less reflection of solar radiation, or increased methane (a greenhouse gas 20 times more powerful than CO2) from permafrost melting and clathrates from deep sea ocean warming, or increasing desertification, or localized weather changes leading to either and/or both topsoil loss and inability to grow food crops, or shifting habitats and other contributors to biodiversity loss (more food chain relationships), or decreased snowpack and earlier and quicker spring runoff, or too many toxic deadzones on both land and sea from various forms of industrialism, or the contribution from the urban heat island effect, or . . . The runaway greenhouse effect from burning fossil fuels could end up not even being the final arbiter of the end of life as we have come to know and love it, let alone the nonsense that passes for industrial civilization.

Which means it's past time to issue a widespread call for emergency action. Time is running short for the planet, which means it's running short for human

civilization as well (I'll address the question of whether or not saving what passes for "civilization" is a good idea later), but this call must also include a message of hope. Again, this starts with taking an honest look at where we are, how we got here, and beginning a realistic appraisal of where we could go. Chapter 12 covers evidence to support our getting there.

Strong leadership (I'll cover what this leadership consists of later) and a critical mass of public support is required to create a social and economic framework to provide sustainable jobs, clean energy, reduce pollution, rebuild community, and protect and restore ecosystems. Global climate action events provide one opportunity for all of us to show we're concerned about global warming and that we fully expect serious action from our leaders that is in line with what the science—both the climate models and the on-the-ground direct, measurable evidence—is telling us.

Strong leadership is required in another area as well, and it's an area the pundits refer to as being politically infeasible. We must have leadership willing to tell the truth: We need to sharply curtail greenhouse gas emissions immediately, and the technofix is a myth. Our policies for saving the planet cannot hinge on a fantasy that serves no other purpose but the protection of industrial activity. All cap and trade proposals, and this is even true of outright carbon taxes, involve nothing more than theoretical reductions accompanied by outlandish financial transfers. They are all based on the assumption that market mechanisms actually work for anything other than consolidation of profit and power, and that they can be counted on to get us out of the mess they created in the first place.

It's also time we face one of those increasingly frequent appearances of an inconvenient truth: The only significant industrial activity we have left in America is the war machine. So we find ourselves in a bit of a quandary; a most peculiar predicament. We're facing death and destruction on a planetary scale to save an industry whose main purpose is death and destruction.

It's not as if we haven't identified the problem. People such as Gordon Brown, a former Prime Minister of England, have even stated it quite eloquently. We know that burning 30 million years' worth of ancient sunlight in the course of about 200 years has upset the fragile atmospheric balance that life as we know it depends on. But that's actually only a portion of the problem. We've despoiled our life support system in other ways as well through overconsumption, overpopulation, and to industrial activity that turns out to be quite toxic. How tragic that the latter was designed only to be profitable and/or increase state power, but not to be healthy, safe or efficient if any of those goals should curtail in the

slightest the Industrial Growth Society's primary objective of maximizing profit and maintaining control.

Clean energy technologies, green jobs, and all the other well-meaning technofixes, necessary as many of them individually will be to a sustainable future, cannot be slapped into place merely so we can go merrily about our way greenly consuming those regions of our life support system not being used to hold our wastes. We've already spent too many centuries pleasuring ourselves to death as we exploit the other, and it's past time to change the underlying paradigm.

Which we can do. There is an alternative; we have a choice. That's what paradigms are all about. A conscious and rational decision to embrace power-down and community reconnection inherent in relocalization, shift to economies built on steady-state principles, and governance based on an Earth jurisprudence can be an excellent first step. Since this will also be in line with most ancient indigenous wisdom traditions, we'll find we have a lot of support. It will be both rational and spiritually fulfilling.

I strongly suspect, based on much evidence from numerous fields, we'll also find we can greatly improve quality of life with much less energy while rebuilding what is perhaps the number one thing missing in America today—a strong healthy sense of mutually supportive community.

As the Chinese saying goes, the best time to plant a tree is twenty years ago. The next best time is today.

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I think mitigation should still be the number one goal in our response to global warming, i.e. stopping the pollution, deforestation, resource depletion, and sprawl. Of course, we do need to find ways to rationally deal with the mess we've made, mainly working on ways to help ecosystems heal and developing a social infrastructure that prioritizes people and planet over profit and power.

However, I have much the same problem with the calls for adaptation as I do with the term "global warming solutions," mentioned previously. The psychology of adaptation functions the same way. Anyone have suggestions on how we can "adapt" to the destruction of the food chain? Adaptation also has a defeatist connotation—since there's nothing we can do about it, we may as well adapt.

Some adaptation will be necessary, of course. Things are going to change, some not for the better, and they'll never go back entirely to the way they were. Business As Usual in particular will have to adapt to a new paradigm. What the rest of us should be concentrating on instead, though, is developing rational

responses to global warming. One of these would include building resiliency, a concept at the heart of the relocalization/transition movement. This is an active, positive alternative to adaptation.

Viewed from a systems perspective, the only "solution" to global warming is the complete replacement of the paradigm underlying the Industrial Growth Society with a different way of being in the world. The Industrial Growth Society is what needs to adapt to changing times and conditions. Well, on second thought, it needs to wither away, or be forcefully stopped, and the sooner the better.

Arguments . . . err, discussions . . . with free-market fundamentalists and those who believe it's all a plot by the nanny state to take away their right to dump their garbage in their neighbor's front yard are always interesting, if not always a whole lot of fun. Folks who fall into this camp—like members of the industrial elite who fear loss of power and control—are denialists, not skeptics. Skeptics believe in science. Denialists have a blind adherence to ideology, and like religious cultists, might be amenable to deprogramming, but not to rational discussion.

Some of the denialists are intelligent people, and they like to present their arguments as rational. Sometimes they'll even correctly state an aspect of the problem, but attribute it to the other side. One common example is their response to studies supporting anthropogenic global warming. They claim it's all about money and power to those who control the message, and conveniently ignore who actually owns the corporate media in America. Last I checked, it's not academics, scientists, or activists.

Let's deconstruct a few of these arguments a little bit, and examine what aspect of the message is actually being presented to the public at large. First, who really stands to profit from global warming or its denial? Since the only rational response to global warming is to shut down its cause—the Industrial Growth Society (not capitalism, per se, although its inherent structural deficiencies are a subject worthy of a separate serious analysis from the perspective of sustainability)—the only profit to be made from global warming is from scams such as cap-n-trade where pollution is turned into a profit center from the enclosure of the last global commons—the atmosphere. The continuation of the status quo depends on global warming denial. Personal advantage does not accrue to global warming scientists, whose funding is being cut under the current regimes in America and now in Canada as well.

It's also quite true that life and the biosphere have co-evolved. The climate has been changing for billions of years. This, however, is totally irrelevant to the

man-made global warming humans have been creating at a measurable level since the start of coal powered industrialism—not to mention all the other negative side-effects such as respiratory disease, cancer, etc. Of course, since these all contribute to GDP, degree of sociopathy determines how negative one takes them to be.

Carbon taxes do not create a new class of predator—with predator being derogatorily applied to anyone who attempts to get industry to pay for externalities. What they do is demand financial responsibility from a current class of predator—so let's be accurate with our terminology and who it applies to. While it makes a whole lot more sense to me to simply rid ourselves of that particular predator, carbon taxes at least provide a transition step.

Sometimes denialists will use other crises to deflect attention from global warming, and they assert that we should focus our efforts on the single issues. They'll correctly point out that pollution, deforestation, and soil erosion, for example, must be addressed. These issues, as well as ocean acidification, heat island effect from suburban sprawl, and resource depletion do indeed contribute to the rapidly converging crises impacting our one and only life support system—commonly referred to as planet Earth. This is one of those instances where connecting the dots is extremely important. Exactly what type of economy or democracy do denialists suppose we'll have on a dead planet?

The main point the denialists don't want to discuss—or allow to impinge on the social consciousness—is the fact that the primary cause of excess CO2 (that which the natural world didn't evolve to sequester) comes from the extraction, processing, and burning of fossil fuels. Fossil fuels are the energy source of the Industrial Growth Society. Without growth, debt repayment becomes impossible, and the global financial system collapses—as more mainstream institutions are beginning to realize.

It sure appears to me that the only corruption is coming from those who deny global warming and want to protect and maintain the status quo. The denialists who accuse scientific researchers of only doing this for personal financial gain seems to be a classic case of projection.

Saying there is equivalency between the number of scientists who believe or disbelieve in anthropogenic global warming is simply not true. Denialists who make this claim are mindlessly repeating someone who pulled that "fact" out of their nether regions.

If you were about to board an airplane, but were told by a very large group of aeronautical engineers and journeymen jet mechanics that the plane was 90% certain to crash upon take-off, would you heed their warning, or would you listen

to a small group, made up of an industry PR consultant, an undergraduate botanist, and a plumber, who presented as evidence an article from Readers Digest magazine that planes don't need wings?

The media is full of stories questioning climate science, but the body of scientific knowledge arguing that human activity is affecting climate is vast. A 2005 study published in Science searched the database of peer reviewed science on climate change published between 1993 and 2003. It found 928 articles, none challenging the consensus that human activity was changing the climate. Another study looked at the coverage in the four main US papers over the same timeframe and found that 53% of stories also quoted a contrarian 'spokesperson' in order to maintain 'balance'. In other words, the media are presenting 'the other side', in spite of the unanimous scientific opinion that there is no legitimate 'other side'.

On another point, responding to global warming has nothing to do with controlling it. It means to stop contributing to it. To continue this rebuttal to denialist misinformation, let's look at what we actually do know.

The history of climate science goes back to Baron Fourier's first paper on the topic in 1824 and the work of Sir John Tyndall in the 1860s and '70s on the reradiative properties of atmospheric gases. The greenhouse effect was named in 1896 by Swedish scientist Svante Arrhenius (not exactly someone with an interest in money market accounts or retirement planning). By the end of the 1950s the physics of climate gases and the clear and indisputable evidence of human induced climate change through global warming was clear. The warnings of a gigantic experiment that would threaten civilization with climate changes impacting on all aspects of our lives were also made, and we're already paying the price for ignoring them. It should be noted that we're following the same pattern with Peak Oil.

If the handful of climate deniers with any real qualifications in the field were able to disprove almost 200 years of accepted and replicable atmospheric science, they would already have done so and received the Nobel Prize that went to Gore and the IPCC. Anthropogenic global warming due largely to the burning of fossil fuels is as certain as gravity—if you actually accept science in general. Trying to win debate points by dismissing global warming as a "theory" ignores the fact that gravity is also just a theory. My main response to denialists these days is to suggest they go jump off a ten-story building and tell me they don't believe in gravity.

All one must do is examine the actual research, or simply pay attention to directly measurable events such as changes in the growing season, habitat shift, or rising sea levels. There are tens of thousands of papers in the peer-reviewed

literature, less than 10 of them challenge the fundamentals, and these latter have all been thoroughly debunked and disproven. As I've already mentioned, the only area of disagreement is on how fast and how hard it's going to hit us.

This is reality, and it's not going away just because it's denied. To quote Philip K. Dick, "Reality is that which, when you stop believing in it, doesn't go away."

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We fossil fools need to leave the remaining fossil fuels in the ground. And we can head in this direction by replacing the economic growth paradigm with relocalized steady-state economies that focus on improving quality of life for the 99% as well as to the ultimate benefit of a living planet. Parts Two and Three of this book focus on a way to do exactly that.

4

CORPORATISM AND INDUSTRIALISM

> "The primary aim of modern warfare . . . is to use up the products of [industry] without raising the general standard of living . . . [A] n all round increase in wealth threatened the destruction—indeed in some sense was the destruction—of a hierarchical society. In a world in which everyone worked short hours, had enough to eat, lived in a house with a bathroom and a refrigerator, and possessed a motorcar . . . the most obvious and perhaps the most important form of inequality would already have disappeared. If it once became general, wealth would confer no distinction . . . [I]f leisure and security were enjoyed by all alike, the great mass of human beings who are stupefied by poverty would become literate and would learn to think for themselves; and once they had done this, they would sooner or later realize that the privileged minority had no function, and they would sweep it away. In the long run, a hierarchical society was only possible on a basis of poverty and ignorance . . . "
>
> GEORGE ORWELL, 1984

Since corporatism is the backbone for the economy and governance of Western industrial civilization, let's honestly examine what it is: Corporatism is the merger of state and corporate power. The advantage in this merger falls pretty much exclusively to corporations with the state as their pawn, foil, and military enforcer to concentrate power and wealth. As Benito Mussolini, the founder of modern fascism pointed out, fascism should be called by its more rightful name—corporatism.

Corporatism is the current manifestation of the dominator paradigm, the governance structure of the polluting, toxic Industrial Growth Society, and the driving force behind the other two aspects of the Triumvirate of Collapse—Peak Oil and global warming. Industrialism could never have metastasized to where it is today without the eager support of political and social elites.

The end game of corporatism is globalization, which is a code-phrase for global corporatization. We have allowed things to get so far out of balance that we now believe without questioning that corporate "rights" supersede all laws. Although, as the anti-WTO demonstrations in Seattle and elsewhere show, a large and growing segment of society is waking up to this insanity.

There is a great deal of confusion in the terms surrounding these concepts. Corporatism is not the free market, and the free market is not capitalism, although those latter two terms have been given functional equivalency since about the middle of the 20th Century. Predating Marx, free-market liberal Thomas Hodgskin used the term capitalist to describe those whose wealth and status was derived from government privileges given to the capital owning class.

One thing I found really interesting during my research is what Wikipedia had to say about corporatism. I noticed that it seemed to be remarkably sanitized—that it's actually purported to be a value free system. Someone, it appears to me, has done a heavily biased editing job. In an account that seems to be taken mainly from the work of Howard J. Wiarda in *Corporatism and Comparative Politics*, the extreme anthropocentric claim is made that penguins display a strong form of corporate organization.

A more realistic claim is made concerning medieval guilds, which were given the power to regulate trade and prices, and they can be seen as a forerunner of today's corporatism—although I believe many of the concepts inherent in guilds can be very useful in a partnership society. The Catholic Church also had a hand in developing corporatism, as they sponsored associations among groups in support of the Crusades. The philosophical underpinnings here are traced back to Paul of Tarsus who, in I Corinthians, wrote about a political form where the people and components of society are organized functionally, like the parts of the body. I see this as an antecedent of scientific reductionism, which focused on the parts and ignored the relationships—although there is no necessity for it to be this way. The Roman Catholic Church also pushed this form of corporatism in the late 1800s as a counter to the radical unions of Marxism and anarchism, and received fairly widespread support from governments in this effort.

To continue the history just a little bit, an alternative was proposed in the 1850s known as progressive corporatism—which is every bit the oxymoron that "military intelligence" and "sustainable growth" are. However, what progressive corporatism was concerned with and working toward can be built on when we examine what will be required for a sustainable future. The major issue was to provide group rights and build cooperation among the working and middle classes, as opposed to Marx's class conflict. From this emerged unions that could

negotiate with employers. Ferdinand Tönnies claimed that organic clans, such as families and professional associations, are disrupted by the mechanistic economic classes of capitalism. Sociologist Émile Durkheim advocated an organic social solidarity that used functional representation to counter the industrial division of labor which he said caused moral lawlessness due to an intrinsic attribute of rule by the strongest in mechanical solidarity.

However, corporatism today is not merely an association of state, business and labor groups agreeing on economic policy. While it may theoretically and historically divide society into associations based on common interests, who, as organs of the state, direct capital and labor toward the common interest, it does not actually function in such a benign manner. Rather, it propagates and protects Industrialism against the interests of a living world, and squashes any individual initiative or wider democracy movement that threatens either it or the elites who control it.

The corporate form today is not trying to protect capitalism. That's just a distraction, a page from the dualistic and disconnected playbook of Enlightenment thinking that today insists the only alternative is godless communism. The real goal of the corporate form is to protect industrialism—regardless of the economic system (capitalism or socialism). As stated earlier, Industrialism is the energy intensive exercise of turning low-entropy resources into high-entropy wastes at an ever increasing rate and accumulating the benefits to a self-selected elite—the Kleptocracy.

Under corporatism, the wealth and power of small business and individuals is dwarfed by corporate dominance over every aspect of society. Freedom and liberty are used as distractions to keep people from noticing that corporatism is actually a collectivist economic system—it just sweeps up the wealth from the 99% and collects it into the hands of a small elite.

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"A criminal is a person with predatory instincts who has not sufficient capital to form a corporation."

CLARENCE DARROW

Some social critics today posit that virtually all of the social upheaval, inequality, and environmental problems of today, including overpopulation and armed aggression, have a foundation in capitalism and its various market mechanisms. It is certainly true that capitalism requires continuous economic

expansion and a burgeoning market for consumers which simply isn't possible on a finite planet. This is the main reason capitalism is more conducive to industrialism than socialism.

Two other fundamental problems with capitalism are that it believes that humans are exclusively rational actors when it comes to economic decisions, and intimately interrelated with this, that price can be simplistically equated with value. This is the core of the arguments from both Friedrich Hayek and Ludwig von Mises that price mechanisms are necessary to determine production quotas. Unexamined in the production and pricing equation is the unrestrained drive for profit and using advertising propaganda to manufacture desire.

I agree that today, capitalism is a (most likely the) major direct cause underlying many crises. In the case of population, it was growing before capitalism, or even mercantilism—although it had yet to reach absolute global carrying capacity limitations at those historic points.

I admit there are some good concepts embedded within capitalism (there pretty much has to be in order to keep it even marginally tolerable), and these should be retained—such as innovation and entrepreneurship.

With everything we know today, I think we can reasonably say that knowledge and compassion can grow infinitely, but laptops, McMansions and the production of BMWs can't.

However, without the granted legitimacy of separation from and control over the natural world, the process of turning low-entropy resources into high-entropy wastes at ever increasing rates with an explicit dependence on ever more producers and consumers being born would not be allowed, as that is obviously suicidal. It would be widely regarded as the polar opposite of even enlightened self-interest.

While this may seem to be splitting hairs, in order to address the struggles for justice and democracy, we must dig up the diseased root. While slapping bandaids on symptoms does stand a chance of buying us some time, the symptoms will crop up again elsewhere in some other manner. We could completely do away with capitalism, but if dominator hierarchies, separation, and a pathological sense of the other are allowed to remain, we're not going to be much better off overall.

A rational alternative must be based on ecological realities. This means adherence to the core natural systems principles from which sustainable ecosystems emerge. Any replacement system must work with the creative life force, which manifests in the prime activity of living organisms—the tendency to self-organize into mutually supportive relationships that not only benefit individuals, but also benefit the web of life.

There are a number of alternative concepts available today that are fully congruent with this, and they form the core of this book. Some of the main ones are relocalization, reconnection, Rational Spirituality, steady- state economics, and an Earth jurisprudence. We must, however, first come as close as possible to getting the basics right. We don't have the leisure of a lot of time to waste.

To jump ahead a little bit, none of the above should be taken to mean that leaders and governance have no role to play in a sustainable future. As Riane Eisler points out, systems of administrative law were first developed by partnership societies. Bioregions will need to develop economic relationships, whether they are potlatches or take some other form. What must be realized is that leadership and governance are simply two roles within a complex social panoply. In and of themselves they infer no elevated status over any other role or station in life. Just because they are currently misused and abused doesn't mean they have no value.

We have a corporate state, and it's broken. Badly broken. Doing more of what brought us to this point isn't going to fix anything. The problem isn't big government, the problem is bad government; government that is controlled by corporate greed and elite arrogance.

Even though this really isn't a right versus left issue, today's political right doesn't necessarily want less regulation, they want regulation that causes income to flow upwards. The left doesn't necessarily want more regulation, they want regulation that promotes equity. Very generally speaking, of course.

Wall Street greed is what drove the economy over a cliff, not immigrants or entitlement programs. About half of the federal deficit comes from decreasing revenues, another big chunk comes from interest payments on the debt, and only 10% is from stimulus type programs. The middle class pays the same percentage today in income taxes as they did in 1960 (while earning $4000 less on average), those who make over $2 million pay half what they did in 1960, the richest 400 households in America pay 2/3 less than in 1960, while some major corporations like GE and ExxonMobile pay zero while receiving millions in taxpayer subsidies. If we weaken government even more, who is going to protect us from the financial avarice of Wall Street and corporate looters? Fighting amongst ourselves is a distraction designed to keep us from organizing against those who are causing the problems.

When the current tax fight (where the Republicans are so concerned about a meager 3-4% tax increase on the poor oppressed affluent) is over, you can be sure the people currently defending the incomes of the elite will go back to demanding cuts in Social Security, Medicare and aid to the unemployed. They'll say,

"America must make hard choices; we all have to be willing to make sacrifices." But when they say "we," they mean "you." Sacrifice is for the little people.

Another concerning aspect of corporatism is that it represents a loss of people's sovereignty and is anathema to democracy. The question we must ask ourselves is, Who rules? The people, or the tools of the people? Corporatism is a classic case of the tail wagging the dog.

For this aspect of the discussion, it is important to make the distinction between "Mom and Pop" corporations and multi-national megacorps that manipulate the law to their personal benefit. Corporations should rightly be tools of the citizens to benefit the common good. This is how they were originally structured under American states' constitutions, and violations of this premise were a prime reason corporate charters could be revoked.

How are today's corporations able to continue their wanton abuse and greed? We can no longer allow the ravages of corporate globalization to be simplistically explained away by scapegoating. We're told that it's not wage depression due to NAFTA, or job loss due to off-shoring for higher profits that are causing our woes. No! It's unsecure borders that are allowing "illegals" to come steal our jobs and consume our social resources.

One way this hoax is perpetuated is that corporate enterprise in the U.S. has lobbied to be legally redefined and the shackles of regulation removed. The owner(s) of the enterprise is separated from responsibility for how the enterprise behaves. Originally set up this way in England, this allowed the colonies to be exploited for the "Market" instead of being seen as the naked imperialism that it was.

This conscious separation of personal responsibility from the act of looting is not surprising because "looting" is, theoretically at least, considered immoral in Christian circles. The corporation is thus a "legal fiction" that lets the investors who own the business avoid personal responsibility whenever the business dealings are unethical or even blatantly illegal, despite the fact that unscrupulous behavior brings them enormous profits.

The fact is that we now live in a world of giant transnational corporations, with allegiance to NO sovereign government (let alone our own), sworn only to exploit the most vulnerable and desperate workers they can find in any country of the world, privatize the commons and externalize the costs, all for the goal of maximizing profit.

We must come to terms with the fact that the U.S. is not a democracy, which is defined as rule by the people, and never has been. The U.S. is a representative republic. The elites have always been afraid of the masses. Their system of

entitlement has some very serious flaws, especially in regard to the commons. Even the good conservationists, like Teddy Roosevelt, still had a utilitarian view of the natural world—we should go easy on it, but nature exists to serve the needs of man, has no intrinsic value, and deserves no special rights. This worldview must change.

The Industrial Growth Society

When I look at the definition of industrialism and realize that it doesn't reflect the basic core of human nature, I'm forced to conclude that its continuation and increasing strength must be due to some sort of cultural consensus trance—a term I first heard from James Howard Kunstler and have grown extremely fond of for its explanatory efficacy.

Much of the "conventional wisdom" today (that which maintains the status quo) revolves around finding a non- or minimally-polluting source of energy to replace fossil fuels in order to keep the economy growing and create more jobs (not different jobs—or better yet, create meaningful work that provides a living wage to more people). One rationalization for job creation in alternative energies is that jobs in this field combat what is referred to as "climate change". This term was supposedly chosen to minimize public panic, because why should anyone be overly worried about a little change in the climate? Could even be nice, eh? The status quo doesn't want people to focus on global warming, or anything that sounds even remotely like it might be inherently problematic. A secondary effect of this euphemistic framing is that it also serves to keep the public focused on the increase of greenhouse gases caused by fossil fuels—as if they're the only contributing factor to global warming, or the only one important enough to be dealt with. Sometimes deforestation and other forms of natural resource depletion are mentioned in passing, but the need to address these is generally ignored by the spokespeople for the status quo, with the simple switch to renewable energy being the only necessary response. This helps decouple the generation of carbon dioxide from production and consumption in the public's mind.

Why might this be, we might be reasonably expected to wonder? Why all the emphasis on a techno-fix to only those factors contributing to heating up the planet that don't cause us to call into question the underlying assumptions of Industrialism and economic growth? The only reason I can find is that to mention any of these other factors brings into sharp focus the inconvenient truth that the Western lifestyle of increasing consumption and infinite economic growth is

slowly killing us and the planet. And public awareness of this truth would not be good for business.

Instead of the reality, we're told our way of life is non-negotiable because the overall project of free-market capitalism is increasing the quality of life. So let's quickly recap what that quality of life consists of. Half the population is dependent on prescription drugs. Americans are ranked next to last out of 150 countries on the happiness scale. A rampant complaint is lack of social cohesion. Net poverty, personal debt, and the wealth gap are increasing. The average American's "body burden" of toxic chemicals and industrial pollutants is mind-boggling. Average life expectancy is decreasing, infant mortality is increasing, and rates of nearly every malady known are increasing as industrial society continues to be a breeding ground for ever more maladies.

Is this really the lifestyle we want to preserve, let alone export to the rest of the world? It doesn't seem worth having our loved ones dying in Iraq, Afghanistan, and literally dozens of other places around the globe.

Since it is our lifestyles that are causing the problems, the major aspect of the change that must occur is social, not technological. Systemic social changes, however, would disrupt (at the very least) the control centers of power. And that fact is what is actually non-negotiable.

Recognizing the greedy, controlling and abusive monster behind the benevolent disguise is a first step toward positive change. Now what?

One problem is that we've internalized the myths that constant growth (defined rather generically and without the concept of maturation) is necessary for progress and prosperity. But if we're always growing, that means that we never grow up. We believe that our highest good, the very pinnacle of human evolution, is defined by being an economic actor. We find ourselves in the perverse situation where the most productive economic actor today is a thirty-something American male who totals his BMW on the way to his divorce lawyer and spends six months in intensive care. We've been excluding externalities from economic analysis of wealth, as well as the costs of things that aren't good for us, and we've ended up with an economic system that is totally divorced from reality.

Even progressive organizations that purport to be environmentally sensitive, such as Co-op America, are calling for the development of market mechanisms to "green" growth for a sustainable economy.

So . . . another vital first step toward a sustainable economic paradigm is to let go of "the market" as our societal foundation. Seeing as how the power of the market evolved directly from the enclosure of the commons, that markets depend on infinite growth on a finite planet for which the only logical

conclusion is that they must practice economic cannibalism, and that a sustainable economy would follow the principles of natural systems and become decentralized and steady-state, how can markets ever hope to address social and environmental problems when doing so is anathema to the whole philosophy of free-market economics—whose actual practice is market socialism? Markets require consumers, not partners, and as long as profits are held in higher esteem than people or the planet, it seems that as laudable as the ideals of Co-op America are, the only effect is the "greening" of ecocide, even though it may take a little longer than the outright rape and pillage methodology of orthodox growth economists. What hope for a truly sustainable future exists without directly addressing the pedestal that growth and profit are placed on by adherence to market mechanisms?

Some people try to make a distinction between industrial civilization and agricultural civilization. Their reasoning is that "industrial civilization", as a negative term, is not negative because of industrialism, but because it is civilization. They believe that most of what industry has created is useful and will be needed in a sustainable future—like electric can openers—so it is good. But since industrial civilization requires the aristocracy of money and power over people and planet, it is the "evil" component of our current system.

I'll address this more in the section on civilization. As for whether or not industrialism is actually good, Roy Morrison, in Ecological Democracy, provides a great short articulation of the danger and damage of the industrial process: Industry is an amalgamation of toxic processes that create excess, and is distinct from production. This is a distinction that we just don't understand today.

For example, our petrochemical industry is one we should consider doing without. Many forms of automation carry a very high social and environmental cost, and the benefits mainly revolve around profit for a few. Much of industry pits itself against the natural world and our own inner nature. I agree that some of what industry has delivered is useful, but I question if most is. Applying a natural systems perspective would ease determining degree of usefulness.

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In the spring of 2008 former UK Prime Minister Tony Blair decided to lead an international team to tackle global warming, with the goal of reducing greenhouse gas emissions 50% by 2050. According to the science, this would be wholly inadequate—but let's leave that fact aside for the moment.

One of the things Blair said in his announcement:

> *"The one thing I am absolutely sure of is that we are not going to get the action necessary by telling people not to consume. The Chinese and Indian governments are determined to grow their economies. They have hundreds of millions of very poor people—they are going to industrialize, they are going to raise their living standards, and quite right too."*

John Kenneth Galbraith's 1958 The Affluent Society shows that this is outright nonsense, as do numerous studies. The problem with a system predicated on economic growth is that people don't consume insatiably, or even have any real desire to do so, when their basic needs have been met. From that point on, they are much more interested in maximizing personal potential than in maximizing CEO salaries. This doesn't bode well for the central bankers dependent on repayment of burgeoning government debt taken on to finance wars of acquisition. This is why expanding markets and increasing profit are foisted on us as the only true measures of health, wealth, success, and prosperity.

The inescapable conclusion this leads me to is that in order for governance to shift from serving corporations and elite special interests to serving the needs of communities and the living world, it must reject—lock, stock and barrel—the concept and principles of Industrialism.

The Doomsday Economy of Central Banks

"The law does not pretend to punish everything that is dishonest.
That would seriously interfere with business."

CLARENCE S. DARROW

In light of so many urgent crises, due to the prevailing story, people are still more concerned about the health of the economy than the health of the planet. The coverage in corporate owned and controlled media has a lot to do with this, of course. This is also intimately related to the money supply and how it's created and controlled. The whole system is so complex and convoluted that it's difficult to separate the individual issues, or present them in any type of logical order.

First, it's interesting to note that the early Church included money lenders with prostitutes and acrobats as condemned by their very nature, and that pre-capitalist economics was based on reciprocity, not in seeking advantage.

Indeed, as Lewis Mumford once observed, industrial society has transformed all seven deadly sins except sloth "into a positive virtue. Greed, avarice, envy, gluttony, luxury and pride are the driving forces of the new economy."

Of course, Barack Obama's favorite orthodox growth economists, Tim Geithner and Ben Bernanke, reject any calls for a new global currency, even though they're big supporters of globalization, or at least U.S. global hegemony. It is also widely suggested that one of the reasons for the U.S. invasion of Iraq, in addition to securing the oil supplies, was because Saddam Hussein had switched from the dollar to the euro as his oil reserve currency.

C'mon, it's time to be honest with ourselves. In 2000 the dollar was only worth 10% of its 1900 value, and then we had an additional eight years of accelerated imperial fiascos, culminated by the financial industry meltdown and bailout with funny-money. What's left that's worth protecting?

Financial markets based on perpetual profit growth are simply unsustainable, inherently inequitable, and it's past time to kick them aside as the anachronism they are. Steady-state economies based on local currencies are going to become our main defense against the death machine of industrialism and corporate globalization.

Assuming, of course, that climate catastrophe and petrocollapse don't do us all in first; or at the very least destroy what passes for civilization.

The free market story is that if crops fail due to global warming, entrepreneurs will have the incentive to provide dried fruits. Um, I guess I could be mistaken, but aren't fresh fruits a prerequisite for dried fruits?

When you hear the term "free trade" or "free market", respond with a hearty use of the expressions "bull" or "bunkum" or any of their colloquial equivalents. While that's less refined than the truer expressions "logical impossibility" or "financially motivated lie," they are just as accurate.

In China today, as in the U.S. fifty years ago, protectionism is the key to economic expansion. It is an irony completely lost on free trade advocates that the fastest growing economy in the world is state controlled and highly protectionist. In contrast, Argentina succumbed to the lie of free trade and had its economy crushed. The United States has embraced free trade and has lost a huge percentage of its decent manufacturing jobs. We're on our way to global economic parity all right, but it's economic parity with the third world. As one wag commented, "All we need now are colorful ethnic costumes."

What the free market (a codephrase for unbridled greed) actually means is doing away with any regulations that hinder obtaining natural resources and human labor for free (or at least as cheaply as possible), pocket the profit (with a small percentage to stockholders), and stick society with the real costs of cleaning up their mess or dealing with what is euphemistically called an externality (which is the economic term for pretending the poisoner didn't actually intend the death of its victims). One example of a socialized external cost is the $86

million/year subsidy California taxpayers provide Walmart in the form of food-stamps and health care to underpaid Walmart workers.

Economists Milton Friedman and Francis Fukuyama were instrumental in leading us astray. Friedman by identifying the market with freedom, and Fukuyama by giving us the perception that alternatives to the market could no longer exist. On these faulty foundations our present predicament was built.

As pointed out by James Galbraith, today we have the obsessive, uncritical penetration of the concept of the market into every aspect of American life, and it is attempting to drive out every other social institution, including law, art, culture, public education, Social Security, unions, community—literally everything. Free market ideology combines the definition of any object, person or relationship as nothing more than a market commodity, and then conflates (which means to merge and confuse as equivalent) markets with populism, democracy, diversity, liberty, and choice—so free-marketeers insist on the denial of any form of choice that imposes limits on the market. Then it goes even further, and demands the elimination of these separate concepts from our political discourse, so that we find ourselves looking to the stock market to fund retirement, college education, and health care, and we rather conveniently forget that in other wealthy and developed societies these are rights, not the contingent outcomes of speculative financial games.

The one thing at which free, unregulated markets are truly efficient is in transferring wealth from the many to the few. But, as the global economy continues melting down due to the Ponzi nature of casino capitalism, the free-market mantra is becoming a liability with the American public.

There are a number of fatal flaws in a free-market response to current crises, the prime one being that the free-market itself is the prime suspect in these crises. The promises of the free market do sound good. And if its ideology were based in reality, they might be good. But unbridled greed is inherently unsustainable. An economic system that is dependent on infinite growth on a finite planet can be most accurately described as economic cannibalism. One of the problems with destroying our life support system simply to obtain competitive advantage and add a couple of zeros to our bank accounts is that it provides a textbook case of insanity. Not only is free-market ideology based on an outmoded understanding of human nature, it is intellectually bankrupt, morally corrupt, scientifically dishonest, and avoids any empirical investigation. On all of these points, steady-state economies provide a realistic and viable alternative.

Overwhelmingly, the present deficits are caused by the financial crisis. The fall in asset values (especially housing), and the withdrawal of bank lending to

business and households has meant a sharp decline in economic activity, and therefore a sharp decrease in tax revenues and an increase in payments for unemployment insurance. According to a new IMF staff analysis, fully half of the large increase in budget deficits in major economies around the world is due to collapsing tax revenues, and a further large share to low (often negative) growth in relation to interest payments on existing debt. Less than ten percent is due to increased discretionary public expenditure, as in stimulus packages.

This point is important because it shows that the claim that deficits have resulted from "overspending" (on social programs) is false, both in the United States and abroad.

We now work longer hours in order to take on more debt. Wages in America peaked in 1973 and are now $4000 per year lower on average—with half of the decline occurring between 2000-2008. In the eight years of the GW Bush administration, we borrowed $700 billion, mainly from foreign banks, so we could give tax breaks to people who make over $250,000 a year. Americans on the lowest rungs of the economic ladder only stand a 4% chance of making it even as far as the upper middle class. This is about the lowest percentage of upward mobility among industrialized nations.

Here's the bottom line on free-marketeer talking points: You're being lied to. You're being manipulated by fear-mongering and told to blame someone else by those on whom the blame actually lies.

Market Mechanisms in Water

A June, 2008 article in the UK's Telegraph by Ambrose Evans-Pritchard, "Water crisis to be biggest world risk," opens with, "A catastrophic water shortage could prove an even bigger threat to mankind this century than soaring food prices and the relentless exhaustion of energy reserves, according to a panel of global experts at the Goldman Sachs 'Top Five Risks' conference."

Goldman Sachs, of course, didn't identify any of the actual Top Five Risks, which are:

1. Disconnection from nature
2. Dominator hierarchies
3. Belief in an inferior other
4. Overpopulation
5. Overconsumption

Although I suppose we could throw in:

6. **Disco music (although I might just be showing my age here).**

All the rest—Peak Oil, global warming, systemic resource depletion, toxicity of the biosphere, and economic cannibalism—are the symptoms, or logical outcomes, of Empire for Industrialism. As long as we continue clipping branches instead of digging up the diseased root, we will remain in our handbasket to hell. Adding pretty plastic streamers (e.g. nanotechnologies to remove growth hormones from recycled water) to the basket is hardly equivalent to changing its direction, although it does make the descent a bit more aesthetically pleasing.

At the Risks conference, Lord Nicholas Stern, former chief economist for the World Bank and author of the British Government's Stern Review on the economics of global warming, warned of underground aquifers running dry, melting glaciers altering and lowering fresh water supplies, and rainfall insufficient to replenish water tables. Stern said, "Water is not a renewable resource. People have been mining it without restraint because it has not been priced properly."

Goldman Sachs spins this to report that water is the "petroleum for the next century" and will deliver high profits for those who know how to "play" growth in infrastructure industries. They recommend investors focus on high-tech to benefit from this crisis in areas such as nanotech filtration, desalination, automated water meters, and water reuse—although they do warn about the consumer backlash on bottled water. They also recommend investment in the small companies that hold the patents on many of these technologies, as they are "potential takeout candidates."

To start the process of turning our soon-to-be-parched handbasket around, of living a paradigm of sustainability, we must first turn our priorities around. Who can profit from a dead planet? Let's shift the conversation to how we can ensure the right to water instead of the "right" to profit from it. Let's shift from being manipulated consumers to mindful participants in the web of life that is dependent on water to exist.

Of course, doing so would put the spotlight on what the real "risk" is that Goldman Sachs is concerned enough about to host a conference on it—the end of economic growth.

Steven Chu, Nobel laureate and former director of the Lawrence Berkeley National Laboratory, in regard to diminished supplies of fresh water in the Western U.S. from the projected 30-70% reduction of mountain snowpack due to climate chaos says, "There's a two-thirds chance there will be a disaster, and that's in the best scenario." Other credible studies that have been published within the

past few years, such as from both the Scripps and Udall institutes, come to the conclusion that the Colorado River could be functionally dry (the water level in Lakes Mead and Powell below the intake pipes) as early as the next year or two, but at least within the decade if trends simply continue as is.

Speaking of trends, it's instructive to note that many of the worst case global warming scenarios from less than ten years ago, which weren't predicted to occur until 2085 to 2100, have already occurred. The best example is the opening up of the Northwest passage in the Arctic. What used to be the worst case is the new normal.

It is hard to face these dire realities, but even worse to hide our heads in the sand. There is actually no disagreement that our current water supplies are running out. The water table in the Tucson, AZ region has dropped from 20 feet to over 300 feet since the end of WWII, and is continuing to drop between 2-4 ft/yr. In the 1940s in Phoenix, AZ you couldn't build a house with a basement because the water table was too high. Now it's 1,000 feet lower.

In Arizona, water is being sold to industry for $5.80/af (acre foot), but the cost to CAGRD (Central Arizona Groundwater Replenishment District) to secure increasingly difficult to find replenishment supplies is $200/af. The snowpack in the headwaters of the Colorado River is decreasing and is expected to be at 40% below normal in the coming years. The Central Arizona Project is pumping water from the Colorado River over 300 miles 2000 feet uphill to Tucson in an open concrete ditch through the middle of the Arizona desert.

Arizona is betting its future, and the future of its citizens, on "paper water". The current ADD water process (Acquire, Develop and Deliver Water) is analogous to the Federal Reserve printing more money to "solve" the financial crisis. It allows the continuation of rubber-stamping growth without the water actually being there instead of the assured 100 year supply as required by Arizona law. The Fed printing more money is one thing, as it's just fairy dust anyway. But people will die if they try to quench their thirst with paper water. The "thinking" behind this is that somehow someone will invent new water supplies. This is a rather strange merger of techno-fetishism with what used to be known as alchemy. And we're allowing local planning departments to continue approving trophy subdivisions in the foothills, and 60,000 home "planned" communities south of Tucson. As if putting the word "planned" in there makes everything alright. Again, smart growth gets us to the exact same place as dumb growth.

The Goldman Sachs mindset is pervasive, and the "solutions" being developed in Arizona are mirrored worldwide. Allison and I attended the 6th World Water Forum in Marseille, France in March, 2012. There we heard water

managers, politicians, NGOs, and senior members of various UN directorates mention the many failures of market mechanisms in meeting the right to water and sanitation. However, the vast majority of the solutions I heard in the presentations revolved around developing funding mechanisms and creating financial incentives to protect water and the right to water. The main idea seemed to be that we could grow our way out of growth problems.

One question that was asked in numerous sessions we attended was, Where is the money going to come from for water protection and delivery and to provide sanitation services in the developing world? My response was, Where did the money come from for the bank bail-out? They simply cranked up the printing presses—they created it out of thin air. Money today has all the substance of fairy dust. If you believe you need more of it, just believe that you have it—problem solved. Unfortunately, imaginary money—or even solid gold nuggets—cannot squeeze water from an empty aquifer.

Yet throughout the Forum attendees were bombarded with calls to develop financial instruments and incentives for market mechanisms to provide water and sanitation, market mechanisms to protect water and watersheds, market mechanisms to deliver either green or sustainable development, market mechanisms to enable good governance, and market mechanisms to create a peaceful world overflowing with joy, harmony and bliss. Is it just me, or does anyone else see a pattern developing here?

The final session of the Forum was "Solutions to Commitments," hosted by the International Forum Committee. All kinds of major players on the world stage, heads of state, and ambassadors got up and didn't say anything at all for two hours. I guess American politicians have learned from the best.

The goal of this session was to vocalize commitments to the solutions from all the sectors represented at the Forum to help ensure buy-in at local, regional and global levels, at the various time-frames for implementation, and all scales of commitments. Considering that everyone at the Forum agreed that water was a serious issue, and that we were heading into some major problems pretty much everywhere, I thought this would be the moment when bold action plans were announced.

The most aggressive commitment to implement a solution to the world's water problems came from a partnership of a non-profit and some government agency—or maybe it was one of the big multinationals from the private sector, but the guilty parties in this case are pretty much irrelevant in the larger scheme of things—who announced that they are going to "form a workgroup to think about discussing the problem by 2015." I kid you not. And they announced this

with a straight face and not an ounce of shame or embarrassment. In fact, they seemed to be expecting hearty congratulations for the deep and wide-ranging scope of their proposal.

Yes, that will solve everything. I sure feel better now, knowing things are being taken care of by the global powers-that-be, and none of the rest of us have to worry our pretty little heads about it. NOT.

We can't ignore the interconnected nature of our world, its cycles, and humanity's role in them. Global warming is having negative impacts on global fresh water supplies. Warmer temperatures cause increased evaporation from rivers and lakes, decreased snowpack and earlier runoff, and increased glacier melting.

Conversely, our collective abuse and displacement of fresh water is contributing to global warming. This creates another connecting the dots exercise, and this issue must be added to our strategies to mitigate global warming as well as for the restoration of watersheds and the replenishment of aquifers as we work on developing a sustainable economy.

There are two major factors to consider. Much of the following is taken from the work of Maude Barlow, board chair of Food and Water Watch and former senior adviser on water to the president of the U.N. General Assembly.

The first factor is displacement of water from where it sustains healthy ecosystems and healthy hydrologic cycles. We've polluted so much surface water that we're now mining aquifers much faster than nature can replenish them. We move water from where nature has put it to where we need it for food production (where much of it gets lost to evaporation) and to supply the voracious thirst of cities (where it usually ends up as waste dumped into waterways and oceans).

We also lose water through the virtual trade in water. This is the water used for export crops and manufactured goods, and it accounts for about 20% of the daily water use for humans that is exported out of watersheds. Piping water long distances for industry leaves behind parched landscapes.

The second factor is loss of the vegetation necessary for healthy hydrologic cycles. Urbanization, deforestation and wetland destruction destroy water-retentive landscapes and leads to loss of precipitation over the affected area.

The living world influences the climate mainly by regulating the water cycle and the huge energy flows linked to it. Transpiring plants, especially forests, work as a kind of biotic pump, causing humid air to be sucked out of the ocean and transferred to dry land. If the vegetation is removed from the land, this natural regulation system is interrupted. Soil erodes, reducing the content of organic material in the ground, thus reducing its ability to hold water. Dry soil from lost

vegetation traps solar heat, sharply increasing the local temperature and causing a reduction in precipitation over the affected area. This is the unmentioned side of the urban heat island effect. This process also destroys the natural sequestration of carbon in the soil, leading to carbon loss.

So, just as removing vegetation from an ecosystem will dry up the soil, removing water from an ecosystem means reduced or non-existent vegetation. Taken together, these two factors are hastening the desertification of the planet and intensifying global warming. Even if we successfully address and reverse greenhouse gas emissions and our dependence on fossil fuels, we will not be able to stop global warming if we do not deal with the impact of our abuse of water.

It is also a tenet of sustainability that a region—however defined—cannot consider itself sustainable at the expense of another region. Central and Southern Arizona will not be sustainable as long as they depend on Colorado River water. The same can be said for some of the current pipe-dreams such as building another water canal from the Mississippi River or building desalinization plants along one of the world's most diverse seas, Mar de Cortés. As if the communities dependent upon the Mississippi River would even allow the former to occur in the first place.

And of course there's also the tie-in to our energy production and use. Coal-fired power plants use approximately 1.5 trillion gallons of water a year in the U.S. Some folks might actually use more water turning on the lights in their foothills McMansions than by drinking a glass of it. Power plants also create more toxic waste than the plastic, paint, and chemical industries, and this waste gets dumped into rivers and other waterways from the scrubbing process. So, we've managed to clean up the air a bit and instead of breathing the toxins, now we drink them.

So, how do we answer the increasingly loud cry of, What can we do?

The solution to the water half of this crisis is massive watershed restoration to bring water back into parched landscapes. We must return water that has disappeared by retaining as much rainwater as possible within the ecosystem so that water can permeate the soil, replenish groundwater systems, and return to the atmosphere to regulate temperatures and renew the hydrologic cycle. This means we must be ecologically realistic about the unsustainability, as well as the basic infeasibility, of supporting current populations in the Southwest desert entirely through water harvesting and "toilet to tap" plans. Don't even get me started on the current growth lobby fantasy of doubling these populations in the coming decades.

We must restore forests and wetlands—the lungs and kidneys of fresh water. For this to be successful, three basic laws of nature must be addressed.

1. Create the conditions that allow rainwater to remain in local watersheds by restoring the natural spaces where rainwater falls and where water can flow. Examples of water retention include: roof gardens in family homes and office buildings; urban planning to allow rain and storm water to be captured and returned to the earth; water harvesting and drip irrigation in food production; capturing daily water discharge and returning it clean to the land through technologies such as living machines.

2. Stop mining groundwater supplies at a rate greater than natural recharge. Future generations will not look kindly upon us if we don't. Governments must regulate groundwater takings before these underground reservoirs are gone (and before our cities subside into them). This means a shift in policy from export to domestic, or better yet, local production.

3. Stop polluting our surface and groundwater sources, which is usually done merely to increase corporate profits. Water abuse in fossil fuel production and in mining must stop. We must wean ourselves of industrial and chemical-based agricultural practices and the techno-fantasy of water-guzzling agrofuel farming. National policies and international trade rules must support local food production in order to protect the environment and promote local sustainable agriculture. Policies must also discourage the virtual trade in water and ban the mass movement of water by pipeline. Government investment in water and wastewater infrastructure would save huge volumes of water lost every day. Local regulation can enforce water-harvesting and grey-water recycling practices.

Governments around the world must acknowledge the water crisis and the role water abuse plays in the warming (and drying) of the planet. All activities that will impact water must conform to a new ethic—backed by law—that protects water sources from pollution and over-pumping. This will require a strong challenge to government policies that exclusively focus on unlimited global economic growth, as well as a direct challenge to those who insist that it is politically infeasible to propose, enact, or enforce any regulations that might decrease corporate profitability.

International policies currently focus on giving the two billion people in water stressed areas more access to groundwater sources. But current levels of groundwater takings are unsustainable. To truly realize the universal right to water, and to protect water for nature's own uses, requires a fundamental reordering in our relationship to the world's finite water resources as well as to all the other resources our economies, lifestyles, and very lives depend upon.

Until we find the courage to perform a systemic and comprehensive carrying capacity analysis, we won't know what we have to work with, or even the

general direction we should be heading. This makes all of our current planning efforts moot.

But one thing is obvious without even a cursory analysis. We are currently overdeveloped. We are in the overshoot range of both environmental and economic carrying capacity. This is a very inconvenient truth, made all the harder to hear because we have defined our very essence by its negation.

Addressing these issues is a fundamental aspect of the relocalization project, and is within our ability to do so. It starts by simply making new choices, in our lifestyles and with the people we elect to set our governing policies and regulatory framework. Simply replacing one color of the status quo with the second most popular color is not a choice our grandchildren are going to be very happy about.

Or our children. Or our spouses, for that matter. The time, quite literally, is now.

Decreasing Quality of Life Indicators

Another major factor to examine in connecting the dots is how industrial dominator culture actually affects our quality of life. Although middle-class and wealthy Americans tend to give industry credit for the "creature comforts" they enjoy, corporatism and industrialism, through whichever lens you wish to apply, can have no other outcome but to decrease quality of life indicators for life in general over the long-term.

Perhaps the first step in this analysis is embracing the awareness of the fundamental difference between quality of life and standard of living, and acknowledging that the latter is indeed a very poor substitute for the former. Among our Body Burden, decreasing lifespan, obesity and other increasing ills, today's Americans are on track to become the first generation to die earlier than their parents did. We have a higher percentage of the population on prescription drugs, we've pretty much hit the bottom of the happiness scale, have increasing poverty, decreased real wages and purchasing power, increasing debt, etc. etc. ad nauseum.

In my research and practice I look at a very wide spectrum of quality of life indicators. What they all point to is a decrease in both quality of life and standard of living for the vast majority of Americans (basically everyone outside of elite power circles who can only point to increases in standard of living). Today, for the first time since the Great Depression, Americans are spending more than they're earning. The wealth gap continues to increase, and a higher percentage of Americans live in poverty than ever before. When it comes to health care,

for example, Americans spend twice as much per capita as other industrialized nations, and we have a shorter lifespan and higher infant mortality rate, both of which have been getting steadily worse since the 1960s when America was rated among the best in both categories.

The American culture of consumerism has lost its sheen. People's emotional and spiritual needs are not being met, which manifests in the increase in stress and depression medications, the increasing number of people in traditional therapy or supporting the self-help industry, and the rise of radical religious fundamentalism (not just Christian dispensationalism, but Islamic sects like the Taliban, as well as what I often refer to as New Age Nazis). People are frantically searching for something to believe in because it is becoming more clearly apparent the American Dream has turned into a nightmare.

Now, in all of this it is indeed important to not lose sight of the positive aspects of Western civilization and many modern technologies such as public sanitation services, even though the foundational assumptions of the culture are being called into question. But it is also very important to be honest about our acceptance that a growth economy is necessary for prosperity and well-being, because what it has turned into is the creation of an official state religion of mammonism—the deification of greed. Our military is given over to protecting corporate interests in the name of securing larger profit margins. These are necessary to repay the central bankers that fund both industrial expansion and the nation-state militaries that ensure its success. Greed and arrogance drive imperialism, and is little different today than it was for the ancient Romans.

I often talk with supporters of capitalism and industrial growth who believe that the status quo is the best there is, that humanity is not capable of relating peacefully, and that we need the current system of market mechanisms to lift people out of abject poverty—but for the most part, they don't want to discuss the conditions that created the poverty in the first place.

The question often gets asked whether powering down, becoming sustainable, and living simply can go too far? Need it entail suffering and sacrifice? Must we all live in grass shacks, or can we at least make bricks from clay?

These are valid questions and concerns, and they need to be more widely discussed. Many people who are critical of sustainable change tend to use it as an excuse to simply dismiss the whole idea of sustainability as being anti-progress.

Even though maintaining the status quo of corporatism is tantamount to global ecocide, and the antidote is for fewer of us to live with less material stuff, living simply is not the same as austerity. I often tell people that instead of thinking that less consumption (remember, consumption was once considered a

disease) is equivalent to austerity or sacrifice, we'll actually be gaining opportunities to live more fully. Plus, giving up the innumerable negatives inherent in the Industrial Growth Society that are detracting from quality of life and our ability to reach our potential will be a welcome loss.

For a start, we currently possess the technology and know-how to meet people's needs and have full global employment while only working 20 hours per week or less. It only takes one-third of the global population to produce everything that is consumed globally. These are important factors to keep in mind—as is the reason (greedy elites) we aren't benefitting from these facts.

If we, as a society, agree that we must live within the carrying capacity limits of the only planet we have in order for our children to inherit a peaceful world healthy and vibrant enough to meet their needs—meaning a livable climate, clean air, sufficient potable water, and no more endless unnecessary war—then we're left with having to agree on what constitutes an acceptable standard of living to maintain an acceptable quality of life within these natural systems parameters.

So, if you're living on the beach in Nigeria, a grass hut might be all you need. If you're living on the American central plains you'll be wanting a sturdy brick house with double paned windows properly oriented on the land to take advantage of solar gain during the different seasons.

No matter where we live, though, to maximize comfort and not cause unnecessary damage to our environment, it is important to build with the materials at hand instead of wasting the energy to ship most things long distances. It makes sense, say, to have two or three regional factories in the U.S. to build toilets and refrigerators to be shipped by rail to where they are needed, but shipping wood from the American Northwest to the Southwest desert where adobe works best for home building should simply become socially unacceptable.

If our basic needs are being met, we won't be desiring things thought to confer status or as substitutes for unmet needs anyway. There are a number of studies that show this, and the manufacture of want is the main, if not sole, reason advertising and marketing are such large industries. Once our basic physical and emotional needs have been met, we don't tend to desire more "stuff" without external pressure to do so.

I believe that a big part of the necessary change is simply a change in perspective. Imagine a society that honors all relationships that are necessary to keep one healthy and fulfilled. At a very fundamental level, this is what life on this planet does best. But it's not all sweetness and light, as this also entails admitting that we're all part of the food chain; that death is natural and necessary to continue the overall project of supporting more life.

Critics then tend to claim that this is very judgmental, that sustainability advocates are attempting to impose their values on others. Well, actually, this is a textbook case of projection, but let's leave that aside for a moment.

One charge is that in countries where capitalism doesn't exist, the people live like animals. Biologically speaking, of course, we are animals. The norms of Western civilization can't change that. And this is a very value-laden judgment that takes for granted that Western civilization is actually an improvement.

The sad fact is that until the Europeans took over Africa and the Americas, the situation of abject poverty didn't exist. Indigenous peoples for the most part lived simply and in balance with their natural habitat, but their needs—for food, water, shelter, and community—were being well met. Ask yourself why so many people in the developing world no longer have access to clean and sufficient fresh water and sanitation today—not what caused it last week, but what caused it 50-200 years ago? People don't tend to voluntarily move to where there's no water or where they can't grow or catch food. Their poverty began when their lands and resources were appropriated.

Cheerleaders for unfettered capitalism generally don't give up when confronted with facts, however. The conversation often continues with points being made about sustainability being like socialism, but since humans are inherently flawed that's really not workable, and that we can't turn back the clock to previous times when societies did live peaceably and in balance with the natural world.

These critics are correct that we can't turn back the clock. Attempting to do so is hardly a rational course of action. But since we're supposed to be an intelligent species, we can look at what has and hasn't worked and make choices for the direction we want to go. Capitalism is a human choice. It doesn't exist in nature.

Socialism is a choice as well, but I'm not a big fan as it's practiced today—because any system in which we abrogate our responsibility to be contributing members of our communities, or that doesn't honor and help further diversity is neither healthy nor sustainable. At a philosophical level, all socialism actually means is building healthy and mutually supportive relationships, which is as it should be. Today, however, it is used to describe a system of governance where people expect someone else to take care of them, or that easily slides into totalitarian governments that ration out the meager leftovers of the elites. This is quite a bit different than sharing the bounty of the natural world with those who may be less fortunate or who have fallen on hard times. A truly civilized society would naturally do both.

Toxicity of Planet, Body, and Spirit . . . and Other Niggling Inconveniences

As we think about the increasing toxicity of the planet from industrialism, I could cover such things as Superfund sites on land and growing dead zones in the oceans. But, the environmental literature is full of reports on those instances, so I'm going to focus on something that's not as widely reported: Body Burden.

We've all heard the old maxim, "You are what you eat." But we're also what we drink. And breathe. And touch.

The implication of this simple observation is huge, because it reflects the fact that we are part of a larger system—the Earth that provides the raw materials for our bodies and harnesses solar energy for our sustenance—and that whatever we do to that system, we are also doing to ourselves.

We are all very aware that the pollution we keep spewing into the air, water, and land is bad for the environment. What is often left out of the conversation, however, is the impact this pollution is actually having on our personal health. "Body Burden" is a clinical measure of the amount of pollution and toxins that have accumulated within an individual's body.

The original study to determine the level of contamination known as body burden was a joint project of the Environmental Working Group, Mt. Sinai School of Medicine, and Commonweal, a health and environmental research institute. Study participants were tested for 210 toxic chemicals commonly found in consumer products and industrial pollution. The study participants did not work with chemicals or live near an industrial site.

Blood and urine testing by researchers at two national laboratories revealed that the participants in the study contained 167 of these toxic contaminants, with an average of 91 industrial compounds, pollutants, and other chemicals per person. Some of the better-known toxins found at elevated levels included arsenic, mercury, PCBs (banned in the U.S. in 1976), and dioxins.

Of the 167 substances found in this study, 76 cause cancer, 94 are toxic to the brain and nervous system, 79 cause birth defects or abnormal development, 86 interfere with the hormone system, and 77 are toxic to the immune system. The adverse health effects of various combinations of these chemicals have never been studied.

In spite of this and other studies, it remains difficult to obtain a concise picture of how contaminated those of us living in the U.S. really are. For instance, two toxic chemicals generally known to affect nearly everyone—perfluorinated chemicals (Scotchgard) and brominated flame retardants—were not even tested

for. The fact that chemical companies are not required to report to the EPA about how their compounds are used, or monitor where they end up in the environment, or to perform basic health and safety tests when these compounds are commercialized, exacerbates the difficulty.

But more information related to our body burden is coming to light on a regular basis. A broad range of health effects are being studied that were previously unexplored in high dose studies, and scientists are also starting to realize that low doses of chemicals are much more harmful than previously believed. Numerous peer-reviewed studies are showing toxic effects being found at levels far below the "no effect" level in high dose studies. Other low-dose exposure studies reveal that adverse health effects, including premature death, asthma, cancer, chronic bronchitis, permanent decrements in IQ and declines in other measures of brain function, are increasingly occurring in the general population.

For example, a plasticizer chemical commonly used in dental sealants and plastic water bottles, bisphenol A (BPA), has been shown to have adverse health effects at levels 2,500 times lower than EPA's "lowest observed effect" dose. These adverse effects range from altered male reproductive organs and aggressive behavior, to abnormal mammary gland growth, early puberty, and reduced breast feeding.

A new aspect of our body burden is contained in a recently released report by the Pesticide Action Network North America and Washington Toxics Coalition. Entitled Chemical Trespass: Pesticides in Our Bodies and Corporate Accountability, this report details an analysis of pesticide-related data collected by the Centers for Disease Control and Prevention from 9,282 people nationwide. 100% of the people tested had pesticides in their blood and urine, with the average person carrying 13 of the 23 pesticides analyzed.

An additional danger of some of these pesticides is that they harm future generations due to their ability to pass the placenta during pregnancy. Women have significantly higher levels of organochlorine pesticides which are known to have multiple harmful effects such as reduced infant birth weight and disruption of brain development, which can lead to learning disabilities and other neurobehavioral problems.

You may be thinking to yourself at this point, "but I live out in the county and I eat organic. Surely I can't be all that contaminated." One rural body burden study participant who fits this description found she had PCB and dioxin levels as high as people who live in cities. Her experience shows that, despite our best efforts, ultimately we all live in the same chemical neighborhood. Everyone lives downstream.

The industrial, agriculture and transportation industries have turned us all into walking toxic waste dumps. We have become unwilling participants in a huge chemical experiment that would not be permitted by the Food and Drug Administration if these chemicals came to us in the form of prescription drugs.

Our body burden of some of these chemical toxins and industrial pollutants are at levels that would qualify the bearer to be classified as a Superfund cleanup site were the individual body regulated by the U.S. Environmental Protection Agency.

What can we do? One suggestion is to rid our government of every politician who, bowing to industry pressure, voted to exempt pesticides from programs designed to eliminate persistent toxic chemicals from the environment. At the very least, we should lobby our local governments and school districts to immediately quit using pesticides on school grounds and in parks, as well as make the personal commitment to quit using pesticides on our own lawns. And just why do we have lawns instead of edible landscapes, anyway?

And, as radical as it may sound, we can start making wiser consumer choices. The majority of the toxic chemical compounds that contaminate our bodies today didn't even exist 75 years ago, but they are ubiquitous today. How many processed foods and food substitutes do we really want to ingest? How many cheap plastic products do we really need to purchase from the big box chain stores (who have to have these toxic products manufactured overseas because the working conditions, wages, and materials are all illegal in the US) to find true satisfaction and fulfillment in life?

If we honestly examine our lifestyles, it becomes apparent that the choices we make in the marketplace have a direct relationship to the health of our planet and, correspondingly, to our personal health.

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One of those inconveniences of Industrialism is the looming possibility of collapse: Widespread, systemic breakdown of either or both of the social order and life supportive ecosystems. Both ecosystems and people can only take so much abuse.

As the mainstream press slowly discovers that it can no longer ignore reality, two disempowering remarks keep getting repeated as if they're the gospel. These also get repeated by cynics from pretty much all points on the political spectrum. The first is that the impetus for change will not occur, nor will people even call for it, until the middle-class experiences total collapse—the breakdown of

civilization into utter chaos and anarchy complete with marauding bands of murderous thieves uprooting backyard organic gardens. This is the secular version of the apocalypse. The second is that humans are terrible at long-range planning. Implicit in the latter is that some authority figure or institution must do it for us.

But it ain't necessarily so. In fact, both assumptions are pretty much total bull.

I hear variations on these two themes even from social change advocates who are deeply aware that we need a systemic alternative to the status quo. These are people who otherwise have a pretty good grasp of both the global crises we're facing, many of the circumstances that have led to them, as well as what we must do to start creating a realistic response—or at least what we must start putting in place to come out the other side with some semblance of our basic humanity intact.

We tend to believe the story of collapse when we hear it because the core message it is contained within is fundamentally correct—collapse is coming and it's caused by human greed, aggression, and an arrogant disregard for a living planet that provides all human sustenance. We are overwhelmed by being presented with examples of bad behavior on a daily basis by lamestream media, so in a manner similar to cops and judges who deal with what they consider to be the dregs of society on a daily basis, our world view becomes unfairly tainted by this very limited perspective. We forget that 95-99% of human behaviors, as expressed 95-99% of the time, in a world that provides abundance 95-99% of the time, don't support this pessimistic viewpoint.

However, collapse of this nature is like the old Chinese saying that if we don't change direction, we're going to end up exactly where we're headed. And, the very real possibility exists that we may indeed have passed one too many environmental thresholds, or tipping points. Life is, however, pretty resilient even though it exists on this planet within what is actually a fairly narrow range of biospheric conditions.

The supposed human inability to consider consequences and plan for the future ignores good evidence to the contrary—such as planning for the seventh generation by the Iroquois Confederacy—and it also ignores the effects of the artificial materialistic culture we live within that is based on dominator hierarchies. We don't appear to be good at planning because we're constantly being told that everything is being taken care of. The prognostications of our leaders, with their forecasts of a sunny future that's only going to get brighter, has been with us since the days of Western expansion through Manifest Destiny.

In a culture that raises spoiled brats (although I'm fully aware these poor unfortunates are victims of our cultural pathology, but "brat" is not a judgment but an observation—if only they were just spoiled children, insufferable though

they may be) because saying NO! is thought to cause irreparable harm to children's supposedly fragile egos and sense of self-worth, where there is always someone around to clean up their messes, they are not being taught the skill of how to consider the implications of their actions by the public education system (or by their parents, who never developed this skill themselves). American youth are told they're special and don't have to muddy their hands or psyches, and they're also taught that some techno-fix will come along to take care of impending dire consequences of our actions before it's too late . . . for these reasons and more, it should come as no surprise that we're no better today at planning than at anything else that supports life.

One avenue for this sense of entitlement is the parental substitution of stuff for love. Another is the fact that some (but far from a majority) of impoverished children are taught they are entitled to our rapidly unravelling social support network—which of course they, and all the rest of us, are when other resources and opportunities are in short supply. But this learned sense of entitlement denigrates the other. It is a one-way, narcissistic relationship. This is not a natural arena for the human spirit to occupy.

People with this mindset also often tend to assume that we must find a charismatic leader of some sort to lead us to the promised land. But as Eugene Debs said back in the early 20th Century, "I wouldn't lead a man out of the woods even if I could, because that would mean that someone else could lead him right back in."

Some scientists are forecasting a "2050 Scenario" in which Earth is hotter, more toxic and overcrowded with nine billion people who can do little else but wage wars for the resource scraps that remain. But I have a question: Where do they assume the resources are going to come from to feed both the troops and the factory workers making the weapons the troops are using to kill each other in a world of dwindling resources? We can either feed one another or kill one another, but I'm having a hard time figuring how we're going to do both.

As many biology students have seen, if you put a few bacteria in a Petri dish with a conducive nutritional environment, they rather quickly reproduce to consume everything and overfill the dish. This is but one of a number of analogies that can be extrapolated to demonstrate the way humans are overbreeding the planet. Meanwhile, we remain blissfully unaware of the rather ironic similarities of our plight to the Petri dish—an artificially created environment with no natural constraints. This is closely related to a concept we'll examine in the section on the spectacular failures of radical behaviorism.

Another common response I get when mentioning the need to shut down Industrialism, or at the very least its fossil fuel and nuclear energy sources, is a

hysterical shrieking that at least a billion people will die if we do. Well, umm, I've got a news flash for them. All seven billion people alive today are going to die at some point—and if we do nothing, we'll all be dying sooner rather than later. The questions we should be asking ourselves are with how much dignity will we allow this to happen, and how many babies are we going to produce to replace us? More on this in the section on population.

We Americans do not have to be asked to make "sacrifices" in order to become energy independent. The only people who will consider their lifestyles to be diminished are central bankers and corporate CEOs who have become fat off of other people's labors. While this may sound like the rhetoric of an ideologue, it is simple hard reality. Unless, of course, one considers it to be a sacrifice or a cause for suffering to be set free of the rat race and our body burden. Yes, things will change—but these changes have the potential to vastly improve our quality of life.

A commonality among social critics is their rather constant denigration of the American people in particular as being uneducatable, and this label actually applies to consumers in the Global North in general who also seem to have lost the will and/or ability to awaken themselves from the consensus trance. But this indictment is not just unhelpful, it is counterproductive and also almost wholly untrue.

This is an instance of the "blame the victim" mentality. Instead of being uneducatable, what is more often the case in an industrialized culture that relies on 24x7 propaganda to maintain itself is that people are not provided the information necessary to trigger the motivation to change or have the awareness of its necessity. This is entirely different than my pointing out the irresponsibility of our politicians and their analysts for not doing anything about global warming because they claim that they've only known about it for two decades. It is their job to ferret out information that has been easily available for 150 years, as well as develop strategies for dealing with it.

The quest for energy independence is another inconvenience. Let me pose a question with two scenarios: Which is more important, having a new iPod, or being able to breath? ExxonMobile CEO's $21.7 million salary, or having enough non-toxic topsoil to grow healthy food for your children?

When it comes to overcoming the toxicity of our bodies, our spirit, and our life support system, as I've already mentioned in Chapters Two and Three, we don't need to find a replacement for dwindling supplies of cheap fossil fuels.

Let's examine some more inconvenient truths—well, at least inconvenient from the perspective of free-market fundamentalists, centralized control fanatics,

and corporate globalizers of the New World Order variety. Some of these have been touched on briefly, but a broader understanding can be achieved by gathering some of them together in a connecting the dots exercise.

It only requires one-third of the global population to produce all of the stuff the whole global population consumes. This means we should all be working two-thirds less and have full global employment.

We experience up to 50% loss in the long distance transmission of electricity over the centralized grid. Electricity is shipped across the country, not to save a penny, but to make a penny. We can thus save vast amounts of our dwindling energy resources simply by local production and distribution.

Annie Leonard tells us in The Story of Stuff that 99% of consumer goods are either landfilled or gathering dust in a closet within six months of purchase. Stuff is currently manufactured under the philosophy of either planned obsolescence—built to wear out or break, or perceived obsolescence—it becomes unfashionable and you must purchase the latest fashion to keep from being a social outcast. But as I've already mentioned, we don't actually desire more stuff once our basic needs have been fulfilled. And besides, we're losing valuable skills that provide pride in craftsmanship by focusing only on production efficiencies and total output of stuff. We're also depleting our raw natural resources, polluting our air, land and water, and trashing our planet simply to satisfy the greed of elites.

Learning to share is but one aspect of rebuilding healthy community relationships that so many of us bemoan losing when we talk about our feelings of alienation and isolation. So here's a simple solution: Instead of everyone in a neighborhood owning a widget that only gets used once a quarter, or even once a week, we can purchase infrequently used items as a group and share them. What a concept.

Further savings, in both cost and the energy requirements of manufacturing, can be realized if that widget were actually built to last and to be easily repairable when it does break.

Export economies create co-dependent relationships in which producers, consumers, and the environment all lose. As Herman Daly points out, America and Denmark export butter cookies to each other. It would be much more efficient to simply swap recipes.

Of course, the whole concept of conservation, powering down, and sharing instead of everyone have one each of everything is anathema to economic growth and a paradigm that believes the American way of life of increasing consumption is non-negotiable.

Again, when it comes to the concepts of sacrifice and austerity, exactly how much sacrifice is it to give up the harried existence of the rat race? To lower your body burden? To lower your monthly expenses by hundreds, if not thousands, of dollars a month currently going to prescriptions, therapists, trainers, dietary supplements, the self-help industry, etc.? To gain the time to do what really matters, to experience the things that give life meaning, that provide joy and fulfillment? To gain the opportunity to have a purpose driven life?

Is there hope? I think there is, but it's going to take casting out the story that maintains the status quo—an illegitimate story that subsists in large part because we supply its legitimacy. We can begin creating a sustainable future based on ecological wisdom and social justice merely by acting as the humans we have evolved to be. The ability to act in concert with the natural world and the creative life force is deeply imbued in our very cells.

Instead of believing that we must subdue and control the natural world, including our inner nature, we can consciously choose to work with it. To understand and accept its limitations and constraints, as well as the potential it provides. Change begins by making new choices.

Some people are pinning their hopes on theoretical physicist Stephen Hawking, who says we don't have to worry about collapse here on Earth because we'll be moving to the stars.

Not to slight Hawking. He is brilliant, and he does run with a brilliant crowd, especially if we limit our definition of brilliance to those who don't stray from the path of Western reductionistic science. As Albert Einstein says, the same mode of thinking that got us into this mess isn't going to get us out. Stephen Hawking may be good at theoretical physics, but we actually have no idea whether or not the theoretical mathematics the bright boys use has any actual basis in natural reality.

Hawking embodies a paradigm that he seems incapable of seeing through or beyond. So, we shouldn't be too surprised at his pronouncements in realms outside of his expertise, nor think that we're missing something by not being able to count on his intelligence to deliver rational answers to living sustainably.

And ultimately, just how lovely is the vision of Earthlings spreading our meaningless domination and greed-based consumerism throughout our galaxy and beyond, trashing and poisoning the over-used and abused planets we leave in our wake? Spending eternity searching for the next planet to destroy?

One example of the mismatch between mathematics and natural reality is well known in the field of computer science and comes from Fred Brooks in *The Mythical Man-Month*. Brooks' Law states that adding additional programmers to a software project that is running late only makes it later. His explanatory

metaphor points out that while one woman can gestate a baby in nine months, nine women can't gestate a baby in one month.

Perhaps the best example I've found for the disconnect between mathematics and reality comes from economics, which is often referred to as "the dismal science." I personally think economics is just another form of mysticism, however. I mean, how else can you refer to a field that is based on the "invisible hand of the market"?

My dismissal of orthodox growth economics requires, once again, connecting a few dots. Capitalism in particular tries to shunt the mysticism charge by claiming to be based on the science of mathematics. In math you can "prove" that compound interest can grow to infinity. Since economics is based on math, and math is proclaimed a natural science, this "proves" that natural resources can likewise grow to infinity. Indeed, if it weren't for the physical laws of thermodynamics, this might be possible. It sure sounds good. However, we can't continue turning low entropy resources into high entropy wastes because our finite planet cannot be both an endless supply of resources and a bottomless pit for waste—regardless of what the numbers say.

Economics also claims we can count on the "law" of perfect substitutability. This is the idea that capital can substitute for natural resources or human labor with no loss of desired qualities. This means that you can build an equivalent house with half the lumber if you just use twice as many hammers or pay the carpenters twice as much.

It's mysticism, all right.

However, Western culture deeply believes in this system. We believe it is more natural than rain, and we protect it as if our lives depended on it. Which, unfortunately, today they do. Many environmentalists like to blame the start of agriculture for our current problems, but it seems to me the real problem started when the elite began locking away the food. This required people to go to work for "the man" in order to obtain the basic necessities of life, because these were no longer provided by a community that folks participated in. The English enclosure movement took this to another level, and now we have the total piratization of the commons. The cap-n-trade "solution" to catastrophic climate destabilization is the privatization of the atmosphere, where the "right" of industry to pollute has been turned into a profit center.

This all brings up a very good question: How do we provide for our own basic needs while working on systemic change? It's not easy to have one foot in the dominator paradigm that conditioned us and the other in a vastly different partnership paradigm that is only in the process of becoming. My wife Allison

and I both extricated ourselves from The System as the source of our income to a large degree almost a decade ago. Since then she and I have been living rather simple lives of deep contentment supported mostly by workshops we facilitate through our non-profit for "love donations" so we don't have to turn anyone away, a little ecotherapy counseling (although Allison doesn't feel comfortable charging people for taking them into nature and facilitating the remembrance of their natural inheritance), and the piano lessons she teaches which, along with her minimal social security and retirement fund benefits (money from the old paradigm helping to bridge us to the new), provides the bulk of our income.

Along the way, we've discovered that "the universe provides"—at least when you're working with it—is more than a New Age maxim. This was probably the hardest thing for me to learn how to trust after a career as a hard science based researcher, engineer and all around geek. For every unexpected expense, the needed money has been provided—by an income tax refund, a timely donation to our non-profit by a generous supporter . . . Voila! Somehow the needed money appears. We began by evaluating what was truly important to us, then started seeking more sustainable alternatives to the basic needs of life (like shopping for treasures in thrift stores, walking/biking/using public transportation instead of driving when possible, keeping utility bills to a minimum, eliminating credit cards, getting involved with local currencies, etc. etc.). Whole books and even courses on voluntary simplicity abound for any readers interested in making or increasing personal shifts toward a high quality, deeply meaningful, sustainable future.

But, the $64K question remains: Are enough people willing to embrace a path to a new way forward in the Age of Stupid? (The name of a great movie, by the way, if you haven't seen it yet.) How do we help others understand that not only is the status quo not serving our best interests, but is actively working against us? When it comes to accepting the "common wisdom" that people won't act until forced—until a major calamity or collapse occurs—how can we raise awareness, at a deep visceral level, that what we're witnessing today is a catastrophe in slow motion? And more importantly, that there is a viable alternative available that can be shown to improve quality of life for all life.

How can we garner a critical mass of the aware before it's too late, if it's not already. Gaia, our living planet, original mother to us all, will eventually heal. But without humans, she will have lost her voice for many centuries, probably millennia, more.

The current unsustainable system is not invincible. Elites are neither supernatural nor immortal. Systems of power have been created by humans, and we

can remove the legitimacy we bestow on those systems. This is probably the most effective force for change that we have at our disposal. Systemic change starts by believing in it, not by talking ourselves out if it.

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My favorite collapsarian and good friend Guy McPherson, Professor Emeritus at the University of Arizona, blogs at *Nature Bats Last* and is the author of *Walking Away from Empire: A Personal Journey*.

In a 2010 posting, he said, "I know no energy-literate person who thinks we'll be able to avoid the post-industrial Stone Age by 2025. Assuming a conservative 4% annual decline rate of crude oil between now and then indicates we will have access to the same amount of oil in 2025 as we did in 1970."

Well, 1970 is hardly the stone age, unless you're stuck in the big-hair '80s and prefer death to life without a hair dryer. But McPherson's decline rate figures do agree with everything I've seen, and are probably a bit low. That said, I still think it's instructive to note how much waste is in the current system that is facing imminent shortages.

Planned obsolescence is a major problem in a materialist consumer culture that substitutes shopping for psychological and spiritual well-being. If we add in the fact that current global population is not sustainable even at a bare bones subsistence level (if justice and equity impinge on our consciences in the least bit), it shows we must start making drastic changes. NOW.

It is also critical to understand that there is a very real difference between the Industrial Growth Society and a technologically advanced society that strives for holistic integration with a living, sensuous planet. If enough of us decide to choose the latter, there are a number of conclusions that can be reached.

We don't need nuclear or fossil fuels or the vast majority of what chemical companies produce. Economic growth is not necessary for either progress or prosperity. We can build stuff to last and to be easily repairable. We've known for decades how to reduce the toxicity of many industrial processes, but we don't do so for the sole reason that it decreases profits.

So, it seems to me that we can either wait for the collapse of business as usual, trying in the meantime to prepare ourselves as best as we're able, or we can choose to start doing things differently. We can at least pretend to be rational creatures and change direction since it's obvious we're going the wrong way—and then see where that gets us. It's bound to be better than where we're headed now.

Some people who cling to McPherson's collapse assertion insist that there's only one direction to go—become small tribal bands or extended families living in caves whose most advanced technology is the bow and arrow.

Now, we do need to power-down, so it's vital that this be an integral aspect of a new direction. But using less energy can become part of a way forward, not a step backward. Powering down is not equivalent to a post-industrial apocalypse. Understanding this has personal psychological benefits and makes the agenda of systemic change palatable to more people. The path to sustainability is not one of austerity and sacrifice, but rather one where we lose the burden of excess and the toxins of industrialism while gaining a quality of life we have been hungering for for millennia.

With a sustainable population, we will require less energy than what's available today from clean renewables. It will only be an apocalypse for bankers, insurance salesmen, and elite control hierarchies. And I suppose the techno-fetishists will be disappointed as well.

A common occurrence when I make comments like these in on-line forums is that someone will zero in on a particular phrase, remove it from the context, and attempt to discount everything I've said based on their interpretation of the particular phrase.

My most commonly challenged comment is my assertion that current renewables alone can provide the energy resources for a sustainable population. The typical almost knee-jerk response is that renewables can't power industrial society at it's present scale. This response provides a good indication of how far reading comprehension levels have dropped under public education in America.

Because, where did I say anything about maintaining the present scale or even industrial society? Or the present level of overpopulation? Almost every serious, honest energy analyst I'm aware of admits that renewables will not transition the Industrial Growth Society into a fossil-free future. Becoming sustainable requires, first and foremost, getting population down to within carrying capacity limits while concurrently removing greed and excess from the system. Considering how much damage we've done, we'll probably have to get global population down to about 1.5 billion for the next couple of centuries as we expend much effort helping ecosystems heal—if our overall goal is to continue the project of human progress on a living planet.

It has been shown that birth rates can voluntarily drop below replenishment levels as has occurred in Europe and North American. I'll go into details on this in the population section of Chapter 14. What we need to discuss in the present

context is how we can support increasing the probability of similar voluntary reductions on a global scale.

Collapsarians also tend to be insistent that die-off (a sudden severe population decline due to some type of calamity) is a foregone conclusion mainly due to ecosystem degradation combined with increasing human population. And die-off is an interesting concept. We are not, after all, an immortal species. Everyone dies. But die-off in the sense collapsarians tend to use it (nuclear holocaust or other nefarious plans by the elites being separate matters) only becomes a perfectly logical consequence if we continue our present path.

Die-off is a choice, albeit one that I do agree seems increasingly likely considering the current lack of political backbone. If we don't immediately put effort into advocacy for known realistic alternatives, it will become a self-fulfilling prophecy.

Another common assumption, which I find highly ironic coming from those who, if not overtly advocating collapse believe it is inevitable, is that foregoing fossil fuels to save the planet, as I advocate, will actually cause collapse. Now, if oil supplies were to be cut off tomorrow, there would indeed be massive disruption—especially to lifestyles of entitlement. But Cuba made it through the cut-off of their oil supply and the average Cuban only lost about 30 pounds—which the average American could stand to lose anyway.

If we look at all the waste and excess in our current system, maintained there mainly to enrich elites and their special interests—not to improve quality of life, but only to increase standard of living for a relative few—and look at all the social studies that have been done over the past 60 years that point out the fact that once people's basic needs have been met they don't actually want more, it becomes clear that we can minimize any possible disruption because we know what can be put in place to make the transition go smoothly—or at least be less catastophic. We have the technological know-how today to get by with current renewable energy sources while simultaneously reducing population. The only known problem with this alternative is that it wouldn't make the already wealthy even wealthier. And by the way, I'm not talking about population control.

As I've already stated, birthrates in America and Europe decreased voluntarily, which is one of the reasons corporations love illegal immigration and off-shoring—industrialism requires increasing numbers of no benefit wage-slaves to keep the productivity curve growing and pay the interest on yesterday's debt. My grandparents lived quite well on the amount of energy available in the 1920s without living in a cave. And we know so much more today in fields such as permaculture, biointensive organic agriculture, sanitation, nutrition, quality

production, etc. that can maximize the potential of available clean, renewable energy sources.

No, we didn't take the action we should have in the 1970s. This doesn't, however, prove that we're incapable of it. WWII instituted a massive social change. As Diamond pointed out in Collapse, societies such as Japan changed direction upon realizing the ecological devastation they were causing. Change is not outside the realm of human possibility—just today's realm of political feasibility. We simply haven't felt the dire need to confront the necessity for systemic change. But we're feeling that need today due to peak oil, global warming, biospheric toxicity, species extinction, and economic cannibalism—to name but a few of the burgeoning crises we're facing.

Other responses I get is that in order to be optimistic, I either have no idea what I'm talking about, I've only recently started looking into these issues, or I'm simply ignoring the evidence.

Quite the contrary. My research in peak oil dates back to before it was popularly called that, when Jan Lundberg was doing the Auto Free Times and the Alliance for a Paving Moratorium in the late '80s. My research into dominator hierarchies dates to about the same time. I started connecting them with global warming and corporatism in the mid-90s, and started concentrating my research in ecopsychology and natural systems as a realistic alternative to global crises in 2000.

The only assertion I've made in this larger argument that I haven't at least provided a hint as to where to get the background information is on Earth's sustainable carrying capacity for humans. This comes from a peer-reviewed study published by the Royal Society. Little of what I've said so far is original with me. My research is in natural systems principles and how they can be applied to build a framework to shift human culture toward sustainability though the combined process of relocalization and reconnecting. The rest of the argument is just background to show the possibility exists and to provide a logical narrative for how we arrived at this point. But change won't happen if we keep trying to convince ourselves that it's impossible—one thing I can guarantee.

I'm not "optimistic" that the necessary change will occur, or more relevant to the current crises, occur in time. 8,000 years of history plus current events point to us ending up exactly where we're headed (as I've already said in a couple of different ways). My argument centers around the possibility, based on peer-reviewed and replicable evidence from numerous fields, that we have the ability to decide on a different path as it becomes harder to deny we're headed in the wrong direction.

There is an alternative to force-based hierarchies of domination. There is an alternative to our separation from nature. There is an alternative to empire. There is an alternative to centralization. There is an alternative to economic growth. Collapsarians are, of course, perfectly free to join the majority in their denial of these possibilities. All I ask is that they step out of the way of those of us working to catalyze change. I realize the wounds of empire run deep, but those of us who are trying to institute real change that is holistically integrated with a living planet encounter enough negativity from the purveyors and sycophants of the status quo.

Collapsarians appear to be saying that since they're convinced collapse is going to happen anyone who is trying to facilitate change is a hopeless optimist—that positive change goes against some type of immutable human nature. As I've already mentioned, it is quite true that change won't happen if we continue to convince ourselves change is impossible, and especially if we continue focusing on talking others out of it.

It seems the only ones ignoring evidence, such as Diamond's example of Japan, are the collapsarians—although it is a different set of evidence from what is leading us to possible collapse. Peak Oil mainly spells the end of the Industrial Growth Society, since oil is its prime energy source, but empire has been around for millennia. The enclosure movement in Tudor England, long before the Industrial Revolution and our addiction to oil, was about economic growth—oil just put growth on steroids, so to speak.

The model for change is reconnecting and relocalizing—with the former easier to do in principle—both of which turn long held precepts on their head. They comprise the bulk of Part Two. I've just hit a few of the highlights here. My only agenda is protecting life—salmon, trees, and humans—but humans must remember how to live in balance with all the rest of life.

My saying that it is possible to have a technologically advanced society that is sustainable should not be mistaken to mean that I'm trying to save Western industrial civilization. Nothing could be further from the truth. I'm trying to be clear that if we continue our current path, die-off is a rational conclusion. But the good news is that there is an alternative. We can choose a different path. That path includes powering-down, getting population under control, accepting what carrying capacity means, removing the legitimacy we grant dominator hierarchies, being honest about what got us to this point, and looking at the evidence from a number of different fields that supports our ability to actually do these things. I try to be clear that probability is a different concept than possibility. The former is where we should be concentrating our energies.

5
CONNECTING THE DOTS

The thing about connecting the dots is that you can start just about anywhere. In light of what I've written so far, let's start with a meta issue in global economics.

The WTO, World Bank, IMF, NAFTA (and all its cousins), and corporate globalization in general are based on domination and exploitation, and they are leading Western industrial civilization down the path to ruin. Unfortunately, these institutions and agreements—which are integral to the Industrial Growth Society—are taking the developing world, or Global South, down with them. And the rest of the natural world as well, of course.

Relocalization is both the antithesis and the antidote to corporate globalization, but more importantly, relocalization provides a process to becoming truly sustainable. Participatory democracy is but one of the necessary aspects of relocalization, as are steady-state economies and living within an ecosystem's carrying capacity.

Free-trade agreements that ignore the rights of workers and the long-term health of the environment are one manifestation of the Industrial Growth Society's grip on the global economy; but underlying that is free-market capitalism, its practice of economic cannibalism, the enclosure of the commons, and the substitution of materialism for psychological and spiritual health and well-being; but underlying that are class hierarchies and a belief in a mechanistic, dualistic universe; but underlying that is the subjugation of the Earth Goddess by the sky gods and the transcendence of the soul; but underlying that is the actual root—force-based ranking hierarchies of domination and a pathological sense of the other. This is the basis of our disconnection from the nurturing relationships we

evolved to benefit from and enjoy with the natural world, with each other, and with our own inner nature.

Let's briefly look at two of the proposed techno-fixes which ultimately function to maintain the status quo of the Industrial Growth Society, and some of the ways they ignore relationships: coal and cars.

We're told we have hundreds of years worth of coal left, and all we need to do is burn it cleanly, capture the carbon, and sequester it (somehow, somewhere, and hope that it stays there). We conveniently ignore that the only way to extract this vast amount of coal is through the environmentally devastating method of mountaintop removal, and the adverse social, economic, and environmental toll on local communities this creates. We're also told that putting the effort into burning coal "cleanly"—were it even possible—would make us less economically competitive on the global stage. We don't want to consider the fact that once the planet is dead there won't be anyone to compete against.

This same inability to see or account for a larger part of the system applies to current thinking on ways to deal with our dependence on the personal transportation pod we call the automobile. We're told we just need to make them less polluting by switching to biofuel, hydrogen, or electric power. We ignore the part of a car's contribution to global warming that occurs during its manufacture and the extraction of the raw materials. We ignore the fact that America is now a net food importer, and combined with 50% topsoil loss on agricultural lands, that it might not be a good idea to convert prime, or even marginal, agricultural land to fuel production. And speaking of loss of farmland, more and wider roads and increasing urban sprawl are part and parcel of our auto dependence. There are more dots to connect, of course, but I did say I'd keep this brief.

Social changes to address these problems will require powering down and relocalizing our social relationships into networks of interdependencies.

Here's another set of relationships among the Triumvirate of Collapse: The growing economies of China and India, energized in large part by dirty coal plants, cannot be divorced from the insatiable appetites of consumers in the already overdeveloped affluent North for a steady stream of cheap goods. The vast majority of these goods are created from fossil fuel derived plastics, with the remainder coming from endangered species and ecosystems, and almost all of it is produced by labor that would be considered exploited by Western standards.

America has, in effect, outsourced and off-shored major aspects of the American Dream. Combined with the corporate welfare euphemistically referred to as "free trade," it takes a pretty large set of blinders to not see where the middle-class has disappeared.

But hey, Walmart's got a sale on plastic toilet seats, and you need to replace that essential kitchen gadget (hmm, isn't this the third replacement in the past two years? Let's see, you saved $20 on a $60 item over the one with a 5 year warranty at the locally owned hardware store . . .) so why should you care, right? The SUV's got a full tank of $5/gallon gas and you need to pick up the kids from the Mall before they run the balance on your 30% interest credit card up any higher.

I keep thinking that by simply pointing out that the illegal invasion and occupation of Iraq is to secure dwindling oil supplies; that our pact with the Devil is blood for oil; that wars in the Middle East can't be simply blamed on the Bush regime and neoconservative ideology; that these wars, like all wars, are to protect and preserve a lifestyle and are a fully bipartisan expression of a certain narrow interpretation of the American Way; that the peace movement will wake up to the necessity of addressing root causes—our disconnection from nature and the addictive substitutes of materialism and growth that are offered for prosperity, well-being, fulfillment, and security—and quit putting all of their energy into slapping band-aids on symptoms.

A common rejoinder to this wake-up call is that we no longer have the ability to choose, that we've lost our connection, our compassion, and our creativity. But these can be remembered and recovered, our potential is still realizable because these aspects of humanity have not been entirely beat, bred, or educated out of us. They have most definitely been covered up, subjugated, and held in abeyance by a constant onslaught of stories and actions that manipulate the instincts for survival and enjoyment through fear and force, and stories that life is innately sub-par but could be better if we pray harder or consume more. Much more on this in Chapter 12, The Basis for Future Hope.

An Alternative Energy and Economic Scenario

Formulating a rational response to the end of cheap and abundant energy, rapid overdevelopment and sprawl, and local economies controlled by outside interests requires connecting a few dots as well. This comprehensive response will also help mitigate global warming and remove corporatism from our political lives—immanently doable by simply changing the groundrules of our economic story. The foundation for this response is Part Two of this roadmap.

We can begin by looking at how much energy we think we must produce. I've touched on aspects of some of this, so let's tie it together. A significant percentage of our current electricity generation is lost in long distance transmission. Phantom loads are another waste source which consume energy for either

convenience or laziness. Current future demand planning doesn't take into consideration the benefits of conservation. It is estimated that we could see a 35% savings from efficiency improvements within the current industrial system, plus the majority of industrial production today is not for needed items, but merely for the sake of growth.

We can produce electricity locally, right down to the neighborhood and individual building level as much as possible. We can shift research toward storage technologies. We can create quality goods that are built to last and be easily repairable using clean production and zero waste technologies, and move toward providing full employment that provides a living wage on less than 20 hours per week.

Our goal is to meet people's needs in a dynamic system that gets better instead of bigger. One of the rationales for keeping our cities lit up at night is for safety and security. If the majority of people were getting their needs met and could see hope for their future, crime would become a minor issue. We would rather quickly discover that we were approaching an energy demand that could be produced at a bioregional level, at the largest scale, with renewable energy using off the shelf technology.

Of course, none of this supports the myth that economic growth is necessary for prosperity and progress. But this is the foundation for a community conversation we need to begin post haste. What are our actual priorities for our lives and our future?

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> "A reversion to the normal pattern of human existence, based on village life, extended families, and local production for local consumption—especially if it were augmented by a few of the frills of the late industrial period such as global communications—could provide future generations with the kind of existence that many modern urbanites dream of wistfully."
>
> RICHARD HEINBERG

A number of people say it would be nice if we could figure out a way to continue global communication via some form of the Internet, but they're not sure we'll be able to in a post-peak scenario. I believe it's possible.

The way I suggest approaching this is from a perspective of priority. While it is possible that the whole system could totally melt down and society will

devolve to barbarism, if we start making wise decisions integrated with natural systems principles there are a couple of options we could consider.

We start with the understanding that the quest for information and knowledge is a basic drive in humans, right up there with food, water, and sex. A free and open global communication system supports this basic drive. It is also foundational to democracy, and in helping uncover moves toward authoritarianism of any sort.

Instead of supporting greed and producing junk, we can choose to invest in infrastructure, of which communications is an integral aspect. But part of this investment must address carrying capacity. This requires being honest about overpopulation, as well as the toxicity and depletion that's inherent in the manufacturing process of Industrialism.

A whole lot of what humans do today that is detrimental to our overall life support system stems from the fact that natural fulfillments are being withheld in numerous ways, and that propaganda for addictive substitutes is pervasive.

So, we take these basics and apply them to a new vision to create a sustainable future. Many of the toxic processes in manufacturing exist because they are cheaper or increase production throughput, not because they improve product quality, or because we don't know how to do things differently. We decide what we actually need, and then manufacture it in sustainable ways, which includes a much higher degree of recycled content. The rest of the crap we simply quit producing, and planned obsolescence becomes a corporate crime for which a charter can be revoked.

As population levels voluntarily fall to sustainable levels, and as the concept of sharing becomes accepted, those few things we need that we can't yet figure out how to produce in a non-toxic manner can still stay within the waste assimilation and regeneration rates of the natural world. Current advertising methodologies become outlawed under existing abuse and fraud laws as artificially manufactured needs are seen as the threat to self-worth and life that they are.

As relocalization takes hold, open global communication becomes even more important to keep isolation and nationalism from becoming pathological, as well as an effective contribution to the project of human progress and prosperity while remaining in balance with the natural world.

A basic starting point for the transition into a sustainable future is to connect the dots between cheap beef, cheap gas, cheap clothes, plastic bags, sprawl and the use of our sons and daughters as cannon fodder. It's not just opposing the neocons of the current administration, but the foreign policy that props up tin-pot dictators who allow multinational corporations to rape their country's

natural resources so they can pay their debts to the international banking system, who are underwriting the national militaries who enforce these policies.

As Thomas Berry says, we evolved to move along the Earth at walking speed. Anything faster than this serves the interests of industrialism and the maintenance of dominator culture. If we really desire maximizing human potential, we need the time to do so.

Ten hour (or longer) workdays, and six day (or longer) workweeks, serve to keep us disconnected from family, friends, nature, and ourselves. We don't have the time to pursue the things we're really interested in. But it helps fuel the artificially inflated GDP, and maintains the myth that progress requires growth.

The modern American Dream has us convinced we need to move out to isolated country estates and planned communities to escape the squalor of overcrowded industrial cities to find happiness and security, which serves building industry interests, but not our own. It increases population growth, which decreases quality of life. It requires more cars, which decreases quality of life. It takes up more farm and open space, which decreases quality of life.

It then increases our dependence on the petro-chemical intensive agriculture industry which is putting food on the shelves of the nation with 40-75% less nutritional value than 40 years ago and a toxic petro-chemical load that is hidden from regulators as a proprietary secret. This requires dietary supplements to maintain health, which adversely impacts personal budgets (decreasing quality of life), so we work more hours (decreasing quality of life), etc. in a never-ending merry-go-round that does little more than further consolidate wealth and power in the hands of a select few to the detriment of everyone else, the environment, and all other species. To this toxic brew we've now added the cancer-producing and endocrine-disrupting effects of biotechnology's genetically mutated organisms (GMOs) whose main function is to increase the profit margins of Industrial Agriculture.

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Here's something I wrote in the spring of 2008. It remains pertinent in 2013 (but I hope not too much beyond) with just a few minor name changes.

The Left continues to be distracted by the Punch and Judy show of the Democratic primaries, the anti-war movement continues to be deluded that either defunding or pulling out of Iraq/Afghanistan (Syria, Sudan, Iran) will bring world peace, and Commercial Totalitarianism continues to tighten the noose of state fascism ensuring that nothing effective will be done to address catastrophic climate destabilization within the rapidly shrinking window of opportunity.

And yes, there is something we could do about all of this, but too many people today insist on the pathological clinging to the propaganda that there's nothing we can do, it's too big, we can't make a difference, a growth economy is necessary for progress, prosperity and alleviating poverty, and besides it's just human nature to act like sheep and do the bidding of our overlords.

Sigh.

Our overlords are just fellow Bozos on this bus, boys and girls. They put their pants on one leg at a time, and they have grandchildren they care about. Well, except for those very few true sociopaths who have risen to positions of power, or those whose higher neural functions have been lost through cocaine abuse and alcoholism, of course. You might be able to think of a few from recent history. The rest of the ruling elite all believe the same propaganda/story, and for basically the same reason—the dominant OldStory is insidious in not allowing an alternative to be known, or in the rare case of an alternative cautiously peaking its head into the media din, in framing that alternative as inferior or a utopian fantasy.

Creating and telling the NewStory is going to take all of us putting aside our sectarian differences; not succumbing to factionalization; not being led astray by the egos of movement leaders who believe in power-over hierarchies. The goal of a sustainable future based on ecological wisdom and social justice, based on globally shared values such as those expressed by the Earth Charter, is a viable alternative we can choose. This goal can both unite us and build on the strength inherent in our diversity.

Two necessities for creating and living this NewStory are going to be accepting what sustainability actually means (morally, scientifically, and legally), and that humans are actually an intimate and inextricable part of a larger living system that has imbued us with the intelligence, heart, and spirit to actually do so. This NewStory is more in keeping with true human nature. It adheres to the principles of natural systems. It helps us realize that sustainability is not merely an environmental movement; it is a community movement.

Does anyone else feel up to this task, which actually works with the life-nurturing energies that create and support life (that have a successful track record measured in the billions of years, pretty much regardless of which story you believe of their origin), or do you really think that putting band-aids on symptoms (otherwise known as incremental reform), or that separating yourselves from the rest of the world in little eco-village enclaves out in the wilderness as the current system collapses around our ears and we're rounded up by Blackwater mercenaries into the already funded Halliburton built concentration camps is the best path we can choose—or worse yet, have you succumbed to the disempowering

cynical view that this is our fate, and so, like urban growth, or rape, we have no choice but to accommodate it to the best of our abilities?

Reconnecting with nature and relocalizing our lifestyles and communities provides a systemic process to create a NewStory we can all joyfully participate in. In fact, we all must. This alternative to the status quo is both realistic and imminently achievable, in no small part because it will unleash the current constraints on human potential and provide increased opportunities to meet our natural expectations of fulfillment.

Which future do you want to choose? Go ahead. Take the red pill. Offer one to your family and neighbors.

Let's party!

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I'll wrap up Part One with a short synopsis. The information presented so far provides a framework for why and how Western industrial civilization, the Industrial Growth Society, came to be. The value of this framework is that it helps us articulate the core aspects of the root problem. This is what fundamentally requires changing first in order to support other changes necessary for building a sustainable future.

Boiled down to the barest of essence the root problem is that Western industrialized humans have 1) become disconnected from nature and that which is naturally fulfilling, 2) accepted hierarchies of domination as natural and immutable, and 3) accepted that the other is meant to be dominated, subjugated and exploited by whomever is above them in that hierarchy.

These are faultly assumptions and we've created religious and scientific systems to maintain those false assumptions—sometimes knowingly, sometimes not. We've built an economy and an empire on those false assumptions and global crises—most critically peak oil, global warming and corporatism—are natural and logical outcomes of a very specific paradigm labeled Industrialism. Status quo responses to these crises have been designed to perpetuate the status quo.

By now it should be apparent (intuitively obvious to the casual observer) that this system is insane, it must be stopped, and it must be replaced. So let's now look at how we can realistically do that, and what we can do it with that is in keeping with our true human nature as part of a living system known as planet Earth.

PART TWO:
THE REVERSAL

When the wise man learns the Way,
He tries to live by it.
When the average man learns the Way,
He lives by only part of it.
When the fool learns the Way,
He laughs at it.
Yet if the fool did not laugh at it,
It would not be the Way.
Indeed, if you are seeking the Way,
Listen for the laughter of fools.

LAO TZU

Introduction

I'm basically an optimist. I believe that in the not too distant future we'll realize our brains can actually be used for something other than keeping our ears apart. In many ways it's unfortunate that it is going to take reality to force this issue, because a lot of useful and precious time is passing us by in the meantime. Fortunately, when culture does collectively take the red pill—assembles the critical mass and comes to know itself—there are a number of pragmatic things we can do to harness that energy in a productive direction.

Reversing our handbasket to hell can be achieved through two rather simple concepts: reconnecting and relocalizing. Reconnecting means overcoming our separation from the relationships that give rise to and sustain the natural world—which includes our own inner nature, interpersonal relationships, and the community relationships fundamental to health and well-being.

Relocalizing means recovering our actual autonomy from centralization and globalization, and not falling prey to the false autonomy of disconnection from nature. It covers our lifestyles, economies, social institutions, governance, and

rekindling a sense of place to our bioregions, watersheds and backyards. In this overall process we'll be recreating society based on the relationships of mutual support which are a fundamental process of life.

In a combination that becomes a positive feedback loop, building coalitions to achieve critical mass will increase the rate of adoption of these two concepts, and the entire process is firmly based in what science is coming to understand as the basic processes of life on Earth and how we can effectively work with them. As an added bonus, it is congruent with earth-centered indigenous wisdom.

The "re" part of these concepts is fundamentally important. They mean that reconnecting and relocalizing are not processes we have to start from scratch. We don't have to learn or discover things unknown or unheard of. Not only are they concepts we know, but we've done them before. They are based on, lead to, and support behaviors and values that are perfectly natural—that is, they are life-affirming and increase opportunities to develop individual potential, as this is what provides maximum support to the web of life (at neighborhood, community, and bioregional levels) which in turn provides maximum support for developing potential at all those same levels.

There are a number of things we can get involved with and support to start creating life-affirming change. Now that we've connected enough of the dots to realize not only why systemic change is necessary but many of the individual things that require changing, let's delve into the how and what.

In the first part of this book, we examined some of the main drivers of an unsustainable culture that has a better than even chance of undergoing catastrophic collapse and taking the living world down with it. There are actually dozens of other authors who could have written the first section using their own sets of examples of our disconnection and broken system. Their conclusions, however, I believe would be strikingly similar.

Let's start off with a quick look at the results of studies on what people really want. What do we say makes us feel happy, satisfied, and fulfilled; that makes life rewarding; that enables us to work toward achieving our potential?

These studies reveal that most of us are lacking a sense of ease and belonging. We feel lost and alienated. The majority of us say we'd like to develop talents, build stronger and more satisfying family and social relationships, spend more time appreciating nature, and pursuing education. These are all sustainable and non-consumerist. In general we want technology to deliver on its long withheld promise—more quality leisure time. Instead, however, Americans spend one billion working hours per year to buy more leisure wear, and over twice that much time playing fantasy football—the only padding needed is in the Barca Lounger.

The percentage of those of us in America who say we're happy—about one-third—has remained the same since the 1940s. Most of the rest of us say we'd be happy if we just had twice as much money. Since the time these studies were initiated, GDP and personal spending have both doubled, but people still claim they need twice as much. So, is doing more of what's not making us happy ever going to make us happy, or will it just make us even unhappier?

These study results provide a backdrop on the need for change, and some of the reasons we must build a truly systemic framework that can support an agenda for truly systemic change.

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With the understanding we now have from the social sciences about how we can be manipulated against our best interests, a greater understanding of the principles of living systems and a realization that the status quo of domination and growth is neither a given nor immutable, we can begin writing, refining and living a new story.

As I mentioned in the prologue, in a book that is ultimately about sustainability, as a systems scientist I couldn't just lay out a linear process, address only a few limited aspects of a sustainable community, or bring myself to insist which crisis was the most important to start on. Initially I tried to boil the complexity down to three issues in three realms I hear repeatedly mentioned that support the overall goal of a sustainable future. This was to try to keep with the Triumvirate theme as a rhetorical device more than for a logically defensible reason. But as I researched, wrote, and connected dots, the Triumvirate Matrix just kept growing (see Appendix A).

Most of the steps I provide include sub-steps, many of which can also be addressed within or affect other steps. After all, a systemic set of interlocking crises requires a systemic response and alternative. Don't let yourself get hung up on clinging to the rigidity of a structure or step-by-step procedure. What I'm presenting is a framework. Creating a sustainable future within that framework must be a fluid, dynamic process. It must also be fulfilling and enjoyable.

A conclusion that I couldn't escape was that the alternative to the dominator paradigm's Industrial Growth Society must be both its antithesis and antidote. Our alternative must be based on and start with a broad agreement on a set of fundamental shared values and a fairly well defined and articulated common goal that meets people's needs, presents desired opportunities, and provides benefits. It must also work with the creative, nurturing, compassionate, cooperative

aspects of life that act in a self-organizing manner to build and sustain mutually beneficial networks of relationships.

A challenge for us is to become more skilled at recognizing when proposals and suggested actions are just feel-good measures that do little to effect change, are only temporary, or address only symptoms and not causes—thus allowing the status quo to escape unscathed or with only minimal damage. We can meet this challenge by applying a systems view—connecting the dots so that we can develop a response that is as cohesive as it is comprehensive.

When I initially assessed our current converging crises through a systemic lens, here is what emerged as steps needed to leave destructive dominator hierarchies and Industrialism behind and move toward a life-sustaining future. I include them here because they provide a minimal alternative path and foundation.

Top three things to address within the political realm:

1. Abolish corporate personhood
2. Reverse the privatization of the commons
3. Base our system of governance on an Earth jurisprudence

Doing these three things will contribute to ending war, creating a culture of peace, and building a sustainable future.

Top three things to address within the social realm:

1. Rebuild mutually supportive communities
2. Replace materialistic standard of living—a crass and unfulfilling addictive substitute—with quality of life
3. Realize the devastating cost of infinite growth and replace with prosperous relocalized economies based on steady-state economic principles

Doing these three things will contribute to ending war, creating a culture of peace, and building a sustainable future.

Top three things to address within the personal realm:

1. Reconnect with Nature
2. Heal the mind/body/spirit split
3. Replace the myth of otherness with the reality of interconnectedness

Doing these three things will contribute to ending war, creating a culture of peace, and building a sustainable future.

All three of these three groups are intimately interconnected, interrelated, and inextricably intertwined. Any attempt to tease them apart will lead to less than satisfactory results.

So . . . where to begin such a daunting task?

Actually, all of the above suggestions for change can be addressed by embracing the full definition of sustainability and by a common understanding that a sustainable future can be obtained through the processes of relocalization and reconnection in accordance with Natural Systems Principles. The details of this assertion comprise the remainder of this roadmap.

A major aspect of the project to create a sustainable future based on ecological wisdom and social justice is the awareness-raising aspect of connecting the dots. This includes understanding the unsustainability of a growth economy; the adverse personal and environmental health effects of meddling with nature such as those seen with monocropping, flood control, modifying weather, and genetic manipulation; the inability of individuals to reach their potential within dominator control hierarchies that limit choices; the need to develop the full self—body, mind, and spirit—in order to balance and inform rationality with emotions and intuitions and realize how they affect, influence, and inform each other to help ensure that each aspect can fully develop and support the whole.

The basic framework, process and methodologies for creating systemic change, which will be detailed in the following chapters, can be summarized thusly: use of natural systems principles to connect the dots among the root causes of systemic crises; understanding of how and why the current system is decreasing quality of life; motivating the desire for a viable sustainable alternative to the status quo and a process for reaching this goal that people can participate in without it being coerced; to speak the truth on the issues of overpopulation, capitalism, corporatism, and the reality that infinite growth in material possessions, waste generation, and energy consumption is unsustainable—and wholly unnecessary; to agree on a set of common values; to clearly define the terms of the project—sustainability, carrying capacity, steady-state economics, pressure-state-response indicators, precautionary principle, Earth jurisprudence, and relocalization; to determine how these concepts are to be used to evaluate and analyze policy and decisions; and to demonstrate progress toward a commonly held goal of a sustainable future.

The above, then, provides the framework for achieving the mission of the following vision statement, which anyone or organization is welcome to adopt as

their own: To create a truly sustainable world based on ecological integrity, social justice, economic equity, and participatory democracy.

There are a number of ways people can come into this work that support and further the overall goal. My favorite is the form of applied ecopsychology developed by Michael Cohen with his Natural Systems Thinking Process, but there are other forms of wilderness therapy and connecting to nature such as the Coyote Mentoring of Jon Young. Roy Madron and John Jopling's Gaian Democracies can be applied, and these can all draw on the growing acceptance of the philosophies and activities of bioregionalism, permaculture, and intentional communities. I'm sure that you can think of a few others that you're attracted to. A process that includes major aspects of all of the above, even if it doesn't explicitly use the unique terms of each, is the concept of relocalization that largely emerged from the Peak Oil movement. I'll be concentrating on this in the solutions section.

• • •

This "handbasket reversal" endeavor is grounded in looking at underlying causes instead of focusing on symptoms. For example, our goal is not to merely cut military spending, but to replace the Imperial theft of other people's resources because our own profligate ways have destroyed and/or used up our own resource base. This in and of itself would go a long way toward ending terrorism.

We can neither create nor sustain a whole-system transformation by simply applying isolated principles and practices within the framework of the status quo. To me this means, as a starting point for social activism—for what the 99% stand for—that we must become advocates for lifestyle and policy changes based on an Earth jurisprudence that reflects who we are and who we want to become as members of a healthy, interconnected web of life that increases opportunities for all to reach their potential. To paraphrase Buckminster Fuller, don't fight the old, create the new and make the old obsolete.

Much of our work as activists is an educational and awareness-raising effort. Just overcoming propaganda and misinformation from a paradigm whose primary imperative is to preserve and enhance itself is a full time job.

But this education must be more than sermons to the choir. To be effective, the changes must be pervasive.

For example, those of you active in the education sector must begin advocating teaching systems science, critical analysis and thinking skills, history from other than the conquerors viewpoint, and the necessity of a healthy connection to the natural world—which also means to each other and to our communities.

Curriculum must also include courses that teach about the network of relationships that comprise our life support system, not to mention the fact that it is indeed a life support system, not a resource base of objects to serve our pleasures and a bottomless pit to hold our discards and waste.

Mental health professionals have an equal responsibility to advocate and support systemic change instead of making us try to feel sane about living in an insane world. Professionals in all other sectors of a sustainable community have similar sector specific responsibilities. A sample list of these sectors are part of Barbara Marx Hubbard's SYNCON model, and is included in Chapter 13.

The following concepts, tools, and actions are not the only possibilities, but they are a starting point. There are also much longer and more detailed explanations of how and why they each work available from their originators, so I strongly suggest you avail yourselves of these resources for additional depth on any of the individual tools you're attracted to and wish to deploy as you build them into your activism and change efforts.

One of my goals for this roadmap is to help you become aware that there is a framework to support change, and that tools are available to support that framework. However, any additional tools you may want to add to the mix must be first evaluated for congruency with the overall framework. Do they contribute to a systemic response and alternative to empire, domination and exploitation, are they non-hierarchical, and do they support the web of life?

Also, none of these tools, regardless of how powerful they may be within their respective realms, are sufficient in and of themselves to bring about the necessary change we're all seeking. Some of their developers may try to insist they are the only thing you need to bring a utopian peace on Earth and cause an evolutionary shift in consciousness to a higher plane or some other wildly improbable claim, but don't allow your critical thinking skills to be tossed out the window in a moment of infatuation. All tools and actions must be able to be easily woven into the matrix of change—the response to systemic crises—and shown how they support, and how they accept support from all the other practices as they each deal with unique aspects of the network of relationships that make up the alternative to our current untenable situation. They all have an important role to play, but this is a complex system we're dealing with here. Rugged individualism is as bad here as it is in personal development.

Just as importantly, additional tools and processes must also be analyzed as to how they work to support and maintain the sustainable alternative long-term so we're not always in crisis response mode, but can shift our energies to focus on future progress and development.

Another aspect of the individual tools presented here is that very few of them have ever seriously analyzed the larger system in a deep systemic manner and often are presented as a way to reform the dominant system a little bit, to make it a little less reprehensible, or to minimize the damage. Which they can do. But they are even more powerful when seen as integral aspects of broader systemic change. Together, the individual tools create a network of mutually supportive relationships that support the whole in the same manner in which the underlying principles of life function.

The natural systems based systemic framework presented here for coalition building toward a sustainable future provides this analysis and a weaving of the larger change network into a cohesive and comprehensive whole. Any other proposed set of tools must address the same panoply of issues and provide as wide-ranging a set of options to be effective in the systemic change necessary to protect life on Earth—and if we're really lucky, maybe even the life supportive aspects of what we call civilization.

6
SYSTEMS SCIENCE

> "There is a constant and intimate contact among the things that coexist and co-evolve in the universe—a sharing of bonds and messages that makes reality into a stupendous network of interaction and communication."
>
> ERVIN LASZLO

This first section is a quick overview of systems science, and is mainly taken from Ervin Laszlo's 1972 *A Systems View of the World*. These core concepts supply a scientific foundation and validation for attraction relationships, reconnecting with nature, and their efficacy. For an expanded and updated version of the basic concepts, I highly recommend Laszlo's 1996 *The Whispering Pond* and Fritjof Capra's 1996 *Web of Life*, and I'll be weaving pieces of those in as well throughout the rest of the chapter.

A Nonlinear Paradigm Shift

Systems science presents a shift in paradigm for Western science. No longer linear, mechanistic, and best understood by breaking things down into their constituent parts, it is becoming accepted that the universe and life itself are best understood as non-linear, dynamic, holistic, and through the relationships or networks that develop. Life is seen as complex and highly integrative, and the fields of study that have grown up around these concepts reflect this—complexity and chaos theory, non-linear dynamics, and the terms they use such as dissipative structures, self-organization, fractal self-similarity, and attractors. The new view of life is a solidly ecological view.

Systems are relationships of organized complexity, whether these systems are atoms, people, societies, or galaxies. Some systems last, such as a stable atom or the biosphere. Some systems are relatively fleeting, such as a mayfly or a picket line.

Yet, while they exist, each system has a specific structure made up of certain maintained relationships among its parts, and manifests irreducible characteristics of its own. This is expressed in the common phrase, the whole is greater than the sum of its parts. This concept is foundational to gestalt psychology, for example, where the properties of the whole cannot be derived by simply adding its parts together.

A related and very important concept in systems thinking is that of emergent properties. These are properties that exist at higher levels of complexity that do not exist at lower levels. For example, sweetness does not exist at the level of carbon, hydrogen and oxygen atoms, but it does when they combine to create sugar.

Other phrases that get applied to help fully understand any organism is to look at it as a nexus of causal pathways, or as a zone of interaction. The bottom line for us is that it is our relationships that define not only who we are, but how healthy and happy we are.

It also becomes impossible to say which of our relationships is the most important, or which one or two of them are the strongest or dominant—except in one case. Because an organism is a multitude of weakly determining forces that work in concert, pathology or sickness is the result when one of those forces takes control. This is also the outcome when one of our senses overrules the others, and it also explains the core functioning of hierarchies.

Finding meaning and gaining understanding is based in relationships and situations, not the individual atomistic facts and events which are the basis of Baconian science.

Modern science has been empirical instead of speculative, it is atomistic in its concentration on individual parts, and as Laszlo says, "sacrifices coherence at the altar of facticity." In the language of the philosophy of science, scientific reductionism woefully underdetermines understanding. This is one reason that so many of our scientific "advances" are now threatening life itself.

Scientific reductionism focuses on looking for the commonality underlying diversity in shared components, whereas the expanded and more inclusive view of the methods and schools of thought built on systems science seek common features in shared aspects of organization. As we'll see, this difference has profound ramifications in the development of systemic change from an ecological perspective.

There are three major categories of natural systems that can be used to guide inquiry into the who and what of what we are and the environment we exist within. While they are listed separately, the relationships among them are foundational to life and its organization, and thus to its expression.

Suborganic—This is the realm of the physical sciences. A hydrogen atom can't be reduced to an electron, proton, and neutron (or even quarks, strangeness and charm) and then be recombined in an arbitrary manner, as the chances are rather good that it won't be a hydrogen atom. It is the relationships and forces—the parts plus the attractions, such as the nuclear and electromagnetic forces within the structure—that define a hydrogen atom.

Organic—This is the realm of the life sciences. An important realization here is that all organisms are constituted of the same basic components or building blocks—cells, molecules, and atoms. The difference between Caesar and a chimp is not a difference primarily of substance but of kind; the difference is in their relational structuring. We humans do, after all, share approximately 85% of our DNA with a banana. Personality, the "me," is also not reducible to a single sense. Whether we want to admit to a subconscious, we must admit that we do not have the capacity to love independently of the capacity to reason, to will, and to worry.

Supraorganic—This is the realm of the social sciences. Perhaps the most important emergent concept here from the previous two is that what makes a group is not the members, but the mutual relations among the members.

It must also be understood that all of these interactions and relationships are forms of communication, which is the basis of mutually supportive attraction relationships. Not only is the universe a whole or unity, but its parts are in constant contact with each other. I'll develop this concept more fully in the chapters on natural systems and Rational Spirituality. To quote Laszlo again, "In the absence of interconnectedness, nothing more interesting could come about in the physical universe than hydrogen and helium."

There are a number of other important concepts that emerge from the field of systems science that have direct bearing on the power that can come from having an ecological, or natural systems, basis for social change.

The manner in which we view reality today still has its basis in ancient Greek philosophy. The world was thought to have emerged from chaos according to some type of ordering principle. The principle for Plato was intelligence, for Aristotle it was nature. As it turns out, it's a little bit of both, or, more accurately, these are merely two perspectives on the same ordering principle.

At any rate, as chronicled by Laszlo in *The Whispering Pond*, as quantum physics replaced Newtonian physics in the early 20th Century the perspective on reality had shifted enough for Sir James Jeans to say, "The universe appears to be nearer to a great thought than a great machine," and for Arthur Eddington to speculate that "the stuff of the world is mind-stuff."

Which is all philosophically interesting, but how does this relate to life as we actually experience it? Life appears to have emerged from the primordial chemical soup of early Earth due to the self-organizing principles of open systems in far from equilibrium environments. Open systems are those that are open to the constant flow of matter and energy. Their environment is far from the inert state of chemical and thermal equilibrium called for by classical thermodynamics in closed systems.

The energy from the sun combined with the base elements of Earth—hydrogen, helium, carbon, oxygen, nitrogen—about 3.5 billion years ago to form increasingly complex chemical compounds, which continued evolving higher orders of complexity into non-nucleated cells with enzymes 2.3 billion years ago. From the algae and bacteria came invertebrates, and most Junior High science students know the rest of the story. The web of life is a harmonized whole, which research scientist and environmentalist James Lovelock and microbiologist Lynn Margulis developed into the Gaia hypothesis of Earth as a self-regulating entity.

"You didn't come into this world. You came out of it, like a wave from the ocean. You are not a stranger here."

ALAN WATTS

The co-evolution of organisms, climate, and soil creates a complex network of feedback loops that link together living and non-living systems. Life does not inhabit a dead planet, but creates the environment to which it adapts. As Margulis says, "[T]he surface of the Earth, which we've always considered to be the environment of life, is really part of life. [T]he troposphere [is] produced and sustained by life." This has serious implications for hopes of creating ways to "adapt" to global warming.

It must also be stated that this co-evolutionary process is not teleological (purpose driven), but is an emergent property of self-regulating systems and their feedback loops. Lovelock has also shown that self-regulation stabilizes as the system's complexity increases. This has further negative implications for global warming and our possibility of adapting due to the increasing rate of biodiversity loss and the tendency of industrial agriculture toward monocropping. The Industrial Growth Society can't tolerate the diversity fundamental to life.

The co-evolutionary process underlying life has some profound ramifications for our daily interactions. We are not self-enclosed protein-filled bags of skin that ferociously compete for competitive advantage and survival—gene against gene, species against species. Rather, living organisms exist as nodes in

a network of relationships that are intimately and constantly connected. These relationships extend from the DNA sequence to the biosphere—and beyond.

We are no more isolated from each other than from the living planet. Laszlo states that information is conveyed "on the dynamic structure of our physiology to every cell in our body, and from the dynamic processes that mold the environment to the genetic code within our cells." This information exchange also connects us with "the social and ecological systems in which we live."

This basic concept of interconnectedness is new in modern science. An important quality of this concept is that it is not passive, but active in a manner that can be best understood as nurturing. The self-organizing tendency of organisms to create relationships of mutual support is an underlying quality of the life process that creates more life in ever expanding levels of complexity.

Our mind is "open" to the universe and to each other. We have forgotten this fact because modern science cannot measure it and so insists that it doesn't exist, and because it doesn't normally impinge on our waking consciousness. But we are one with nature. In the words attributed to Chief Seattle by Ted Perry, "All things are connected like the blood which unites one family." What we do to Earth we do to ourselves. This is why, in order to end the horrors of war, we must end our war against nature.

Interconnectedness stands in clear contrast to the isolation—indeed the alienation—that is experienced by so many people today. We excessively focus on our differences instead of our commonalities and believe we are separate from each other and at odds with a nature that is out to do us harm if we don't subjugate her first. As Einstein said, though, we are part of the whole, but we experience our "thoughts and feelings as something separate from the rest—a kind of optical delusion of [our] consciousness. This delusion is a kind of prison for us."

William James, the father of modern psychology, believed that our waking consciousness is only one type of consciousness, and with the proper stimulus we can experience these other forms. Commonly referred to today as altered states, many other cultures know how to apply the proper stimulus—a short list of which include praying, chanting, fasting, and psychoactive plants. The !Kung Bushmen can enter numerous altered states at the same time, and these states are an integral part of shamanic procedures and other ancient healing practices, Zen Buddhism, Taoism, and Sufism—another very short list. Prior to Industrialism, these states were highly regarded globally for the experience itself, the healing powers, and the contact and communication with the other.

We sometimes refer to the practice of reconnecting with nature used in applied ecopsychology as "other ways of knowing." Each of the dozens of senses

we share with the natural world are attraction relationships that communicate information about when we have maximum support in the moment for health and well-being. My approach is that these other ways of knowing are not so much altered states as they are states that we don't normally bring to our screen of consciousness, for numerous reasons both personal and cultural. I'll expand on this in Chapters Eight and Nine.

Laszlo further chronicles that an important aspect of these states, as researcher Charles Tart notes, is that they make our interconnections more evident. Dream researcher Montague Ullman says that while we may live as individuals, our dreams reconnect us and help us live harmoniously. Ullman's dream theories of connection and wholeness contrast with Freudian dreams of psychic entities warring with one another. After working with patient experiences in altered states, psychiatrist Stanislav Grof concludes it is possible to connect, identify with, and get information from almost anything in the universe—including the whole of the universe. This is the state sometimes called Absolute Unity Being that yogis and other religious mystics spend their entire lives searching for. I'll go into this in a bit more detail in Chapter Nine.

A Systems View of Life

The actual process underlying the systems view of life is laid out by Fritjof Capra in both The Web of Life and The Hidden Connections, and in the latter especially, what it means for our modes of social organization toward the possibility of creating a sustainable future. In The Web of Life he starts with a framework this fits within, that of Deep Ecology from Norwegian philosopher Arne Naess. Deep ecology is a holistic worldview that recognizes the interconnected and interdependent nature of all phenomena as embedded within the cyclical processes of nature.

Congruent with systems science, deep ecology sees the world not as isolated objects but as a network of phenomena that all have intrinsic value—with "humans as just one particular strand in the web of life." This view also leads to the conclusion that deep ecological awareness is indistinguishable from spiritual awareness. If the human spirit is understood as the experienced sense of belonging or connection to the greater world, "it becomes clear that ecological awareness is spiritual in its deepest essence."

The shift from mechanistic science to systems science—this fundamental shift in paradigms—also requires a shift in our values, especially how we regard power. "Power over" in a dominator paradigm requires hierarchy. Capra makes

the point that integrative power, however, is best expressed in networks—which are a central metaphor for ecology. Thus, the necessary paradigm shift in social organization is from hierarchy to networks.

As for how life as a network came to be, and this is going to be very short on details except for those directly relevant to the current agenda of systemic social change, in The Hidden Connections Capra begins by asking, "What are the defining characteristics of living systems?" in order to build a systemic model of how life and consciousness evolved.

The simplest living system is a bacterial cell with a single closed loop of DNA. It has metabolic processes (chemical reactions) involving two basic macromolecules—proteins (DNA) and nucleic acids (RNA)—that are catalyzed by enzymes specified by genes. This provides a great deal of stability. RNA delivers information from the DNA—which is responsible for the cell's self-replication—for the synthesis of enzymes. This is the link between a cell's metabolic and genetic features.

The cellular structures themselves are not enough to define life, though. We also need the metabolic processes which are the patterns of relationships among the structures. Also necessary is the cell's boundary, or membrane, which demarks the cell and keeps it from diffusing into its environment. The membrane also allows the proper matter and energy into the cell, and pumps out calcium waste.

The cellular structures, metabolic processes, and the cell membrane combine to form a chemical network. Life produces, repairs, and perpetuates itself through chemical and energy flows. Living systems exhibit self-generation as they transform and replace their components. Structural changes are continuous while the network pattern of organization is maintained.

One inescapable conclusion of the systems view of life is that "the network is a pattern that is common to all life. Wherever we see life, we see networks." Another inescapable conclusion is that these networks are cooperative in the continuation of life and its increasing orders of complexity.

The above concepts combine to express the dynamic of self-generation and form a key characteristic of life that biologists Humberto Maturana and Francisco Varela named autopoiesis—self-making. The definition of living systems as autopoietic networks "means that the phenomenon of life has to be understood as a property of the system as a whole." No single structure or process is responsible for life—it is a property of the dynamics of metabolic networks.

This is not the only network within a cell, however. The DNA molecules themselves are an interconnected web rich in feedback loops. Another major network is the production of macromolecules from metabolites which includes

but extends beyond the genes, so is called the epigenetic network. Together they form the autopoietic cellular network, and bring about another conclusion—biological forms and functions are emergent properties of the entire epigenetic network and not the result of a mere genetic blueprint. Further, the forms and functions are not merely biochemistry, but the result of a complex dynamic, or network of relationships, of the epigenetic network interacting with its environment.

This view runs counter to the view of genetic determinism held by today's biotechnology companies, and helps explain why GMOs don't work as advertised. Cells don't just pass on their DNA, but the entire cellular network. Genes can't even function without the autopoietic network they are embedded within, and this basic pattern of self-generating networks has been functioning uninterrupted for over three billion years.

It should also come as no surprise that there's more to it than this. In addition to the pattern, or organization, of self-generating autopoietic networks, there is the process of their emergence that functions on their structural level.

Cells and all living organisms exist in far from equilibrium environments. Even while organizationally closed, they are open to a constant flow of matter and energy to restore structures as they decay. The term Nobel-winning theoretical chemist Ilya Prigogine chose to describe this is dissipative structures. A characteristic of these structures is the possibility of new forms of order that spontaneously emerge from bifurcation points (of which ecological tipping points are one—usually negative—kind), which are instabilities, disturbances, or thresholds that come from or are imposed by the environment. This change in direction for a system may or may not be beneficial, but bifurcations are responsible for the creation of novelty in the overall process of evolution. Referred to as emergence, this is the concept of self-organization, and can be added to self-generation in the defining characteristics of life.

On the matter of evolution, there are three major ways that it can occur. The first and least important is random genetic mutation. Chance errors in replication can and do occur, but only a few of these support life and are compatible with the organism's environment. Only at the scale of bacteria does this appear effective.

Gene trading, known as DNA recombination, is the second path available to evolution, and it is much more effective than random mutation. This exchange of genes takes place in the global bacterial network, with some bacteria changing up to 15% of their genetic material on a daily basis. Lynn Margulis says this is like "jump[ing] into a pool with brown eyes and com[ing] out with blue eyes." This accounts for the rapid spread of drug resistance in bacteria.

Margulis also discovered the third path of evolution, and the one most important for all higher life forms. This is symbiosis, where organisms live in close proximity, or even within, one another. Organisms incorporate bacteria and parts of their genomes to create new structures and functions. They maintain their organizational network pattern, but as dissipative structures, they can jump to higher levels of complexity.

In the overall evolutionary process, this is not a smooth or gradual occurrence, but is marked by sudden transitions. This is sometimes known as saltation, or the leaps and bounds view of evolution, and the mechanism is very different from the neo-Darwinist view of random mutations.

Capra then takes this systems framework of the physical, chemical, and biological basis for life and applies it to the emergence of mind and consciousness. The systems view replaces the Cartesian perspective of mind as thing, and presents mind and consciousness as processes. The concept of mind as mental process was developed by Gregory Bateson in the 1960s, and also by Humberto Maturana who looked at the process of knowing, or cognition. Francisco Verela worked with Maturana to develop this into the Santiago Theory of Cognition.

The Santiago Theory ties the process of knowing with the process of life. The activity of self-generation and self-perpetuation in living networks is cognition. The organizing activity of living systems, the interactions they have with their environment, are cognitive interactions or mental activity which "is immanent in matter at all levels of life."

Cognition is closely linked to autopoiesis, which states that living organisms are structurally coupled to their environment, which triggers changes. However, living systems display autonomy in that they choose which triggers to be disturbed by, and the environment does not specify or direct these changes.

These changes do, however, affect future behavior, and thus "a structurally coupled system is a learning system." This is a key characteristic in the behavior of living systems as they adapt, learn and develop. Thus all living systems have a history of previous development.

In the Santiago Theory, cognition exists at all levels of life and doesn't necessarily require a brain or nervous system. Consciousness, on the other hand, is a special kind of cognition that emerges with higher orders of complexity, and does require at least a brain and rudimentary nervous system.

This again harkens back to William James, who realized the mind and body were interdependent, and investigated the integrated but ever-changing nature of our stream of consciousness. When James conceptualized Conscious Mental Life,

some of its seven essential features were consciousness itself, personal change, personal continuity, and selectivity. James presaged systems science with his view of naturalism, which was the holistic view of organisms interacting with their environment and other organisms.

In a paper written by Allison in 2000 describing a reconnecting activity whose theme was What is Consciousness? the message she received from nature was that consciousness exists in the attraction relationships that form matter and life. Just as the bird is attracted to the blackberry for sustenance, the blackberry is attracted to the bird for seed dispersal. This seems to have similarities with cosmologist Roger Penrose when he says that consciousness is a quantum phenomenon. The conclusion I draw from this is that consciousness is an expression of the subtle field. (See Chapter 9.)

While consciousness experts argue over the how and why, as Capra says, the important point is that in order to understand biological phenomena, the complex nonlinear dynamics of living networks must be taken into consideration. Consciousness cannot be reduced to mere neurological mechanisms, but must be seen as "an expression of life."

Another concept, whose importance will be seen later, is that language evolved from gesture and evolved with consciousness, and thus thought is embodied in the body and brain.

Along similar lines of embodiment is the concept of spirituality. The roots of life reach deep into Earth, and spiritual experience or being is often explained as profound experiences and awareness of this reality. Capra mentions Benedictine monk and psychologist David Steindl-Rast describing these experiences as "moments of heightened aliveness." Similarly, Abraham Maslow's concept of peak experience is an aliveness involving both body and mind. Buddhists refer to this as mindfulness which is deeply rooted in the body. Capra concludes that "spirituality is always embodied." Spirit is experienced, according to Brother David, as "the fullness of mind and body."

Unbeknownst to us at the time, these are the basic concepts Allison and I were developing with the integration of body and mind in Rational Spirituality (more on this in Chapter 9). This integration is an integral aspect of the unity experience, which overcomes the mind-body split of Cartesian dualism as well as the traditional body-world split of Western religious transcendence. The unity experience is the expression of our sense of belonging to something larger than the self or ego, and is as necessary as any of our other 52 senses for health, well-being and the actualization of potential.

A Systems View of Society

When we take these core aspects of living systems and apply them to social phenomena, we find the replication of the network pattern—of the self-organization of mutually supportive relationships. Today, we also find a dominant cultural story, or paradigm, that is very clearly at odds with living systems.

The application of systems science to the social realm, especially with the synthesis used by Capra, leaves us firmly grounded in the natural world. This is the main reason I'm so attracted to this perspective in particular, and to systems science in general. It displays purposive efficacy in our understanding of who we are and how we got here. All biological phenomenon, or living systems, have inextricable aspects of 1) form, which is the self-generating pattern of organization in the relationships among components which define necessary characteristics of the system, 2) matter, which is the material embodiment of the pattern expressed as a dissipative structure, and 3) process, which is the ongoing cognitive process of this embodiment.

It is also essential to realize that patterns and processes are not emergent properties of matter, but are non-material generative forces. The cognitive processes that create structural changes and give rise to the experience of reflective consciousness are shaped by the body, but are a property of the relationships among chemical processes and their material attributes.

Self-awareness, or reflective consciousness, arose with language and conceptual thought and is foundational to social patterns and culture. The human ability to create mental images of objects and events allows choice among alternatives, which is the basis of values and behavioral rules. Our values determine our goals, and our intentions in the design of strategies to reach them is a "projection of mental images into the future."

Language involves the communication of meaning, and action is dependent on meaning. Thus, meaning must be integrated as a fourth core aspect to the necessary conditions that define living systems to fully understand the social realm of human interactions, as well then to how we can create systemic change.

Social theory since the late 1800s has been roughly based on the argument over whether social phenomena are purely objective results of physics and biology, or whether social "laws" are based in subjective beliefs and practices that function to fulfill social needs. Both of these general frameworks, however, are explicitly deterministic and focus on linear chains of cause and effect taken to be true for all times in all contexts. There have been attempts to integrate these

perspectives, but they tend to be overly convoluted, a logical outcome of a basis in duality or opposition instead of unity and cooperation.

The full systems perspective of living systems applied to the social realm provides a framework for understanding the interplay of the environment, human relationships, and meaning in the development of culture and organizational systems congruent with these principles, such as the 8-Shields process framework (Chapter 13) for non-hierarchical organizational structure and planning. This is where the power of story merges with nonlinear biological networks, the cyclic processes of nature, feedback loops, and emergent qualities.

There is a difference of opinion within systems science as to whether social systems can be considered "alive." This appears to be tied up with the longstanding debate over intention and purpose, which are integral to meaning, but bring teleology into the picture. Maturana and Varela thought autopoiesis should be restricted to cellular networks. Sociologist Niklas Luhmann extended autopoiesis to the social realm but takes the stance that social systems are not living systems. Capra postulates that since social systems are cognitive systems they are alive, but to varying degrees.

The distinction becomes important, for example, in discussions over whether the corporate form is alive. This is intimately related to the assignment of rights and freedoms, which are necessary in the development of an Earth jurisprudence as well as foundational to ethics and morality. My perspective is that there is a subtle difference between a living being or organism and a living system. While Earth is a living system, and foundational for everything else that is alive, it is not itself alive in the human sense. This is not to say that at some future point our understanding won't develop to the point where we can unequivocally state that Earth is alive. However, I don't think the evidence at our disposal today can fully support our saying so, and it is not critical to the discussion at hand.

Be that as it may, it remains apparent that social systems are embodied in the defining characteristics of life, share the underlying principles, and add the emergent concept of meaning to systems of social organization and human relationships. To remain consistent with Capra's formulation I will use the term living system and make the distinction with living organism when the context requires it. This is also important in discussions over who rules—humans as living organisms, or their tools which may or may not be living systems. In this perspective, culture is a living system in much the same manner as Earth is. "It's alive!" is a term most often best left for science fiction horror films.

In an examination of social systems, we see that a major aspect of the generation and maintenance of the system are networks of communication. The

feedback loops in these networks create shared systems of beliefs and values which provide a common context for meaning. This common context is drawn from for identity and membership in the social network, and this self-generates the network boundary. This is a "boundary of expectations," not a physical boundary like a cell membrane, which the network itself continuously maintains and renegotiates, and thus functions in a similar manner.

Culture, or social systems, are embodied in the processes of life. The metabolic processes of society create structures from the throughput of matter and energy that are imbued with meaning. Meaning derives from context and values—our relationships with each other and our environment—and can range from purely rational to purely emotional. Meaning also grounds intention.

Which brings us to another age-old debate over whether humans are free to act, or to what extent we experience freedom; are our behaviors strictly determined by genes and social laws and therefore immutable?

The behaviors of self-organizing living organisms are constrained by the environment, but they are determined by their own structure and the disturbances they choose to notice. Capra points out that it is necessary to understand the difference between autonomy and independence. Organisms are not isolated, but their organization and behavior is not determined. This self-determination is experienced by humans as freedom. Human nature is a broad combination of experience and heritage, and as long as it isn't artificially limited by the coercive power of control hierarchies, it is free to make choices. Although, whether those choices can be realized is sometimes determined by the laws of physics and/or the autonomy and cooperation of other living systems.

Humans, as conscious mental agents, have the innate ability to create goals and plan for the future—to choose among alternatives. What people mean when they say humans aren't good at planning—often without realizing it—is that we're not good at practicing it except in very limited domains that don't threaten existing power hierarchies, such as whether to work overtime to buy a larger wide-screen TV, or which huckster we should invest our retirement plan with or vote for every few years.

The anthropological definition of culture is an integrated system of acquired, acceptable behavior patterns and technology within a society that is communicated through generations. The social network structure generates a body of knowledge that both modifies and maintains this system. Values and beliefs consistent with this body of knowledge put constraints on behaviors, but also provide the basis for membership through identity creation and a sense of belonging. It is also possible for an individual to belong to more than one culture just as they

can belong to multiple social organizations. How many and the depth of identity or belonging is an individual dynamic that expresses along the natural diversity continuum.

A Systems View of Power

The means by which behavior patterns are passed on is commonly seen as a function of power—both power over and power with. John Kenneth Galbraith postulates that "the submission of some to the will of others is inevitable." Capra states that the very freedom to make personal preferences will inevitably create conflicts of interest.

I must respectfully disagree, but with an important point of clarification. Even the clearest of thinkers can make the mistake of assuming today's social and personal relationships, which have developed within a dominator paradigm and disconnection from all that is natural, are natural or reflect natural behaviors. As we'll see in Part Three, especially with the 8-Shields process framework, this is not our predetermined fate—because there are actually viable alternatives for our social and organizational networks. As I'll point out in Chapter 8, there is a difference between innate aspects of human nature and perfectly natural reactions to untenable situations.

Conflict resolution, of course, is and will remain an extremely valuable and necessary skill, although the time spent on it could dramatically decrease. People such as former ambassador John McDonald, founder of the United Nations Environment Programme (UNEP), have built productive careers performing this socially constructive service through his Institute for Multi-Track Diplomacy. These skills will play an important integral part in our transition to a sustainable future.

We must, however, examine what power is and how it is used within society today. Galbraith says there are three kinds of power, the differences among them being how they are deployed. There is coercive power that works through submission; compensatory power that works through incentives; and conditioned power that works through persuasion.

Power relationships are fundamentally the assignment and agreement of authority. A community can operate more effectively if there is a basis for decision-making and resolving conflicts. As Capra points out, authority originally meant having "a firm basis for knowing and acting." He uses the examples of an authoritative text being used when we need to know something, or seeking a doctor who is an authority in his field when we're sick. When a community decision

is needed, we must know when we have the authority to act, and traditionally this power has been vested in men and women whose wisdom and experience is recognized and respected. "True authority consists in empowering others to act."

A problem arises when that power is vested or passed on to someone without the wisdom or recognized authority, and the throne or other symbol of vestment itself becomes the only source of power. This all too easily leads to advancing self-interests—of either the crown itself or those behind it—which becomes a foundation for exploitation to impose dogma to maintain power—whether religious or economic. Power for its own sake is also addictive, especially in the absence of natural means of fulfillment. These substitutes run the gamut from rituals of obeisance afforded dictators and popes to the ritual of being handed the key to the corporate washroom.

But these are substitutes bestowed upon the worthy as needed—and because these substitutes are fulfilling unmet needs, they often result in abusive self-interest. I therefore disagree with Galbraith's conclusion that "individuals and groups seek power to advance their own interests" as if this is immutable. However, I feel that it is important to acknowledge this too common form of "disconnected" power because it can too easily become reality if it is not guarded against. Because of the danger inherent in the lust for power, I fully agree with Capra that institutions of authority are a necessary aspect of complex societies. They were first developed by early partnership societies. Thus, the manner in which these institutions are created, and the paradigm they emerge from, is of the utmost importance to a sustainable future.

In our work to shift paradigms, it is vital that we refine our understanding of and relationship with power. As democracy activist Paul Cienfuegos says, we the people are more powerful than we dare to believe. Power is not a four letter word—power is what we require to produce the changes we want in our communities. Approached from this perspective, power is not the problem. What's really bad is powerlessness and especially our self-imposed perception of powerlessness.

Power isn't solely the ability to manipulate, exploit and destroy. Power only seems bad when we're convinced that we have none. "Power over" is the direction of dominator hierarchies. "Power with" is the direction of mutually supportive relationships; of linkages and networks; of cooperative partnerships that work with the creative direction of life itself. This latter kind of power is resonant with who we really are when freed from the shackles of dominator hierarchies.

Since we the people provide the legitimacy for the basis of actual authority, for ruling elites and narrow special interests, we the people have the power to withdraw that legitimacy. What this means on the ground is that a government

of the people and by the people requires active participation, especially if our government is going to be for the people and not for the tools of the people such as corporations and financial systems.

A few years back a friend sent me the introduction to Susan Rosenthal's *Power and Powerlessness* shortly after it was released electronically to solicit my opinion—which, as you can probably guess by now, I just love to give. My favorite bit was her statement that we must understand that socialism is about building relationships. Her analysis of the problems caused by today's expression of power in the personal and social spheres I agree with. The partnership aspect of mutual support and reciprocity was indeed overthrown at an early point in recorded human history.

But Rosenthal posits a major premise that I disagree with. She states that power isn't the problem; unequal access to it is. I believe this is a dangerous framing of our social reality today. Rather, it is a certain kind of power—power over—that is the problem, and unequal access to this kind is integral to the problem itself. Worse, the concept of unequal access maintains the assumption that power hierarchies are natural and immutable. Social power, with the coercive meaning that we're going to take it by force if it's not granted by choice, is not necessary for human health, and leads in the opposite direction of sustainability. A system based in justice and equity, a respect for the intrinsic value of all life, will be more conducive to human health.

However, what is necessary for human health is much more nuanced than mere power struggles. We have a deep longing for our sense of community to be fulfilled. We want to be responsibly contributing members of our community. We want to satisfy our senses of acceptance and belonging. And at our core, we want to be able to do what all living organisms do: create mutually supportive relationships that support the web of life in a manner that is creative, compassionate, cooperative, and nurturing. If we have respect and opportunities to develop our potential, there is no need for power as it is expressed today. Or perhaps this is our power. But then the concept of power within society becomes meaningless, at least from today's understanding of its use, and the continuous struggle for it can be seen as a natural reaction to unmet needs.

Otherwise, I agree with the rest of Rosenthal's basic premise. A partnership society is possible, and it is within our means to create it. Capitalism and Western civilization's addiction to the Industrial Growth Society are major detriments to creating a sustainable future based on ecological wisdom and social justice.

Of course it's not just the overdeveloped West facing these power issues, but the developing world as well. In *Field Notes on Democracy: Listening to Grasshoppers*,

Arundhati Roy uses the example of the Hindu right. In India the state has abrogated its responsibility for health, education and infrastructure to privatization. The right, in addition to its propaganda, are running schools, hospitals, and disaster management. They understand powerlessness. They understand people have humdrum day to day needs as well as emotional, spiritual, and recreational ones. But the ruling elite direct the anger, frustration, indignity—and dreams of a different future—towards a deadly purpose. Meanwhile, the mainstream left still dreams of seizing power, and is unwilling to face the times. It occupies an "inaccessible intellectual space" with ancient arguments presented in archaic language.

The free market paradigm, in India as elsewhere, badly needs the state, especially its protection against those it is disenfranchising. Corporate globalization requires corrupt authoritarian governments to push through unpopular reforms and quell uprisings. This is euphemistically known as creating a "good investment environment."

The only real resistance to the traditional left and right, who both fully support neoliberalism, are the grassroots who are fighting dispossession and the taking of rights that are imposed by the drive for economic growth. If the grassroots start building coalitions and become supported by critical mass, they will become a force to be reckoned with. To be successful, though, Roy points out that the battle must be idealistic, not dogmatically ideological. It's the same in America; this is a global struggle. We must find the courage to dream and reclaim the romance of justice and dignity for everyone. This is common cause. This is the foundation for sustainability.

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"When you understand interconnectedness, it makes you more afraid of hating than of dying."

ROBERT THURMAN

Increasing evidence from numerous scientific perspectives of our interconnectedness, and thus our interdependent nature, should give us a renewed sense of responsibility for our thoughts and actions. We know that our words can have more than subtle influences, but even the subtle ones can have effects we're not aware of. Matter, life and mind form a self-organizing network that is constantly connected and in constant communication. When we allow ourselves to become aware of this, we become aware of the oneness of nature and our integral role in its harmony.

Social systems are living systems whose nonlinear pattern or structure is self-organization through networks of communication. They have the ability to freely choose among alternatives, which can be intentionally designed. This means they need not be constrained to the distribution of power as the political process is today, which is necessarily hierarchical—someone has to give it to someone who doesn't have it somewhere below them on the linear organization chart.

In *The Whispering Pond*, Ervin Laszlo examines all this evidence and reaches the same conclusion that many of us in ecopsychology have. "Our separation from each other and from nature is at the root of many of our problems; overcoming them calls for a recovery of our neglected, but never entirely forgotten, bonds and connections." I tend to state this basic concept as, If the disease is disconnection, the cure is reconnection. This is the foundation for the remainder of this roadmap.

7
SUSTAINABILITY —WHAT, WHY AND HOW

A few of the necessary steps in the creation of the paradigm shift we're trying to enact, the NewStory we're trying to write, are to reach agreement on what our goal actually is, the values we share that this goal is based upon and can be realized through, and a way to determine or measure progress—or even be able to tell if we're on the right path.

As should be clear by now, I very firmly believe that sustainability provides a common goal that can be effectively used by more than just the environmental movement. Peace, justice, solidarity, and democracy advocates can use sustainability as the "big tent" that can support both effective coalitions for systemic change as well as providing a conducive environment for reaching their own goals. The concept is especially relevant to community development organizations and neighborhood groups. Sustainability provides a new way of being in the world. Well, actually a remembered way, but we'll get into more of those details later.

To become sustainable is to preserve life and the processes it is dependent upon. This simple statement has profound ramifications for the Industrial Growth Society. As well as naming a social movement, sustainability can be a precise scientific term that Western minds can use to grasp the Native American concept of thinking, planning and acting for the seventh generation.

With the growing call to become sustainable from myriad people in a number of disciplines and fields of endeavor, the first thing that should be obvious is that it has become commonly understood that we're not sustainable now—either as individuals or as a society—at least as far as modern industrial societies are concerned. This admission can be heard from local governments all the

way up to the World Bank. Locally there are concerns over unrestrained growth, decreases in quality of life indicators across the board, soil loss, diminishing water quality and supplies, habitat loss, and the degradation of natural treasures that ground tourist economies. Global issues include decreasing energy supplies and increasing costs, growing poverty and economic inequities, global warming and biospheric toxicity, and armed conflicts over land, water and civil rights.

A common theme in sustainability discussions is whether reform of the status quo system of the Industrial Growth Society will be adequate or if systemic wholesale change is required. Some of the above areas are ripe for reform, and I don't believe we must throw the baby out with the bath water, but at the very least we require a new and different basis for the manner in which we build relationships among ourselves and our role within the living Earth. In a nutshell, the paradigm from which the Industrial Growth Society emerges must be stopped as it is anathema to life, and it must be replaced with a paradigm that supports life. Without its dominator paradigm, the Industrial Growth Society ceases to exist.

An "interesting" conundrum is summarized well by the ancient Chinese curse, "May you live in interesting times." Many if not most local government initiatives for sustainability tend to start with the assumption that what they actually want to sustain is what we have now and even provide more of it—just do it "greenly." Almost all of the governmental presentations at community forums and town hall meetings start with an admission that what we're doing now is not sustainable, and then they very quickly just breeze right past this and deflect any audience questions that bring it up. Any discussion of population pressures or alternatives to growth is taken off the table as not being part of their charter so just don't even think about it. This disconnect and the convoluted rationalizations for it range from amusing to simply unbelievable. This is further proof of the power of story—"interesting" becomes the understatement of the century.

Some who agree to use sustainability as a goal want to disallow its integral attribute of carrying capacity. It is argued that this attribute is safe to ignore, and even to our advantage to do so, because we can't accurately define or calculate actual carrying capacity figures.

My reply is—that's nonsense. Carrying capacity figures are really not even particularly difficult to calculate, depending on the degree of predictive accuracy required, and the formulas have been around for almost 100 years. The calculations are valid enough to withstand legal challenges within certain realms, such as making policy recommendations as well as changes to zoning—including plat vacations—based on the results. This is the basis for the legal concept of growth

threshold standards or optimum population size studies that are used in land use and property cases in the realm of growth management policies and regulations.

The requirements—from a natural resource and human labor perspective—to provide various levels of nutrition and material goods to a given size population are well known. What is always in question is ecosystem fecundity, but even this has a normal range that can be determined. We can very easily determine whether any particular region can sustain its current population, whether it should be halved, or whether it can double, and we can set upper and lower bounds on this figure depending on various constraints and expectations concerning both quality of life and standard of living.

For an example I'm quite familiar with, let's consider Central Arizona. From even a minimal ecological perspective, the region can't be considered sustainable until the major rivers are flowing again on a somewhat regular basis. It may turn out to be within the overall system variance to be considered sustainable with only a partial yearly flow, let's say 6-10 months out of the year, depending on local system response to water harvesting, graywater systems, and the needs of agriculture and industry for local self-reliance. This leaves out the alfalfa being grown in the Arizona desert for California cattle, and the cotton for overseas garment factories (whether they're sweatshops is another factor), and the pecans for export markets, and . . .

One critical indicator in this case is whether or not the level of the water table continues to drop or starts coming back up. As a baseline, the water table in Tucson used to be 20 feet, now it's around 300 feet and the downtown area is showing signs of subsidence; in the 1940s in Phoenix you couldn't build a house with a basement because the water table was too high. Now it's at a depth of about 1000 feet.

I have learned through experience that it is a major hurdle to get even aware, caring groups and organizations to agree to a definition of sustainability. Is it because they're afraid that their suggestions and actions in support of growth will be held up to this definition? Why so much hesitation or even hostility toward adopting the Earth Charter as a framework for sustainable development, or at the very least as an articulation of our commonly held values for a sustainable world based on ecological wisdom and social justice? Is this indicative of the "do as I say, not as I do" phenomenon? Is the "not invented here" syndrome rearing its ugly head? As autonomous actors, do we simply want to do it our way, the old "you can't tell me what to do?" That this is all rather childish should go without saying.

Ultimately, these attitudes simply lead to the green washing of ecocide. We rush to appear sustainable, to tread lightly on the earth with a reduced eco-footprint, but steadfastly ignore overpopulation and the inherent unsustainability of the growth paradigm. We allow, indeed expect, industry to fulfill human needs through materialism. There is an almost religious fervor to creating techno-fixes for sustaining affluent lifestyles of entitlement instead of looking for social alternatives that don't create the problem in the first place. We steadfastly skirt around any analysis as to how these types of decisions actually affect quality of life. There is no thought given to the question of what we could do differently that would advance human culture in balance with natural systems as we're continually flooded by the mainstream press with the top ten stale ideas for sustainable consumers. You know, change a light bulb, recycle your plastic doo-dads, buy a hybrid global warmer—anything but downsize, power down, and hold those responsible for the problems accountable.

There are two standard "final" arguments I typically hear from environmentalists on the left in regard to why we shouldn't insist on defining sustainability, adhering to carrying capacity, or daring to speak about the unsustainability of growth which people pronounce as if they're the final word on the subject as there is no possibility of overcoming either of these arguments.

The first argument is that "they" won't allow it because it removes their ability to increase—or even hold on to—wealth, control and power (not always phrased with that level of awareness, though), and the second is that people don't actually want, or it's not part of human nature, to have peaceful fulfilling lives that are healthier and happier, so they'd never go along with any proposed changes that lead to a peaceful and sustainable future.

Overcoming the first, and putting the myth of the second to rest, are integral to transitioning to a sustainable future.

Definitions, and What We Gain from Them

The first step in creating a sustainable future is building a foundation where everyone knows exactly what the ground rules are and trusts that they will be applied equally and equitably. This starts with adopting an ecologically sound and legally defensible definition of sustainability to provide the consistency necessary for planning, a tool to analyze proposals, and a yardstick to measure progress.

A short history of the modern sustainability movement provides a background for my development of just such a definition. 1971's The Closing Circle

by biologist Barry Commoner is often credited with introducing the environmental movement to the concepts of sustainability, the interconnectedness of the environment and the economy, and the fact that nature doesn't produce waste. A decade later 1981 gave us the publication of Lester Brown's Building a Sustainable Society. Brown stated that a sustainable society is one that can meet its needs without diminishing the prospects of future generations. In 1983, the Secretary-General of the UN established a commission called the World Commission on the Environment and Development. This commission is frequently referred to as the Brundtland Commission, after Gro Harlem Brundtland, head of the commission and former Prime Minister of Norway.

Brundtland put together a team that went around the world and talked to people in all walks of life: fishermen, farmers, homemakers, loggers, school teachers, indigenous people, and industry leaders. The Brundtland Commission started by looking for environmental issues, and people responded with many interrelated issues: jobs, health, ecological productivity, education, and international trade.

Environmental issues were related to all of these, but there was no hard and fast division separating environmental issues from social and economic issues. All the problems were intertwined. There were identified linkages among the environment, the economy and society that caused problems in one of these areas to affect the other areas. It rather quickly became apparent that sustainability is not only about the environment, but is equally about our communities and economic systems and how they will survive into the future.

The Commission built upon Brown's definition and came up with a definition focused on sustainable development that is familiar to most people today: "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

The Brundtland Commission concluded that for global development to be sustainable requires everyone adopting lifestyles within the planet's ecological means and stated, "Sustainable development can only be pursued if population size and growth are in harmony with the changing productive potential of the ecosystem." The key elements of the Brundtland definitions include the concepts of equitable distribution of resources, both for existing people and people not yet born, and not using more than the ecosystem is able to continue providing. This brings together the core concepts of equity, carrying capacity, population, changing lifestyles and habits of consumption, and the fact that sustainable development is not the same as sustained growth. This is highly congruent with the systems view of life.

In 1991, three environmental organizations—the International Union for Conservation of Nature and Natural Resources (IUCN), the United Nations Environment Programme (UNEP) and the World Wide Fund for Nature (WWF)—jointly published a book called Caring for the Earth. Their definition of sustainability emphasizes the carrying capacity of Earth and the quality of human life. The book lists nine principles of a sustainable society and outlines a set of strategies for achieving it. The principles are:

Respect and care for the community of life
Improve the quality of human life
Conserve the earth's vitality and diversity
Minimize the depletion of non-renewable resources
Keep within the earth's carrying capacity
Change personal attitudes and practices
Provide a national framework for integrating development and conservation
Create a global alliance.

Caring for the Earth states that sustainability is "improving the quality of human life while living within the carrying capacity of supporting ecosystems." The book also develops sustainable community indicators that don't just look at the flow of money, but look as well at the flow of resources and the use of services that Earth provides, such as CO2 uptake, while pointing out that land is a finite resource used for many purposes. The specific measurements include energy use per person, annual emissions of greenhouse gases per person, and percent of land area that is natural, modified, cultivated, built, and degraded.

Over the next decade, numerous other groups and organizations involved in the intersection of environmental integrity and social equity advanced definitions of sustainability that built on these core concepts. Mountain Association for Community Economic Development made the link between the three E's (economy, ecology, and equity) and highlighted the fact that economy exists in a context of ecology and equity. The Interfaith Center on Corporate Responsibility specifically looked at corporate behavior toward society, and they stressed participation for community economic empowerment.

In the South Puget Sound area, Sustainable Community Roundtable had an emphasis on carrying capacity, pointed out that sustainable communities didn't mean self-sufficiency but also were not overly dependent on distant sources, and produced an excellent indicators report that stated, "A community is

unsustainable if it consumes resources faster than they can be renewed, produces more wastes than natural systems can process, or relies upon distant sources for its basic needs." The Northwest Policy Institute at the University of Washington had a commitment to place as a foundation of caring for the community in their sustainability definition. They developed a workbook for communities to use, and emphasized connections within and among communities.

And on and on. Sustainable Seattle, the Ho'okipa Network, Lowell Center for Sustainable Production, The Natural Step, and the Land Stewardship Program in Minnesota all put forth definitions of sustainability, sustainable communities, or sustainable production that embodied these concepts or used slightly different terms such as stewardship and the elimination of hazards and wastes.

What was missing, though, was an ecologically sound definition that could be adopted by local governments that was legally defensible and could withstand various cultural challenges. See Appendix E for a sample resolution that can be adopted by governing bodies. By analyzing what experts in the field of sustainability around the globe have been using for decades, I extracted the commonalities and the essence of the various aspects presented into three clauses. These combine to present measurable targets using the methodology of pressure-state-response sustainability indicators, which I cover in the last section in this chapter.

Over the course of the past decade, at various events and conferences in private conversations with senior management and scientists from the Forest Service, Fish and Game, and similar government organizations, I've been told this is the most complete and comprehensive definition they've heard. It has also been vetted by legal experts in environmental, corporate, and constitutional law.

Here is the definition I developed, containing the three necessary clauses which inform, support and strengthen each other. They provide the social, moral, and ecological aspects that a foundation for an Earth jurisprudence will require. Thus, this definition is more than just a moral exhortation, but provides an operational definition as well:

Sustainability:

1. The integration of human social and economic lives into the environment in ways that tend to enhance or maintain rather than degrade or destroy the environment;
2. A moral imperative to pass on our natural inheritance, not necessarily unchanged, but undiminished in its ability to meet the needs of future generations;
3. Entails determining and staying within the balance point among

> **population, consumption and waste assimilation so that bioregions, watersheds and ecosystems can maintain their ability to recharge, replenish and regenerate.**

These three clauses can be succinctly stated as natural systems integration, future focus, and carrying capacity. To be sustainable a thing must support the creative, cooperative, nurturing direction of the web of life and the self-organizing abilities of living systems to create and maintain mutually beneficial relationships.

Sustainability is not an abstract concept. It is life. It is not a myth invented by environmentalists. It can be legally defined, much to the chagrin of property rights activists and the utopian dreams of free marketeers in the growth lobby. Perhaps sustainability can be best understood through its opposite—death to the planet—known as ecocide. After all, there will be no peace, justice, democracy, or especially an economy on a dead planet. And here you thought all we had to worry about was creating "green" jobs.

Concepts that emerge from this definition of sustainability include the fact that an area can't consider itself sustainable at the expense of another region, and that sustainability is not exclusively an environmental movement; it would be more accurately understood as a community movement. Sustainability is actually the foundation for respect for cultural integrity, diversity and autonomy.

You may notice that I didn't explicitly include the terms equity or quality of life within this definition. I believe these are emergent qualities of sustainability, especially when the overall framework is based in systems science as laid out in the previous chapter. A sustainable future will be one that necessarily embodies and protects the concepts of ecological integrity, social justice, economic equity, and participatory democracy. As one way of thinking about why sustainability is the foundation for all this, instead of, for example, focusing on building cultures of peace as the overarching goal, a sustainable society will naturally be a peaceful society. However, a peaceful society could blissfully consume itself into extinction—and even do so quite "greenly," at least under the current mainstream usage of the term.

True sustainability carries within it the concept of carrying capacity. This doesn't mean how many people we can physically cram on the planet and feed for the next two years, but for how many can we do this indefinitely? An integral factor in sustainability and carrying capacity is waste assimilation and recharge rates. What is the ecosphere's capacity to both absorb waste and regenerate itself from various types of resource extraction? We must become cognizant and act

on the fact that renewable resources become non-renewable if consumed beyond recharge rates, and non-renewable resources become renewable if our patience could be measured in the millions of years—which is of little value to quarterly income statements.

With our planet's current population well over 7 billion and continuously growing*, the resources we all depend on are dwindling, which means in the future we'll be able to provide even less for an even smaller population—our carrying capacity capability is diminishing. This is very simple math, not rocket science—even though orthodox growth economists seem incapable of grasping it. Planet Earth cannot even sustain the current population, as figures detailing our current rates of starvation, malnutrition, and resource depletion show.

A congruent perspective on sustainability is advanced by Fritjof Capra. He points out that in order for sustainability to be understood and have meaning in building sustainable communities, it must be based in the principles of ecology. These are the self-organizing aspects of living systems, the primary one being the creation of networks nested within other living networks. The boundaries of these networks are for identity, not separation, as the networks continuously communicate and exchange resources to sustain the web of life. The networks, while nested, are also non-hierarchical. They are not rigid power and control structures, but consist of dynamic interactions of mutual support. Each network and nesting level displays emergent qualities and operates under laws that don't exist in other layers but are necessary for their own health and development.

A closely related concept that Capra includes in the principles of ecology is partnership. Resource and energy exchanges occur in ecosystems through cooperation. As Capra says, "Life did not take over the planet by combat but by cooperation, partnership, and networking."

There is also a dynamic balance exhibited in these resource and energy exchanges among networks that exist as feedback loops. While Capra lists dynamic balance as a separate principle, it is an integral aspect of all the other principles, which include diversity and natural cycles. As mentioned in the previous chapter, pathology is the result when any one variable or relationship is exclusively maximized. What we must seek is the optimum value of a variable within its living network.

Becoming sustainable, then, is not a power-over process. In fact, imposing a "power-over" structure is anathema to sustainability which will not occur if imposed. It must be participated in, with each part contributing meaningfully

* By the time of publication, the population figure was already approaching 8 billion.

to the function of the whole. More on this in Chapter 13 in regard to managing complex change.

Now that we know what we're talking about, let's examine what it means. Various dictionary definitions of "sustainable" can be summarized as maintaining desired qualities of a thing or process without diminishment in perpetuity. While this is pretty straightforward, it's also pretty value free. It says nothing about what we actually wish to sustain. What if sustaining one thing, like economic growth, causes another thing to become less sustainable, like entire watersheds or the atmosphere?

This brings up a problem that I've run into a number of times with grassroots groups that want to address sustainability issues—their unwillingness to define sustainability and clearly state what they stand for. This problem seems to be especially common when those groups, or their founders, have emerged from community development efforts, or who have a strong focus in community building. Of course this does make sense, as community is an integral aspect of sustainability, and people with a background in relationship building are "naturals" to jumpstart these efforts.

The problem arises when these groups spend an excessive amount of time worrying over how inclusive they are, and with being excessively careful not to offend anyone. This "anyone" almost always turns out to be local governing bodies, influential community members associated with the growth lobby, and people who don't want to give up their comfortable lives of affluence. An unnoticed irony in this is that, as change agents, these groups also want to impart the sense of urgency needed for the move toward sustainability.

When I hear these rationalizations, all I can do is shake my head in puzzlement and ask the proponent, "Let me see if I have this right. You want to impart the sense of urgency that you're feeling, you want people to join with you in making the shift to a sustainable future, but you're not willing to define what's meant by sustainability, and even think that to do so would be a mistake as someone might find reality offensive, or troublesome at the very least." This, as we'll see later, holds for multi-issue coalition development efforts as well.

I've also heard the related claim that sustainability somehow defies definition because it is a process. I think people do this in the hope that no one points out that processes themselves are definable—in fact must be so you know what they're a process for and what they consist of.

Yes, sustainability can be thought of as a process. More importantly, and much more accurately, though, it is a goal. To be sustainable is a state that requires being maintained, and this state can be clearly identified. We can also clearly

identify aspects needed to carry this process forward, such as relocalizing and reconnecting, and the sub-processes these require, such as skill development.

This is where community sustainability groups have an extremely important part to play with the work that they are doing. People do need to develop skills in water harvesting, organic gardening, and remembering how to share. But merely learning how to combine your daily errands to reduce your vehicle miles traveled is not going to make our overdeveloped communities sustainable, especially as long as we cling to the myth that growth is necessary for progress and prosperity.

It would be a mistake to discount any of the individual projects sustainability groups are currently advancing, which get expressed through a wonderful richness of diversity. They are all vital and necessary pieces of the puzzle that will emerge as we start making new choices; changing our scripts; writing the New-Story . . . but they must be grounded in something. Yes, we are taking the path less traveled. But, if we don't know where we're going, how will we know when we get there? Isn't it in fact highly likely that we'll end up somewhere else? How will we even know if we've packed the proper luggage?

One thing about becoming sustainable is that we don't have to start from scratch, or invent a new way of being. As I've been saying for years, and as Capra reiterates, ecosystems are sustainable communities of plants, animals and natural processes, they have exhibited this property for billions of years, and they provide all the models and metaphors we require to do so ourselves. Our lifestyles and the societies we create must become so as well in order for those ecosystems to have a fighting chance of remaining sustainable and thus supporting our lives. Ecosystems use the process of creating mutually supportive attraction relationships to support the web of life. What this looks like for humans—the doing part of building a sustainable social framework—can be demonstrated. Relocalization based on natural systems principles provides a supportive framework for steady state local living economies and an Earth jurisprudence.

Groups that have attained a degree of community legitimacy must clearly and firmly state what they stand for in order to be able to measure success; so they can analyze projects and proposals for their purposive efficacy in moving toward the goal of sustainability; to be able to determine when those projects move in the wrong direction; and to determine which of two competing proposals best supports the community of life in moving toward a sustainable future.

Why should we continue to let dominator proponents define what we stand for and what our values are? How can we effectively express our vision in this manner? Fear of offense, that we must bend over backwards to find a compromise with competing views, or the moral relativism that all views have equal value,

does not apply when the consequences of our actions affect not only quality of life but life itself.

As I've demonstrated, sustainability is very easy to define. The most vehement arguments I've heard against adopting a definition of sustainability have come from property rights and land use lawyers (where the best interests of their clients are diametrically opposed to sustainability), and from growth proponents who must sabotage any effort to define sustainability because it brings into sharp focus the reality of their dubious claims. As Derrick Jensen says, "We have been too kind to those who are destroying the planet. We have been inexcusably, unforgivably, insanely kind." Whether or not destruction and exploitation is what their intention is, or whether they're even consciously aware of it, really isn't the point of this particular exercise.

Sustainability, at a very fundamental level, concerns itself with trying to continue not just human life, but all life. The broad project of becoming sustainable is to sustain the universal experiment of life on Earth. Which entails sustaining the ecosystems that human life depends on and exists within. Which means working with, and strengthening when possible, the network pattern of relationship development fundamental to life. Sustainability, then, needs to have more than an anthropocentric focus even with the understanding that it is a community movement. Sustainability means working to assure a quality of life for all life and for future generations through an ecocentric focus. Sustainability as a goal with a strong understanding of exactly what we mean also provides a guiding foundation for the process of creating a sustainable future.

I'll readily admit that there are innumerable details that need to be worked out, and that sustainability will look different in different bioregions, but the definition provided is what it means to be sustainable. The outcomes of our lifestyles, which reflect our environmental and economic policies today, are killing our planet—our one and only life support system. For the most part they are anything but sustainable. While this may indeed be an inconvenient truth, I find myself greatly puzzled as to what the motives might be for anyone to attempt to refute or not be willing to admit any of this reality. This is not a hunch, or a best guess, or an intuitive feeling—this is backed by mountains of scientific evidence in a dozen different disciplines as well as thousands of years of indigenous wisdom.

Having a whole range of fuzzy, ambiguous, contradictory statements, or even refusing to be held to a definition of sustainability, doesn't work for a very simple reason. It doesn't allow any measurable targets. What it does allow is for so-called leaders and pillars of our communities to claim any hair-brained idea

they come up with as being sustainable, and leaves no way to hold them accountable—with this latter point being perhaps the most telling.

I see nothing wrong with admitting that becoming sustainable presents a spectrum of challenges. That's why our diversity is so important. However, our immediate goals are anything but a moving target, although the intermediate steps to reach these goals may indeed be. Neither sustainability nor carrying capacity are merely theoretical constructs that live only in our head. Just about any wildlife biologist with a B.S. degree can do the calculations for you over a wide range of scenarios (which is why carrying capacity by itself can't define sustainability—it is necessary but not sufficient).

Carrying capacity in particular, however, is the scientific underpinning for setting growth threshold standards, which are the only thing (so far) to have withstood legal challenges (when done properly) when cities put caps or other constraints on growth in order to impose building moratoriums, zoning changes, and plat vacations. It moved beyond the realm of hypothesis long ago.

Sustainability is also defined (although not as rigorously, but this isn't surprising), in legislation such as Washington State's Growth Management Act of 1991. It was well enough defined, however, to be immediately challenged because developers could no longer get away with business as usual.

Or, is this actually what everyone's afraid of? One of the herd of elephants in the living room of the Industrial Growth Society? That whose name one must not speak—the end of growth. The understanding that to embrace a rigorous definition of sustainability requires accepting the obvious conclusion that the Western world is overdeveloped and must start working toward reducing its population by an order of magnitude, shift agricultural exports to local food production, quit widening and expanding the road system and permitting (in both senses) sprawl, find a new way to provide right livelihood to construction, real estate, financial, and Walmart workers, and restore and maintain water tables, topsoil and forests. It evokes the common but cynical rationalization for refusing to embrace a strong definition of sustainability—elite special interests simply won't allow any of this, so let's just not even go there. We'll just get our hearts broken.

And so, in the typical co-dependency of abusive relationships, the elephant will be ignored and denied—the ultimate stumbling block keeping us from participating in systemic change that won't be prone to relapse. While we all probably agree that we should attempt to make change fun, I don't recall anyone saying it was going to be easy.

This is all completely consistent with the systems view of life. If the human enterprise is to become sustainable, so must the world upon which humans

depend for their lives and their economies. Through this framework we start noticing how little things formerly accepted as just the way things are, such as monocropping and monocultures, lead away from supporting and enhancing life. All the "monos," even monotheism, become problematic as they are inherently individualistic and conformist instead of networked and diverse. They are less resilient.

This is a good place to mention the difference between weak sustainability and strong sustainability.

Weak sustainability means we can replace or duplicate natural materials and services with manufactured goods and services; that manufactured capital of equal value can take the place of natural capital; that natural capital can be used up as long as it is converted into manufactured capital of equal value.

This assumes the economic "law" of perfect substitutability actually has a basis in a reality that is relevant to the universe we inhabit. What is the dollar value of the ozone layer? Or an aquifer? Do we have the technology to manufacture a reasonable resemblance of either? This brings to mind the old joke that scientists have yet to figure out how to turn grass into milk, but cows have no trouble doing this.

Strong sustainability, on the other hand, means the existing stock of natural capital (materials and services) must be maintained and enhanced because the functions it performs cannot be duplicated by manufactured capital. If nothing else, strong sustainability is entirely pragmatic.

The mainstream concern with sustainability arose over the desire to continue and expand the Industrial Growth Society without destroying the life support system it is dependent upon. This is why many early definitions centered on development while mistakenly equating it with growth, even with the explicit moral imperative many of the working definitions had to consider future generations. The unspoken assumption is that Industrialism is fundamentally good; it just has to be integrated with the biosphere.

But how is this concept expressed within natural systems principles? In a healthy ecosystem, nothing grows beyond maturity, but mature organisms don't die or become stagnant at that point. They continue to contribute to the health, vibrancy and resiliency of the ecosystem community they are part of. I've heard people who should know better claim that if we quit growing, we'll die. My typical response is to ask them why they aren't 200 feet tall. Their typical response is to then get red in the face, stutter, stammer, and generally turn apoplectic.

Here's how it works in the real world: We all grow as children, but then we reach a certain age and stop growing. However, we don't stop developing

just because we have stopped growing—we go back to school, we learn a new trade or hobby, we go to new places, make new friends. This is what sustainable development is all about—changing and making better, creating new possibilities. Infinite growth is not required, and actually wastes energy better used elsewhere.

Development is not growth. Rather it is a means to improve; to make better; to bring to a more advanced or effective state. This should lead to the obvious conclusion, which the purveyors of the Industrial Growth Society refuse to accept, that "sustainable growth" is an oxymoron. Whether it's called smart growth or green growth is irrelevant—it's still an oxymoron. We'll explore this concept in more detail in the steady-state economy section of Chapter 10.

There have been attempts to bring Industrialism in line with natural systems without directly addressing its inherent anti-life qualities. The best known of these in mainstream environmental circles is probably the Natural Step, developed in Sweden in the late 1980s by Dr. Karl-Henrik Robèrt.

The four Natural Step principles are systems conditions that form its basis. While they are congruent with my definition of sustainability, and are useful concepts in developing a sustainable economy, they tend to be advanced as a way to save capitalism from itself. They do, however, provide a way of raising awareness of the problems with Business As Usual.

1. "Substances from the earth's crust cannot systematically increase in the biosphere." The negative health effects of lead and mercury are two of the better known problems addressed by the first condition.
2. "Substances produced by society cannot systematically increase in the biosphere." This includes materials harmful in relatively small doses like DDT, PCBs, and ozone-depleting chemicals as well as less harmful materials produced in very large quantities like greenhouse gases. These latter materials can't be addressed the same way a single source issue such as DDT was. Greenhouse gases come from everywhere, so they can only be fixed by fixing everything.
3. "The physical basis for the productivity and diversity of nature must not be systematically deteriorated." Practices that run counter to this condition include erosion caused by industrial agriculture, land use practices that destroy the water filtering abilities of wetlands, and rainforest clearing that changes microclimates.

4. "There must be fair and efficient use of resources to meet human needs." Of course, efficient resource use is the utilitarian view of nature. Equitable use, though, means people, especially in the developing world, won't have to destroy their resource base for short term survival.

The Natural Step process is meant to help companies understand the connections between their activities and Earth's ecological processes and human social needs. Similar efforts in the corporate world which provide concepts that can be drawn from include Total Quality Management, pollution prevention and reduction of toxics, design for the environment, social responsibility, biomimicry, and international development standards such as ISO 9000 and ISO 14000.

Earth Charter—Shared Values for a Sustainable Future

If we accept sustainability as our underlying common goal, is there a set of shared values that can support the realization of this goal? Further, in an interconnected and interdependent world, can a set of values be found that can cut across cultural, economic, religious, and class divides? I believe there is. A set of shared values is wonderfully articulated and eloquently expressed in the Earth Charter, an internationally created document developed in the 1990s. Even though the captains of industry, global financial titans, and the social elite—the 1%—may not think they resonate with these values, I also believe that productive uses for most of their skills can be found and used in the creation of a sustainable future.

The four strong yet simple pillars of the Earth Charter are 1) respect and care for the community of life, 2) ecological integrity, 3) social and economic justice, and 4) democracy, non-violence and peace. The Earth Charter has been referred to as an "international people's declaration of interdependence."

The Earth Charter provides a framework for communities who are ready to start moving toward sustainable development, environmental protection, and a culture of peace. It inspires each of us to embrace our shared responsibility not only toward the human family, but to the larger world. Its values, principles, and aspirations are based upon contemporary science, international law, and the insights of philosophy and religion.

The Earth Charter recognizes that Earth and the bioglobal community face numerous serious challenges that have a basis in greed, but it also recognizes that when people's basic needs are met, development becomes about being more, not

having more. It also recognizes that the major roadblock to achieving sustainability is the lack of political will and compassion, not a lack of knowledge.

One goal of the Earth Charter is to develop a common statement of ethical values that can bridge differences and bring cultures together. While we are citizens of different nations, we are also members of one planet where the local and global are inextricably intertwined. The integrated vision of the Earth Charter works to balance all aspects of human development—social, economic, political, and spiritual.

The Earth Charter builds on and is the next step to the Universal Declaration of Human Rights. It was developed through a global dialogue and belongs to no one group. It is simultaneously a document, a process and a movement.

The history of the Earth Charter begins in 1987 when the United Nations World Commission on Environment and Development issued a call for creation of a new charter that would set forth fundamental principles for sustainable development. The drafting of an Earth Charter was part of the unfinished business of the 1992 Rio Earth Summit. In 1994 Maurice Strong, the secretary general of the Earth Summit and chairman of the Earth Council, and Mikhail Gorbachev, president of Green Cross International, launched a new Earth Charter initiative with support from the Dutch government. An Earth Charter Commission was formed in 1997 to oversee the project and an Earth Charter Secretariat was established at the Earth Council in Costa Rica.

Following the Rio+5 Forum in Rio de Janeiro in 1997, drafts of the Earth Charter were circulated internationally as part of the consultation process. Meeting at the UNESCO Headquarters in Paris in March, 2000, the Commission approved a final version of the Earth Charter.

Successive drafts of the Earth Charter were circulated around the world for comments and debate by nongovernmental organizations, community groups, professional societies, and international experts in many fields. It is a people's treaty that sets forth an important expression of the hopes and aspirations of the emerging global civil society. The Earth Charter reflects a consensus on the fundamental moral and ethical principles for building a just, sustainable and peaceful global society.

The 32nd General Conference of UNESCO held in October 2003 supported a resolution recognizing the Earth Charter as an important ethical framework for sustainable development.

One way the Earth Charter is being used is as an educational resource incorporated into courses dealing with themes such as ethics, environment, social justice, sustainable development, globalization, and international relations.

In this function, the Earth Charter is raising people's awareness of the global challenges we face as well as assisting in evaluating their own situation and deciding on positive courses of action. Primary school teachers are finding the Earth Charter an inspiring vehicle for engaging young learners to think positively and creatively about their futures.

Accelerating progress towards sustainability depends on rekindling more caring relationships between humans and the natural world and facilitating the creative exploration of more environmentally and socially responsible forms of development. The Earth Charter provides a unique framework for developing educational programs and curricula aimed at transformative learning for a more just, sustainable and peaceful world.

From the perspective of sustainable development, the local community level is where "the policy rubber hits the road" and government programs are given effect. This is also the level where individuals can generally be most involved and influential. It is increasingly appreciated that justice, nonviolence and peace must be evident at the local community level in order for these attributes to emerge at the national and global scales—a culture of peace begins at home.

The Earth Charter Local Community/Government initiative was heralded with the endorsement and collaboration of ICLEI, the International Council of Local Environment Initiatives. ICLEI encouraged its 380 international municipal members to publicly debate, ratify, and use the Earth Charter in governance. Since then the Earth Charter has been endorsed by the U.S. Conference of Mayors (1000 members), the Florida League of Cities (400 members), Berkley, California; Burlington, Vermont; Bellingham, Washington; Urbino, Italy; San Jose, Costa Rica; Valverde de la Vera, Spain, with many other endorsements in process.

By engaging the local community, the Earth Charter can be used as a vehicle to help define shared values and goals and evaluate progress towards sustainability. This covers a broad range of aspects including introducing the notion of and educating for sustainability, defining a common vision and aspirations for a better world that has widespread support, and as a broad policy document for local strategic planning and sustainable development.

The Earth Charter can dovetail nicely with the growing percentage of the business community that are members of the Business Alliance of Local Living Economies (BALLE), such as Sustainable Connections in Bellingham and Local 1st in Tucson. Growing support of local and state governments can be seen in examples such as the goals and conclusions of the 2003 Governors Sustainable Washington Advisory Panel. The panel's goals of environmental stewardship,

social development, and economic security mirror these same values as articulated in the Earth Charter.

The Earth Charter was also developed to serve as a soft law instrument by providing an ethical foundation and universal code of conduct to guide people and nations toward sustainable development. This springs from the recognition that the transition to sustainable development requires basic changes in the attitudes, values and behavior of all people in order to achieve social, economic and ecological equity and security in the context of the globe's limited resources.

A soft law document is not legally binding on the nations that adopt it, but such documents are recognized to contain a set of norms that nations should abide by—although they are not legally obligated to do so. Nations that sign soft law documents are expected to make good-faith attempts to implement them.

A soft law instrument can often be a first step to binding international commitments. Because soft law provisions have already been agreed to contain reasonable normative approaches to human problems by those nations that have signed them, negotiations attempting to create legally binding commitments in treaties can begin with the solutions contained in the soft law documents as a starting point in negotiations.

Because soft law can be understood as specifying reasonable national behavior, they serve as a basis for holding nations accountable because those nations that fail to abide by it can be charged with acting outside acceptable international standards. In such cases the implementation of the soft law has come from publicizing non-conforming behavior in international meetings and publications rather than in enforcement proceedings in legal tribunals.

While on the subject of governance, let me explain how I see the term democracy used in the Earth Charter. This is necessary because democracy isn't actually practiced in the U.S., nor is it the form of governance the U.S. attempts to export to the rest of the world, so most people don't have a basic understanding of what it really is. Governance in the U.S. is nominally a representative republic, although its actual form is an oligarchy (power rests with a small number of people) better understood as a kleptocracy (government by those who seek personal gain at the expense of the governed, characterized by exploitation, rampant greed, and corruption).

At a very simplified level, the core goal of democracy is to ensure that citizens can have meaningful participation in their society's choices. The principles of social equality and respect for the individual within a community are paramount.

The ideals of democracy thus include equal respect as well as the more common definition of governance by the people, and this system of governance

should entail free, equal and unfettered by free-speech zones participation by the people who are affected within and by the political decision-making process.

In particular, grass-roots or participatory democracy is the ideological opposite of the identification of people as passive consumers or cogs in the industrial machine. Active citizenship transforms the character of citizens through participation in the public life of the community. This is the ethical framework in which the Earth Charter uses the term democracy.

A Framework for Quality of Life Indicators

One advantage to using sustainability as a common underlying goal for diverse progressive causes is that it provides a goal to measure the success of the single issue efforts. But currently, very few of these efforts seem willing to tackle the underlying causes of the issues—dominator hierarchies, disconnection, enclosure of the commons, mammonism, materialism, the necessity of growth, etc.—or to connect the dots. I mean, these are the reasons the empire builders are in Iraq, Afghanistan and threatening Iran—we believe we need to drive our SUVs to Walmart for golf balls made in China to golf in the Southern Arizona desert on courses kept green with water from the Colorado River.

Talking about measuring progress is one thing, but how do we actually accomplish this? An indicator is a measure of what we have and where we stand. Properly developed indicators aligned with the concept of sustainability allow us to define and measure what is commonly referred to as quality of life—which necessarily includes the continuation of life. Indicators become measurements of the degree of sustainability in the areas under consideration, such as economy, education, environment, and resource use. Good indicators also uncover the linkages between these areas.

Determining linkages is not an attribute of traditional indicators, which only measure the state something is in. There is a framework for developing indicators that measure a state, the pressures causing that state, and the responses we develop to address that state. I'm going to delve pretty deeply into this, because I'm aware of sustainability efforts being put forth by local government agencies that are trying to assure their constituents that developing traditional indicators is good enough. If you're involved with local sustainability initiatives, you'll need to clearly point out why these efforts are insufficient and even counterproductive, and be able to articulate an alternative that is meaningful to sustainability.

An additional parameter for indicators to be meaningful for sustainability is that they must be designed to evaluate economic, environmental, and social

aspects with a clear understanding of likely impacts, based on readily available scientific evidence, including Peak Oil, global warming, and the other negative externalities of Industrialism.

The background for the following information on sustainability indicators comes from a training the trainers workshop developed by Maureen Hart of Hart Environmental Data for the U.S. EPA Office of Sustainable Ecosystems and Communities in 1998. The workshop itself is available on-line, so if you'd like more details and especially the interactive small group exercises, which I won't be covering here, please avail yourself of this wonderful resource. My goal here is just to make you aware of the possibilities and how indicators fit into the larger framework. I adapted Hart's workshop for our Community Assessment and Sustainability Inventory project (which leads off Chapter 14), and below are the relevant aspects of that, slightly modified for the current presentation.

To learn how to develop an effective sustainability indicator, we can start by thinking about a core component of quality of life, and put this in a framework that is relevant to you. Think about the type of organization you work for or are most actively involved with, such as health, business, planning, education, environmental protection, democracy, or as a private citizen.

What do you consider to be a key component of quality of life? One way to think about this concept can be to describe your vision of a good community—one that has a good quality of life. Or describe a problem or issue that you're trying to improve.

For example, if you're a volunteer for a watershed protection group, you might think that quality of life includes having an adequate supply of clean drinking water. If you're a social worker, you might think that homelessness is decreasing people's quality of life.

Now think about where your issue can be categorized. Is it an economic, educational, environmental, health, housing, political/governmental, public safety, recreational, resource use, social/cultural, or transportation issue?

The harder it is to categorize an issue, the more areas that issue is linked to, and the more potential there is for developing a good indicator of sustainability.

For the moment, try to stay focused on the goal, not how to get to the goal. There's a logical process for developing good sustainability indicators, and this is the first step. Many people want to start proposing ways to get to a solution, like requiring all cars to be electric, rather than focusing on what the solution will look like: "People are able to get around without creating pollution."

This initial step helps us shift our way of looking at issues, and seeing their interrelated nature. Traditional indicators tend to focus on a single aspect of a

community and frequently measure the number of dollars involved with an activity. We require a new perspective; one provided by sustainable community indicators.

By encouraging a new way of thinking, we can begin to change our behavior. New habits can help us improve our communities and maintain a high quality of life while maintaining and enhancing the natural environment on which our lives depend.

Creating sustainable communities requires that we understand how our needs and desires are intertwined, so this is another connecting the dots exercise. A healthy economy helps to make housing affordable; environmental quality affects human health; poverty and health affect how well students learn; well educated workers are necessary for a healthy economy. All these different issues and needs are linked. Together, we need to find ways to meet those needs so that our communities can continue to improve and prosper instead of mindlessly growing.

We also need to consider what community capital is. It consists of three major categories, the first of which is natural capital. This is the natural environment and natural resources of the community which provide services for human activity.

Next is human and social capital, or the people that make up a community; our friends, neighbors, coworkers. An important part of human capital is the connections among people, the way people work together to solve problems or run a community. It includes volunteer efforts and the community's governing structure. Other aspects of human capital are the skills, education and health of the community members.

The third category is financial and built capital, meaning all the things that humans have created.

We need all three types of capital for a healthy and sustainable community, although in the Industrial Growth Society we usually only think of financial and built capital as they are directly tied to wealth creation.

We need to live off the interest of our community capital, not use up the principal. Here's how Hart explains this concept. Imagine that someone gave you a million dollars. You could spend that money quickly, and then try to borrow more, or you could invest it at 5% interest per year, earn $50,000 per year for life, and still have a million dollars to pass on to your children and grandchildren. A sustainable community is one that nurtures its natural, human and financial capital so that the community continues to improve. A sustainable community lives off the interest of its community capital instead of using up the principal. This is also a principle of steady-state economies.

An indicator is defined as a way to measure, indicate, point out or point to with more or less exactness; something that is a sign, symptom or index of; something used to show visually the condition of a system. So an indicator is really just a way of saying "how much" or "how many" or "to what extent" or "what size." Indicators are ways to measure.

For example, as a child you might have saved money to buy a bicycle; later on you wanted to buy a car. The amount of money in your piggy bank or bank account was the indicator. The cost of the bike or car was the goal.

We all set goals and use indicators to measure our progress towards those goals. The problem with measurement is that sometimes we forget what the goal is and just worry about the indicators. The measurement becomes more meaningful than the goal and we start to define ourselves in terms of what we measure, not what we want to be.

Those of you more familiar than you like with public education in America can probably easily assign percentages to the following. How many teachers to you suppose have ever heard a student ask, "What do I need to do to really learn the material in this course and apply it to my life?" And how many teachers have ever heard a student ask, "What do I need to do to get an A?"

This is an example of the measurement becoming the goal. Here's another one. How many people know how much money they make (hourly or yearly)? How much they save (hourly or yearly)? How many hours they need to work to pay for their basic needs?

What is really important? How much money you earn or whether it is enough to pay for your needs?

Traditional measures sees unconnected boxes. Environmental quality is disconnected from stockholder profits, which are disconnected from education, poverty and crime. The resulting measures often work at cross purposes. Shutting down a factory may improve air quality, but if many people are out of work, they won't be able to afford health care and crime is likely to increase.

Interconnected measures see community as a complex web of interconnections, where changes in one area affect other areas. We are all stakeholders, as opposed to the current understanding of stakeholder as only someone who has a direct financial interest.

Sustainable community indicators are not measurements in separate boxes. They link between what you need and how much you have to work; they examine the relationships among locally produced food, fuel used to transport food, and how much pesticide is used; they show how fuel and vehicle use, air pollution and global warming are related; they connect the dots.

One of the considerations for developing sustainability indicators is relating how much you earn to what you need to survive. Look at how many people have jobs that use their skills and pay a living wage. Examine the local economic multiplier effect, also known as the leaky bucket, which shows that the more money circulates within a community before leaving, the more jobs are created, and the more resilient the local economy becomes. This is a function of local versus absentee ownership. Local food is fresher, requires less energy to transport, and can involve fewer or no chemicals.

Factors to consider for sustainability indicators in agriculture include the degree of reliance on government programs, how much and what type of equipment, chemicals and nonrenewable energy is used, creation of jobs, and the balance between feed use and feed production.

Recapping what we have so far, to sustain means to nourish, not maintain the status quo. To develop means to improve, not grow. Thus, sustainable development does not mean sustained growth. Carrying capacity entails living within the means of the ecosystem. Community capital includes all of and the relationships among natural resources, social and human institutions, and the financial and built environment.

A good indicator of sustainability has a number of necessary attributes. It addresses carrying capacity, it must be relevant, understandable and useable by the community, it must be able to measure progress and take a long term view of at least 50 years and preferably the seventh generation, it must show linkages, and it must not be at the expense of another community.

A well-known unsustainable traditional indicator is Gross Domestic Product. GDP is a disconnected measure of the flow of money, not a measure of economic welfare, and tends to ignore social welfare as irrelevant.

Indicators should address causes as well as effects. We don't want to just measure a state needing change or the response that is meant to change the state, we must also measure the pressures causing the state.

Here are some examples of how this all fits together and can be used.

Measure progress: Do I have enough money to buy the bike? If we keep consuming resources at this rate will there be any left in the year 2030?

Explain sustainability: The process of describing indicators helps diverse members of a community reach consensus and accept what sustainability means and entails.

Show linkages: Infant mortality—the number of children that do not live past their first year—is frequently used as an indicator of early childhood health. However, a better indicator might be the number of infants being born to unwed

women under the age of 18 who have not finished high school. These babies are more likely to have had no prenatal care, have low birth weight, and live in poverty. Poverty is linked to crime, poor health, and poor education, which reduce the chances that future generations can become self-supporting members of the community. The more people understand the links, the more solutions can be developed that address the full range of problems—especially their common root.

Motivate: In 1987, manufacturing facilities in the U.S. became required to report the amount of pollution they were releasing into the environment. No one had ever looked at it before, and everyone was shocked when the numbers came out: 3.5 billion pounds of pollution were released in 1988. By 1994, emissions had been reduced to 2 billion pounds.

Focus action on the issues: Sustainability indicators help make sure that people know where to put their efforts. You all probably have an electric meter in your house or apartment. Where is it? In the basement or outside on the back wall? How many of you ever go and look at how much energy you're using? In the Netherlands, a recent building regulation required that new houses be built with the electricity meter in the front hall instead of in the basement. Energy use in those houses was 1/3 less than what was used in other homes.

Determine carrying capacity: We need to know whether the community is using resources at a rate faster than they are being renewed or restored. Water is an important resource in this regard, but so is the amount of productive farmland and wildlife habitat we've lost to subdivisions, strip malls and the multilane highways that connect them. On a global level, the depletion curves of fossil fuels, metals, and minerals necessary for the production process are extremely important.

Communities also display unique characteristics. What may be sustainable in Seattle may not be in Tucson, and the same goes for urban and rural communities in general. A set of indicators relevant in one location may not be relevant in another.

Indicators must be understandable: How many of us have ever seen a part per billion? How about pounds of pollution per mile, gallon, or widget?

While this may seem obvious, use indicators: They can help us see how we can change our behavior to have a positive effect on community sustainability as well as our own quality of life.

Uncover and Examine Linkages: When you focus on increasing the number of jobs without looking at the details—the types of jobs, whether the jobs are long term, and whether they have health benefits—you may just be setting the community up for more problems down the road. Job growth that is tied almost exclusively

to low-wage no benefit retail sales, service, tourism and corporate branch offices drains the local economy as quickly as congestion increases, plus these types of jobs are susceptible to wider economic downturns and lifestyle changes.

Be Mutually Beneficial: Making your life better by making someone else's worse is not a measure of sustainability. In an interconnected world what goes around comes around; everybody lives downstream.

This leads directly to one of the most fundamental questions we must ask ourselves: Do we actually want to become sustainable, or do we want to put the problem off to the next generation and pray we can get away with that? If the indicator is "amount of solid waste landfilled in your community," and you stop landfilling by dumping everything in the ocean, you are not measuring sustainability. A sustainable indicator would be how much waste can we reduce?

Sustainability indicators are not separate boxes but the web of interconnections. For instance, nature provides materials for production; production provides jobs; education prepares people for jobs; jobs alleviate poverty. You need to know where to apply the monkey wrench to tweak the system to provide the results you actually desire.

Crime is an issue in many communities, but solving crime by hiring more police or building more jails may not do as much to improve the sustainability of a community as using the monkey wrench on the education or jobs parts of the system.

This points out the necessity to identify the key linkages. For the issue of jobs in the above example, although crime and wildlife are connected, they are not key to ensuring jobs; education and materials for production are. This also entails having accurate measurements on carrying capacity and the financial requirements and return on investment of education versus prisons.

Now let's look at the three interrelated factors of community capital and at the difference between how traditional and sustainable indicators are applied to them. We'll see that traditional indicators look at specific problems, and are necessary but not sufficient for creating sustainable communities.

In the environmental realm, traditional indicators look at specific problems—such as can we breathe today?—by measuring parts per million of particulate matter in the air or the number of good air quality days. Sustainability indicators show the links to economy and society by measuring the increase in asthma-related hospital admissions or the number of vehicle miles traveled.

In the cultural and social realm, traditional indicators look at specific problems, such as the number of runaway children or the number of reported abuse cases. Sustainability indicators will show the links to economy and environment

by measuring the percentage of families with satisfactory child care arrangements, who have adequate income, or have ready access to natural areas.

In the economic realm, traditional indicators look at specific problems, such as net job growth or number of big-box stores. Sustainability indicators will show the links to society and environment by measuring employment diversity, jobs that match the skills of the available workforce, have benefits, pay a living wage, and don't create Superfund clean-up sites.

The bottom line is that we want to measure what we want to be. Better indicators speak to people and measure the cause, not just the effect. Since the economy tends to be foremost in many people's minds today, let's examine both traditional measures of the economy using Gross Domestic Product and sustainability indicators such as the Genuine Progress Indicator and Ecological Footprint. The goal is to measure true economic well-being, not just flow of money, as well as our impact on Earth related to these measures.

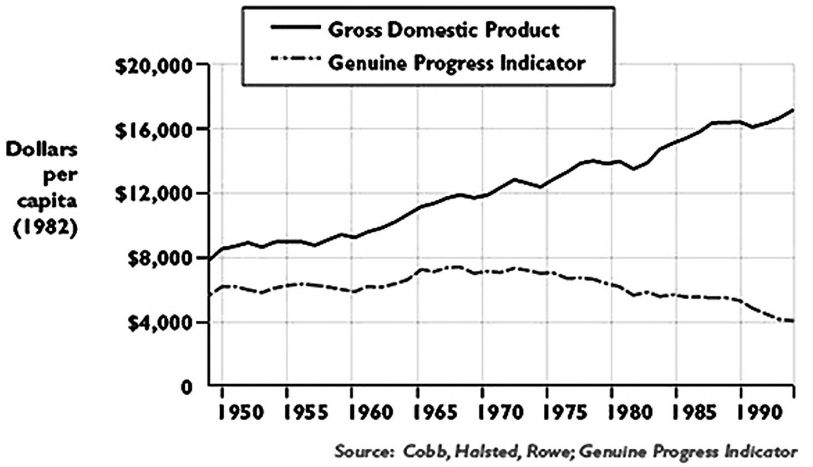
GDP is generally thought to measure economic welfare, although it wasn't designed to do that. GDP is actually a measure of money flow, mainly between businesses and households, although paper wealth plays an increasingly large part. It rises when money is spent coping with problems, such as health care (accidents, pollution, cancer, addiction), natural disasters (floods, hurricanes, earthquakes, global warming), and the additional time and money spent on commuting in a housing market based on the concept of drive till you qualify. Remember my example in Chapter 4 of the poor sap who meets the definition of the greatest economic actor? GDP does not include, in fact dismisses as irrelevant, non-market activities that benefit communities and individuals, such as volunteer labor, work in the home, or shared community gardens.

In 1995, Clifford Cobb, Ted Halstead and Jonathan Rowe proposed a system of national accounts they called the Genuine Progress Indicator to replace GDP. This built on and refined many earlier efforts that proposed ways of measuring true economic welfare, starting in the 1970s with William Nordhaus and James Tobin with their Measure of Economic Welfare (MEW), followed by Xenophen Zolotas in the early 1980s with the Economic Aspects of Welfare (EAW), and then work by Herman Daly and John Cobb who proposed a measure they called the Index of Sustainable Economic Welfare (ISEW).

A concept fundamental to all of these measures is that increasing sales of car and house alarms don't improve the quality of our lives, but are actually indicative of an opposite effect.

Included in GPI are expenditures on public education and health. Taken out are expenditures for advertising and commuting; increasing dependence on

foreign capital is a negative influence, as is the loss of wetlands and farmlands; an increase in income disparity is also a negative influence. They reasoned that the stock of land available was fixed and increases in real estate value due to inflation do not really increase overall economic welfare, so GPI reflects that. Also factored in is the value of volunteer work, cost of crime and family breakdown, the cost of underemployment, ozone depletion and the loss of old growth forests. They calculated the GPI from 1950 onward and compared it to the GDP.



As you can see, according to the GPI not only are we are not breaking even, we're falling further behind.

Ecological Footprint is an estimate of our impact on Earth measured through the amount of resources that are consumed. This measure relates the economy to environmental carrying capacity. It is not a measure of quality of life, it is a measure of life style, often referred to as standard of living.

Ecological Footprint is measured in acres per person. This means how many acres of Earth's productive resources are required to maintain a certain daily lifestyle in food, energy, transportation, shelter, etc. In 1998 the world average was 4.68 acres/person. India was 1.04 acres/person, Netherlands was 8.63 acres/person, and the U.S. was 13.26 acres/person.

If you walk or take public transportation, you'll have a smaller footprint than the typical single occupancy SUV owner. A family of four in an energy efficient 1200 sq. ft. house will have a smaller footprint than a family of two in a 5000 sq. ft. cracker box McMansion that usually requires at least two high capacity HVAC units.

It's also interesting to note at this point the studies showing we don't tend to equate quality of life with how much energy we consume or how many possessions we own. Something is dreadfully wrong in an Industrial Growth Society that tries to get us to believe just the opposite.

Measures must speak to us. If we don't see what we can do to fix a problem, it won't help. Properly designed sustainability indicators help overcome the twin arguments: "That problem is too big; nothing I do can solve it," and "Well, if we don't have enough, let's just figure out a way to get more."

Traditional indicators, such as water use increasing, aren't personal, they don't make it clear that there is a limit, and while they may show that there's a problem, they don't help the community understand what might be causing the problem.

Water use per person helps connect individual behavior, but a measure of water use vs. water available helps show choices between growth and water limits and more clearly delineates what the choices are—decrease the amount of water each person uses or limit population increase in the town.

This is where the pressure-state-response framework becomes important in developing indicators that are useful in creating sustainable communities. Pressure is often the most important but is frequently neglected by organizations that are concerned with the state of an issue they want to address. Downplaying or ignoring pressure is especially true under a regulatory environment. If the pollution per mile driven goes down by half but people are driving three times more than they used to, the result is more pollution. So it helps to establish a context and draw a boundary around a problem before deciding what the pressures, states, and responses are.

For example, if the issue is crime, as defined by "the number of robberies," then the context is "safety." The number of crimes is the "state." A response might be to hire more police officers. The number of police officers is a measure of the "response." There are a number of "pressures" that may be causing the "state" to exist, including drug use and poverty. The amount of drug use or the lack of jobs are measures of the "pressures." These pressures and responses define the boundary of the issue.

However, it is possible to see the lack of jobs as a "state" if the context is "economic well-being." In this case, welfare and job training are both "responses" to the state; as a society, two responses that we typically have to the lack of jobs are giving people money (welfare) and helping people develop skills (job training).

Both of these responses need to be measured, but there should also be a measure of the pressures causing the lack of jobs. Examples of pressures causing lack of jobs include increased mechanization and the shifting of jobs to

places with lower prevailing wages. In a sense, the shifting of jobs to places with lower wages can be seen as a pressure causing crime (a state) and job training (a response to crime), but they are both outside the boundary of the original context of "safety." Setting the boundary of the context helps to keep the discussion focused, as well as making us aware of interrelated indicators that must be developed.

Another difficulty with pressure-state-response discussions is that some things may be a pressure in one context and a state or response in another. For example, if the context is air quality, then the amount of air pollution is the state and a pressure would be the number of cars being driven. However, if the context is transportation, the state becomes the number of cars driven and a pressure may by the distance between where people live and where they work. Again, it is important to understand the context and the boundaries.

Due to the interconnected nature of reality, when you start developing pressure-state-response indicators that include all three aspects of a sustainable community, you will typically find that they wrap around to touch one another. An environmental state will have economic pressures that lead to social responses—and all combinations thereof.

Developing sustainability indicators is basically a connecting the dots exercise. For example, in the realm of transportation, "Waiting time at intersection" and "Number of cars at peak period" are traditional measures of the traffic flow that are very counterproductive to sustainability. Studies have shown that widening roads generally results in increasing amounts of traffic. A better indicator would be "Portion of household expenses spent on transportation" which links transportation to personal income and therefore to the number of hours needed to support basic needs. It becomes a basic quality of life issue.

In land use, "number of permits issued," and "number of housing starts," although good measures for a housing department or a real estate developer, do not address carrying capacity or have links to other aspects of the community. Some aspects that are missing include: how much land is being used up in creating new houses, whether those houses are affordable to people living in the area or only to people moving in from outside the area, whether the housing results in more transportation needs or whether the housing is close to existing places of employment, shopping, education, and recreation.

"Change in urban area versus change in population" addresses "carrying capacity" in that many communities have increased the amount of land that they use at a much greater rate than the population is increasing. Clearly this is not a sustainable trend.

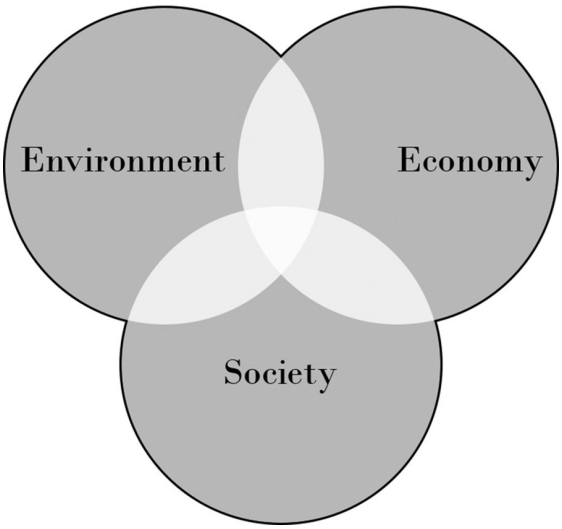
"Acres of farmland lost to development" and "land per capita used for transportation" also address carrying capacity in that there is a fixed amount of land available. These indicators link land use to the areas of food production and transportation.

"Change in the amount of impervious surfaces" links transportation and land use to water quality and addresses carrying capacity in that the impervious surfaces do not absorb water and increase the risk of flooding and storm water infrastructure.

We must make sure indicators are really measuring the right things; that they allow people to see how they can help; and measure the pressures, not just states and responses. Indicators are for measuring progress, but they also help motivate, educate, and focus communities on sustainability issues.

Now, let's look at different ways sets of indicators can be organized into frameworks. There are three basic frameworks that can be used in developing indicators: Themes, issues, and goals. Because each has advantages and disadvantages, some communities will find it beneficial to use a combination of frameworks.

It will be helpful here to have a visual of the relationships among community capital, both traditional and the systems view. Here is the traditional view of community:



This is the basic "three legged stool" view of sustainable community. All three facets are seen as equally important, and we need to balance or integrate economy, society and environment

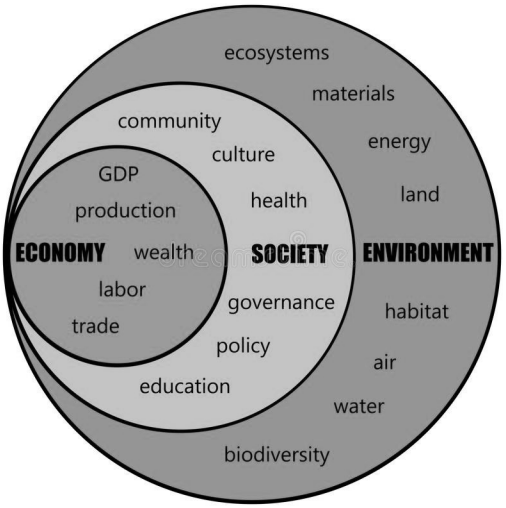
Traditional indicator sets generally measure the non-overlapping areas of these circles. As a result, progress in one area is often at the expense of another area. Sustainability indicators, on the other hand, measure the overlap among these three areas. This view of a community will frequently result in an indicator framework that is theme-based.

Common indicator themes include: Economy, education, environment, health, housing, politics/government, population, public safety, resource use, recreation, and transportation.

While communities pick topics that fit their situations, they need to make sure there is a balanced mix. Sometimes, particularly when one segment of the community is more involved in a sustainable community project, the resulting indicators can emphasize one aspect of the community and exclude others.

For example, civic groups tend to have more indicators relating to government or citizen involvement. Economic development groups tend to have more indicators relating to business. Environmental groups tend to have more indicators relating to the environment.

As we move more toward the systems view of life, it can be seen that the three facets are actually much more overlapped than the above graphic suggests. The higher the degree of overlap, the higher the degree of interconnections.



Indicators of sustainability need to highlight and focus on the overlap. An issues-based framework for an indicator set is more likely to measure the interconnecting areas of these circles.

The issues framework is similar to themes, but is focused on problems such as poverty, jobs, or pollution. It requires the same attention to balance that the theme-based framework requires.

However, a full systems view of nested self-organizing networks leads to the conclusion that the economy is part of society, which in turn exists within the environment. The environment can exist without us but we can't exist without the environment. This is a basic natural systems axiom.

This view shows that the human economy—the exchange of goods and services—exists within human society. Society, in turn, exists in the environment of Earth's ecosystems and biosphere. This view emphasizes that humans are part of nature. Human economy and human society both exist within the environment. Indicators that measure progress within this view need to measure how the economy affects and is affected by society and the environment. A goal-based framework reflects this interdependent view of a community.

The goals framework explicitly examines relationships. It uses a matrix to categorize indicators and show how they measure progress toward multiple goals. For example, the Roundtable of the Province of Alberta used air quality, waste, forest restocking, jobs, and per capita debt to measure progress toward carrying capacity, healthy economy, education, and how much of the population lived in a healthy environment.

The goals-based framework accepts, as a function of natural reality, that there will be no economy, no democracy, peace, justice, or equity on a planet whose resources are used up.

To wrap up the discussion on indicators, there are a number of methods for evaluating indicators. These include the Bellagio Principles, Hart Indicator Checklist, Waitikere City Smart Indicators, and the Hamilton-Wentworth Indicator Grades. The Bellagio Principles were developed by an international group of measurement practitioners and researchers and include a set of principles that any community developing indicators will find useful.

We are part of a very complex system, and complex systems need complex measures. Traditional, composite indicators like GDP don't provide enough information to make decisions that will result in positive outcomes for people and planet.

When trying to decide how many indicators you need to create a sustainable community, here's what Hazel Henderson says in *Paradigms of Progress*: "Trying to run a complex society on a single indicator like the Gross National Product is literally like trying to fly a 747 with only one gauge on the instrument panel."

8

NATURAL SYSTEMS PRINCIPLES

"Insanity is a perfectly rational adjustment to an insane world."

R.D. LAING

How did we wind up so unsustainable and in this handbasket to hell? The answer seemed pretty clear to me: domination, disconnection, and a pathological sense of the other, which provides the foundation for our uniquely human ability to allow stories to substitute for reality. How we can become sustainable again also seems obvious to me, if a bit more complex. Starting with the conviction that we are a natural part of the natural world, that we embody the very same underlying principles which are the basis for life on Earth, I have been deeply examining how life itself exhibits sustainability. In particular, I've been looking for the core principles used within ecosystems—the living world's analog to social systems—to become sustainable and contribute to more life.

As I've searched for the necessary foundation from which systemic change can emerge that is congruent with the principles of life, and that can be used to ground social systems that do more than meet basic needs but improve quality of life—which should be the definition of progress—a set of common concepts kept appearing. I decided to simply call them natural systems principles, and as I applied them to more and more realms, they exhibited a very high degree of purposive efficacy—they are both a sustainability indicator and a set of fundamental design specifications.

Natural Systems Principles are a synthesis derived from ecopsychology, evolutionary biology, systems science, permaculture, bioregionalism, and partnership studies. They form the core essence of the web of life and its supportive emergent attributes and qualities. I also discovered a number of ways of expressing how these principles manifest in the real world and can be pressed into service

for human use in the reintegration with our living world. The ones I've worked with most closely are the Natural Systems Thinking Process, the Earth Charter, and the Ten Key Values of the Green Party. The full expression of relocalization (Chapter 10) is firmly grounded in these natural systems principles.

The four core Natural Systems Principles are the necessary and sufficient properties of non-hierarchical, interconnected, interdependent systems or networks of self-organizing relationships that form the basis of any living system's ability to be healthy, vibrant, and resilient—or, in a word, sustainable. They provide a way of determining whether any system under evaluation can be considered sustainable—that is, whether it supports the web of life.

1. **Mutual Support and Reciprocity**—The self-organizing tendency, indeed the prime activity, of living organisms to form mutually supportive attraction relationships that further and sustain the web of life. This is a necessary activity to create the conditions to maximize individual potential. This principle also embodies the concept of equal rights and privileges that are mutually enjoyed in giving and receiving.
2. **No Waste**—Everything within a sustainable ecosystem goes toward creating, supporting, or nurturing more life, not creating garbage. Each organism gives back according to their ability. In an interconnected universe, there is no "away" to throw things, and neither methane producing landfills nor dioxin producing waste incinerators are clean energy sources or sustainable.
3. **No Greed**—Nothing within a sustainable ecosystem takes more than it needs to be healthy and reach its potential. Everything fully benefits from natural abundance to meet natural expectations for fulfillment. The concept of status being dependent on accumulation or on power-over does not exist. With the rare exception of a cancer cell, everything contributes back to the whole in a manner that fulfills their purpose as interconnected living organisms that share resources across their network boundaries
4. **Increasing Diversity**—This is the basis of both strength and resiliency, and a necessary condition for evolution. This principle is analogous to increasing orders of complexity in chaos theory. Diversity creates more opportunities to expand knowledge and wisdom, and it provides the full strength to be found in unity. Opposite manifestations of this principle, such as monocropping

and monoculture, produce more overall negative consequences to the system than even the much touted short-term benefits, which are mainly financial and don't contribute to—and actually subtract from—the long-term health and stability of the overall system.

"Human subtlety . . . will never devise an invention more beautiful, more simple or more direct than does nature, because in her inventions nothing is lacking, and nothing is superfluous."

LEONARDO DA VINCI

The point of phrasing principles 2 and 3 in the negative is a way to put humans into the context of the natural world and how we relate to it, which means expressing this context in a manner that we understand and can relate to. Phrasing these principles as "no waste" and "no greed" puts them in stark contrast to the zeitgeist of modern industrial culture.

Applied Ecopsychology—Redefining Sanity as if the Whole World Matters

How can we build or reinvigorate the motivation within ourselves to create and live a culture of peace that protects and preserves the living world? I think the most direct way is by facilitating our ability to recover and strengthen our natural selves. Many leading edge thinkers today, in almost every field of endeavor imaginable, point to humanity's disconnection, or separation, from the natural world, each other, and their own inner nature as a major aspect of the root cause of the systemic and rapidly converging crises facing the world today. If disconnection is the problem, then reconnection is the solution.

Americans seem to see the need to become sustainable, but we aren't demonstrating a high degree of eagerness to address the reasons why this is so. I believe that without directly addressing those underlying causes, any positive changes that do get made will be superficial at best, the pressures will continue increasing, and even worse problems will crop up elsewhere in other ways.

So, yes, a philosophical context and values framework is as necessary for the left as it is for the right, only in this case it provides a context for what the real polarization is—top vs. bottom; destruction vs. creation; death vs. life.

Framing "progressive" issues within the larger context of sustainability—how they relate to relocalization, why they provide a better alternative to the

status quo of free market capitalism and the enforcement of a class and race system—is integral to my intentions with this roadmap, as is demonstrating how natural systems principles can address these issues and guide our actions to make sure we're heading in the direction we desire—a yardstick to measure our effectiveness and success. A culture of peace will be a partnership culture that works with the creative life force, regardless of whatever term one is most comfortable with applying to this force.

As A. J. Muste (who got it from Ghandi) said, there is no path to peace, peace is the path. But as this can be a bit abstract, reconnecting all 53 of our senses to their roots in nature is a practical day to day activity that can be a rational, emotional, and spiritual guide to a culture of peace, and enhance all the other relationships that lead to quality of life and the possibility of reaching our potential. A culture of peace is a natural outcome of a society that sees itself as an intimate and interconnected aspect of the web of life that can only be fully healthy when all nodes within the web are fully healthy.

I was originally drawn to the field of ecopsychology through a rather circuitous route. With a background in electronics and communication technologies, physics, electrical and mechanical engineering, systems science, software engineering, and psychology, I was specializing in very large scale distributed systems and databases for Internet applications. I was asked by some friends I'd worked with and met in the dot.com world of the mid-1990s to help develop an e-commerce project that focused on environmentally conscious shopping. The goal was to provide a system that could provide complete information on a product, including how toxic the production process or materials were, whether it could be recycled, and whether its country of origin had a good human rights record. Part of my job was to discover what might motivate a person to spend two dollars more for a hammer because its handle wasn't made from an endangered Amazonian hardwood.

As I was researching the intersection of consumer behavior, environmental protection, and human rights, I picked up a copy of the ecopsychology text edited by Theodore Roszak, Mary E. Gomes, and Allen D. Kanner, Ecopsychology: Restoring the Earth, Healing the Mind, and couldn't put it down. To say it was influential is an understatement, although I had already been influenced by Rachel Carson's Silent Spring in my early teens thanks to my mom, and I was heavily involved in the social and environmental movements of the late '60s and early '70s.

Even with a degree in clinical psychology, or perhaps because of it, I was not at all enamored with the general field of psychology. I couldn't bring myself to

practice a methodology that discounted major aspects of being human in order to "prove" scientific objectivity, and which seemed to be doing at least as much harm as good. The only modality I was at all attracted to was reality therapy, which can be summed up as "grow up and get over it." This wasn't particularly conducive to building a client base that could provide financial security, so in the early '90s I returned to the tech world of building business networks and web sites.

Ecopsychology was like a breath of fresh air, and it provided a framework for health and healing that made perfect sense to me through its firm foundation in reality. I completely dropped out of the high-tech world in 2000, haven't looked back, and have felt no regrets.

Much of my thinking and perspective—on applied ecopsychology in particular—has been heavily influenced by Mike Cohen, who I met at a two week experiential workshop he was leading on the Natural Systems Thinking Process (NSTP). If some of the following sounds like something Mike would say, it's entirely possible that he did. We approach this work in a similar manner, and we had numerous long conversations during the 18 months I lived on San Juan Island where Project NatureConnect is based. Allison and I have developed and hosted ecopsychology workshops based on the NSTP for over a decade, and we're among the co-authors of the re-write of Project NatureConnect's EcoPsych 500 "Orientation Course" for the graduate program. I'll try to be careful throughout the next two chapters with attributes, but there are only so many unique ways of expressing some of these core concepts using the framework of disconnection, our 53 senses, and the logical outcomes—of both the negative consequences of disconnection and how reconnecting leads to healing, health, and wellness and informs sustainable change. I can't overstate how influential Cohen's work is on my own.

Ecology is the study of connection, of the interrelationships among all forms of life and the physical environment they exist within and depend upon. Psychology is the study of the human psyche as it perceives, feels, thinks, imagines, and acts.

Ecopsychology is the marriage of these two fields, and builds on a foundational concept of general systems science: the interconnected nature and structure of reality. It is axiomatic that the human psyche can be neither healthy nor understood in isolation. Ecopsychology examines the psychological roots of the environmental crisis and presents a way of living that promotes harmony between the environment and the individual, as well as all other relationships the individual is part of. Perhaps most pertinent of all, ecopsychology provides a healing methodology for the human-nature disconnection underlying the presenting symptoms of the rampant pathology known as the Industrial Growth Society.

Any living organism is best defined and understood by its relationships. Ecopsychology begins the healing process with the realization that the relationship between humans and all other things is an essential part of the self. As Sarah Conn points out, the very concept of health care changes when symptoms are seen not only as signals from the larger world but also as signs of our disconnection from it.

Ecopsychology recognizes that every individual is biologically, psychologically and spiritually part of Nature's nonpolluting, intelligent ways. The Earth is a living system, and the human psyche is an emergent quality of and exists within this larger system.

Leading thinkers such as biologist Edward O. Wilson say that our attraction to nature is a deep, biological need rooted in over two million years of evolution of our species. This need for the natural world is known as biophilia, a genetic urge encoded in human nature to maintain the balance and harmony needed to preserve our psychic and physical health. Excessive indoor living and a lack of conscious, heartfelt bonding with the Earth actually contribute to the disconnection of many of the senses that are a biological inheritance to keep us naturally fulfilled and in balance with the rest of the web of life. These stories and acts of disconnection cause psychological pain we obsessively try to tranquilize, and a void we never seem able to fill. When we want, there is never enough. Industrial society's "fixes" are temporary and destructive. Even as we indulge our addictions, we experience a deep, pervasive longing for something that we sense is missing from our lives.

Our very lifestyles are making us ill! Our efforts to succeed in our nature-disconnected world are taking a toll on our psychic, physical, and spiritual well-being. And we think this is normal—until we experience the wholeness or unity of reconnecting with the web of life. Unfortunately, we have a difficult time seeing or admitting that our ill-health and dis-ease is self-inflicted.

©Stephanie McMillan

Ulcers, stress, depression, ennui, spiritual angst, feeling lost or like we don't belong are not the result of a biological disease, or of not being able to adapt to social expectations. In fact, just the opposite is true. These unhealthy symptoms and conditions are actually lifestyle disorders that spring from constantly trying to adapt to an unnatural and disconnected system. A large percentage of the individuals that Western society considers to be normal, well-adjusted citizens are suffering from chronic stress, depression, anxiety, and addictions. These disorders are the result of the demands of our fast paced, non-stop urban-industrial lifestyles. This Western-based lifestyle is in direct conflict with our true human biological, psychological and spiritual nature.

Many people realize that they aren't sick or mentally ill in the traditional sense, so rather than turning to traditional therapists and mental health practitioners who try to make us feel sane about living in an insane world, they turn to lay coaches to help them do a better job of doing even more of what they're doing now that is making them sick. Quite often these motivationally inspired coaching "solutions" only make our problem worse—because the problem isn't that we're not good enough at our hectic and frantically paced lives. The problem itself is our schedule driven, deadline enforced modern lifestyle. Since our very way of life is making us sick, the better we get at it, the more at risk we become. It must be openly admitted that those who put profit and power over life have chosen to live in a world of death. This is not how one gains health, well-being, or fulfillment.

Ecopsychology provides a way to psychologically reconnect strands of the web of life, both within and without, using a multitude of natural senses our species has repressed for millennia. This sensory reconnection helps bring nature's integrity—and a sense of deep, natural fulfillment—into conscious thought. The result is improved physical, mental, emotional, and spiritual health. This, ultimately, improves relationships at all levels, including with the planet.

Most studies of ecology, and of the ecological crisis in particular, are full of scientific and economic analysis and models. Few if any, however, attend to the cultural and individual psychological or spiritual aspects.

Environmental problems mean problems for all species. But, calling them "environmental" problems tends to remove the human factor. Since environmental problems are ironically mainly human created, they would be better addressed as attitude problems. It is human attitudes and behaviors that need to change in order to make any real headway against the ecological crisis facing the world today. Since we are an integral part of the ecosystem, our own health and well-being depend on the health and well-being of the Earth.

We understand the physical threats that polluted air, water, and food create for human health, for other species, and the natural habitat, but we don't attend to the emotional and spiritual toll that environmental harm causes.

Ecopsychology provides a way of healing the personal and environmental ills caused by the dualistic world view held by Western society and science. However, it goes far beyond treating just the symptoms and politics that are the result of this mindset. Rather, it has the potential to catalyze the major shift in human consciousness needed to overcome the destructive behaviors that are negatively impacting human and environmental health.

A general goal of ecopsychology and a particular goal of the NSTP is to thoughtfully reconnect people with nature's balanced, fulfilling intelligence. Destructive thinking is recycled, and people can not only personally experience the relationship between human and environmental health, but become highly motivated to restore the wellness of humanity and Earth. Ecopsychology is highly effective in a number of settings and populations, from at-risk youth to corporate structure. By psychologically reconnecting to nature, we can reverse our self- and nature-destructive activities and trends. Harmful addictions are replaced with natural fulfillments.

Ecopsychology can be seen to have three main modalities—ecotherapy, ecoeducation, and ecospirituality. Ecopsychology can be approached from any of these vantage points, but concentrating on only one will not lead to a full, healthy, and rewarding life. Every individual needs more or less of each aspect, or will be best served by approaching health and well-being from a particular aspect, but you can't ignore any aspect without being detrimental to the others. All aspects must be brought into balance in order for an individual to be balanced, healthy and in harmony with life.

It is not pathological to feel the pain of a tortured and dying Earth, our original mother, or any of our fellow species—let alone our human kin who are being suppressed, oppressed, repressed and just exploited in general. In fact, in an interconnected universe, a universe that is friendly to life and its evolution, just the opposite is true—it is pathological not to feel this pain. Pain is a natural, important message that something is wrong and needs to change.

The standard clinical response, of course, is just to medicate away these feelings. Consider for a moment that most physical illnesses emerge from stress, and the fact that about 50% of Americans, of all ages, require at least one prescription drug per day to either make it through their day or to be able to tolerate their day. 20% require three or more prescription medications per day. When you add in alcohol and other recreational drugs that are self-prescribed, the majority of

Americans deal with reality by medicating it into submission. But as J. Krishnamurti said about a century ago, it's not a sign of good health to be well adjusted to a sick society.

Our disconnection from nature, and the greed, addictions, and other destructive behaviors that manifest in the individual psyche due to this disconnection, carries into the institutions and social systems we create. We have a world economy that is inequitable and unsustainable. Our social systems support wanton destruction of the environment and rampant abuse of people's inner nature.

However, since we come from nature, are a part of nature, and actually require nature to even exist, we feel this destruction and other abusive behaviors through stress, depression, feelings of isolation, and a rash of social ills as we both subconsciously and explicitly try to deny this primal connection to the natural world. We deny the pain we are actually inflicting upon ourselves, future generations, other species, and the supportive biosphere of all life. We deny the obvious fact that knowingly destroying one's life support system is a very good definition of insanity.

A change toward values that appreciate and celebrate our dependence on nature is desperately needed as we start the 21st century. In order to heal and restore our senses of well-being and self-worth we must concurrently restore the health of Earth's ecosystems and biosphere.

We can start this process with our methods of child-rearing. Children's natural affinity for nature does not need to be put behind them as they mature as a childish and irrelevant thing. Instead of graduating out of the natural world, children need to graduate into its significance. The human species' twenty-year psychogenesis evolved in a small-group environment that spent a lot of time leisurely foraging, and totally immersed in Nature's ways. This is how we spent millions of years adapting.

The crippling of childhood leads to adults who cling to the ways of childhood because theirs did not serve its purpose. The increasing damage and exploitation of the Earth are signs of human psychopathology.

Paul Shepard says we now suffer from an ontogenetic crippling, and in advanced civilizations such as ours this persistence of infantile qualities leads to fear of separation, fantasies of omnipotence, oral preoccupation, tremors of helplessness, and bodily incompetence and dependence. We have cut ourselves off from the humility that comes from honoring an energy and intelligence larger, older, and wiser than our own, from the tender sense of human limitation, and from an understanding of altruistic compassion. These are qualities that are no longer rewarded in a culture of objectification, pop idols, and self-interest. They

become yet more psychic disconnections that seek some type of balance and fulfillment through manifestations of neurosis and addiction.

Signs of change are easy to find, though. A mere generation ago most people weren't used to regularly hearing phrases like ozone depletion, carrying capacity, global warming, and the 3Rs—reduce, reuse, recycle. People weren't aware of the global impact of destroying the tropical rainforests; an environmental impact statement was unheard of; "endangered species" was a quaint concept best left to others to worry about, and loss of biodiversity was thought to be of little consequence anyway. People didn't—and still don't—want to think about the fact that no food chain means no food.

However, even with the growth of ecological awareness we remain conditioned to the cultural stories hurting us and our planet and still need persuading. Therefore, psychology must have as one focus an understanding of altering behavior by shifting consciousness, raising awareness, and providing avenues for action. As Margaret Wheatley, Harvard educated researcher and management consultant points out, people want to participate, and if you invite them in, they will create a world that has them in it, and will work with you to make it happen.

I'm coming to understand the positive outcomes of taking the time to understand and work with human motivations—whether it's reason or passion, altruism or selfishness. Initially, we must meet people where they are. This little bit of common sense is nowhere near as common as it should be. If we start with an assumption of greed, our tone will be one of contempt. If we start with the idea that others are stupidly self-destructive, our tactics will run from over-bearing to dictatorial. Shame easily turns to resentment, and accusing others of being disconnected from the source of life and cowering before illegitimate authority will only produce defensive rigidity.

We don't want to overload others with anxiety and guilt, we don't want to vilify the public, and we don't want to make the task appear impossible due to the enormity of the situation and the forces allied against change. But we must also deal honestly with this latter truth. We, for the most part, have made the best decisions possible given the information that is readily available and purposefully presented by the status quo and its various protection mechanisms. However, although we must become aware of our complicity, starting with blame is counter-productive.

Ecopsychology, because it addresses the root causes of our panoply of personal, social, and environmental crises, must become and remain credible in the public eye. It is important for ecopsychologists in particular to become activists outside of their offices. They must make a personal commitment to live and

demonstrate personal empowerment through the activism required to be the archetypal warriors in nature's crusade for sustainable survival.

One of the planet's foes is the advertising industry with its relentless pushing of compulsive consumption. The way it feeds addictive substitutes for natural attractions is a use of psychology against the environment, and a case can be easily made that it is unethical from the perspective of human well-being. Psychology must work to restore balance and encourage values that don't imperil Earth, but that instead encourage and facilitate a shift in values to those that support the Global Life Community.

Like Jung's psychoid, partly psychic and partly matter, "me" has a material substrate, the liveliness of matter shows that the human subject is composed of the same nature as the world it comes from. Psychology cannot ignore the consequences of the mind's connection to the world at large. A healthy mental life, a harmony with one's deep self, is not merely a journey to the interior but a harmonizing with the physical world.

It is time for psychotherapies to admit that feelings are not more subjective than air quality in the healing process. James Hillman points out that using herbicides on crabgrass is as repressive as what some do with their childhood memories. Abuses that have been suffered in one's deep interior pale in comparison to the abuses going on in one's environment, abuses that one may even commit or comply with. "It may be easier to discover yourself a victim than admit yourself a perpetrator."

The "me" is not merely subjectively internal. Healing in the external world is as therapeutic as healing in subjective internal feelings. The bad place one is in could be more than a depressed mood or anxious state of mind. It could also be an environmentally sealed factory, a far-flung suburban subdivision, the congested freeway that connects the two, or the loss of one's land to corporate appropriation.

Environmentalism is a vast, worldwide movement that includes the complex adaptive system of everybody and everything. It is constituted of the human species, the flora and fauna, the oceans and mountains.

Current psychotherapies are dwarfed in comparison, dealing only with introspective personal, private fears, desires, and guilty secrets. There is no link between the personal and the planetary.

But the human soul has its home in the soul of the Earth. Earth and the human species are both crying out for changes that can institute healing, for a new basis for sustainable economic, emotional and spiritual life.

Environmentalists must find allies in psychotherapists, and vice versa. Environmentalists have mainly used the statistics of impending doom and the

coercive emotional force of fear and guilt. They have a tendency to treat people as if they can't be trusted to behave as the living planet's children.

Therapists can begin to bridge this gap by broadening their understanding of human sanity to go far beyond the shell of the human body. The Diagnostics and Statistical Manual of the American Psychiatric Association only includes one Nature related disorder; Seasonal Affective Disorder. However, even this depressive mood swing plays second fiddle if the depression can be related to seasonal unemployment. Nature once again loses out to the economic.

But the repression is deep. Our culture calls it madness to listen to the voices of the Earth, to think that the non-human can feel, speak, and be heard. Could it be that by asserting this particular conception of madness, psychotherapy itself is guilty of defending the deepest of repressions, the form of psychic mutilation that is most important to the advance of industrial civilization? This is, of course, the assumptions that the Earth is nothing more than a dead resource and a bottomless pit for waste; that Earth isn't a living entity; that we're not interconnected and interdependent. Which leads back to the focus in modern psychotherapy of trying to make us feel sane about living in an insane world.

Within modern psychotherapy, Freud bears much of the responsibility for this self-destructive mindset. He was convinced the external world began at the surface of the skin, and in Civilization and its Discontents said that psychotherapy was responsible for patrolling the "boundary lines between the ego and the external world." We teach children that the permissible way to see the world is through repression of cosmic empathy, a psychic numbing we label normal. Even humanistic psychology sees self-actualization as nothing more than heightened personal awareness, and existential therapists make alienation from the universe the very core of our authentic being.

For Freud, "Nature is eternally remote. She destroys us—coldly, cruelly, relentlessly." But from the 1990 Harvard conference Psychology as if the Whole Earth Mattered, it is pointed out that when "the self is expanded to include the natural world, behavior leading to destruction of this world will be experienced as self-destruction." Walter Christie said "to preserve nature is to preserve the matrix through which we can experience our soul and the soul of the planet Earth." Sarah Conn contends, "the world is sick; it needs healing; it is speaking through us; and it speaks the loudest through the most sensitive of us."

Theodore Roszak comes to the conclusion that at the core of the psyche lies an ecological unconscious, there to be drawn upon for restoring our connections to and balance with nature. All methodologies which purport to be ecopsychology need to understand people as both shaping and being shaped by the natural systems

environment. This makes ecopsychologists and environmentalists compassionate allies to Earth in a project that is a positive contribution and a noble cause: "that of returning the troubled human soul to the harmony and joy that are the only solid basis for an environmentally sustainable standard of living." From this return the values that support life, progress, and potential can emerge and be embraced.

One of the problems with our dominator culture is the perceived need to control. We see this manifested in multinational corporations who want to control natural resources, control their employees and customers, and control public opinion. Instead of embodying sustainable development processes for human needs, we dam and dynamite. Instead of honoring natural processes and developmental patterns, we crave anti-aging creams and silicone breast implants.

It is thought that much addictive behavior occurs because some untenable violation has happened to us, not that these behaviors are somehow natural. Ecopsychologists see this trauma as the systemic and systematic removal of our lives from the natural world. Earth based or nature centered cultures exhibit an ease with life in general, a non-ego based sense of self, dignity and wisdom, without the addictions and abuse that is displayed in so much of our nature disconnected culture. This sense of ease is something many of us long for in our own daily lives, as evidenced by the ever growing self-help industry.

This disconnection from our natural home and our Earth Mother is itself a psychologically traumatic event. Thus, traumatic stress is no longer a rare event, the result of natural events and accidents that might only happen a few times in the course of one's life. It occurs early in our childhood and continues on in our daily adult lives.

One outcome of traumatic stress is dissociation—we build a partition in our consciousness where we repress experience and ignore our full and complete multi-sensory perception of the world. We internalize a dichotomy between wild and tame. We've built a culture that then isolates and insulates us from the natural world.

The primary sources of fulfillment and satisfaction that would normally come from the natural world and supportive communities have to be satisfied. We were born to have all of our multitude of senses fulfilled as a part of our biological inheritance. These senses include not just the mechanistic senses, but our emotions, intuition, rationality, our sense of belonging to community, humility, and perhaps most importantly, our sense of love. When we are disconnected from any of these senses, our psyche tries to restructure itself to regain balance in order to survive and so we pursue substitutes that become addictive. We become obsessed with secondary sources of fulfillment as if our lives depended on them.

We depend on drugs, overconsumption of food and material goods, greed, and codependent relationships instead of balanced, reciprocal, healthy relationships and natural fulfillments.

As clinical psychologist Chellis Glendinning observes, when you combine the trauma of our disconnection with the addictive substitutes for natural fulfillment, the notion of greed being a natural human characteristic becomes a wholly inadequate explanation for our cultural pathology. I contend that greed is more correctly seen as a natural reaction to an untenable situation—an inability to satisfy natural expectations of fulfillment.

We end up with what ecopsychologists Allen Kanner and Mary Gomes call a culture of narcissism. We've built a culture based on fantasies of endless comfort and convenience on demand. We've created a false self that is inflated, grandiose, entitled, and masterful. This false self covers up underlying feelings of worthlessness and emptiness.

We struggle to meet the impossibly high standards of this false self and we become frustrated and depressed from the impossibility of being able to do so. We avoid at all costs admitting and dealing with the pain and emptiness.

American consumer habits reflect the grandiose and empty aspects of narcissism. We purchase expensive or trendy items which give us a rush of satisfaction. But the novelty wears off and emptiness threatens to return. So we turn our focus on the next purchase or experience, but they also quickly become obsolete and lose their emotional value.

Our insatiability is having grave consequences.

Consumption and overpopulation are the two major threats to the environment. Overpopulation is generally accepted as a problem, but as Alan Durning points out, consumption is still seen as a primary goal of economic policy. The advertising industry that pushes this view creates artificial needs that directly conflict with developing satisfying and sustainable relationships with the natural world and with each other.

We seek the new, regardless of its quality. This produces a psychological aversion toward anything that is old, repaired, or recycled. We believe the story that there is a product or technology that is available or can be developed to solve every problem and cure every ill. We end up in a situation where owning a product is equated with being part of the scientific and engineering genius that created it. Consuming technology then becomes embedded in the psyche as a substitute for real creativity.

When psychologists hired by advertising companies offer their statistical skills and therapeutic insights to manipulate us for economic gain instead of

trying to foster well-being, they are committing an outright abuse of their expertise. But with consumerism so embedded into the American psyche, this abuse isn't even mentioned in the American Psychiatric Association's code of ethics.

The messages of corporate advertising, and the pervasive media images of the American Dream (perhaps more accurately described as the American Fantasy) have disconnected the sense of dignity and integrity of living a materially simple life—not a life of austerity, but unemcumbered by excess and trinkets—a life of natural fulfillment. In fact, a lifestyle of ecological sanity, which finds meaning and grace in living a simple and humble life in sustainable, fulfilling relationships, is mocked and undermined by a Madison Avenue that continues to wreak psychological havoc with the Western psyche.

Advertising has become an outright lie—it is not merely an exaggeration or distortion of truth. Success does *not* depend on your brand of toothpaste. When you take into consideration the vulnerability of children, the commercial lies and manipulations are tantamount to corporate child abuse. The public must become aware of the psychological damage that is being done to us.

These are all symptoms of a pathological alienation we have created that leads to an ecologically disastrous separation from the rest of our living planet, our source of life.

Driving gas-guzzlers, eating at any fast food establishment, building 10,000 sq. ft. houses for a family of two, buying "labor saving" devices for labor we wouldn't ordinarily do in the first place, working longer hours for less "real" money (in purchasing power), wasting our health care dollars on cosmetic surgery, building nuclear reactors to power our hair dryers—and then demeaning and devaluing any culture that doesn't want to emulate us. We try to export these shallow values to the rest of the world and ignore the fact that with the world's present population, the Western "standard of living" (not to be confused with quality of life), even if it were possible for everyone in the world to adopt, would require five planets the size of the Earth—two to supply the raw materials, and three to hold the waste and garbage.

This standard of living is really best described as a sub-standard method of merely existing. For validation of this point we need look no further than to my aforementioned percentage of American adults who need daily anti-depressant or stress reducing medication, alcohol or other recreational drugs, various pain relievers, or are in regular counseling for anxiety or fear induced phobias, all to try to remain sane in our insane Industrial Growth Society.

Does human happiness really need to be opposed to the needs of the planet? Can satisfaction be found that is harmonious with nature and with people's inner

nature? By seeking satisfaction through consumerism, we are doing as much harm to the planet as is caused by overpopulation. And not only does consumerism fail in its promise of happiness, it also decreases our free time and, by keeping us from developing satisfying relationships, consumerism makes us even less happy. This is all clearly explained by Alan Thein Durning in his essay "Are We Happy Yet?" in Roszak's *Ecopsychology*.

Consumerism—the concept of achieving prosperity through growth in consumption—is US economic policy's primary goal. We are 4.5 times richer than our great-grandparents, but it would be very had to argue that we are 4.5 times happier. In the effort to turn consumption into a ritual to deliver spiritual happiness and self-fulfillment, we have fooled ourselves into thinking that material goods can fulfill what are actually social, psychological, and spiritual needs.

Since lives of material affluence aren't delivering the promised Nirvana, perhaps people are tuning in to the fact that if human desires are infinitely expandable, it is physically impossible for material consumption to provide fulfillment—a fact ignored by the economic theory that fuels consumerism.

Consumption fails to make us happy, and advertising then cultivates and preys on that unhappiness. Ads make people self-conscious about being human and unique; to be unhappy with whatever they have that doesn't match this year's fashion. The advertising industry then assures people that the corporate gods have the proper synthetic salve for their falsely created, non-existent problems.

Our civilization's weakness can have many terms applied to it—materialistic, individualistic, separated, and dominating. One of the things that has happened is that we have become disconnected from and forgotten that close ties to family and social groups define one's character and supplies one's support group. Today, we spend less time with family—we're overworked, we send our children to daycare and public schools, single parent families are more common, and then our young grow up and go off in their separate ways.

The important things don't get passed on between generations—skills and stories, family pride and closeness. Our young have as their prime goal getting out on their own and acquiring their own set of materialistic possessions and the overall consumption of the planet's finite resources increases. In this process feeling lost and alienated also increases, and finally we age and die alone. We have truly lost our way on a cultural level.

Family security is replaced by accumulation of money and property—substitutes for natural fulfillments that are available to us but which we ignore as meaningless, insignificant, or of inconsequential sentimentality. We're taught that a necessary component in the equation for happiness includes self-sufficiency.

Our mobile workforce increases displacement and distance—then we're forced to subsidize the travel industry to be with family and childhood friends. Economic disparity and the lack of meaningful employment also causes many of America's young to join the military, which also contributes to separation from family and from place.

People take pride in being able to provide material comforts, by accumulating money and other outward signs of wealth that demonstrate success, and will say that they are happy. And these can be positive qualities. But why is hate, dysfunction, depression, stress, cancer, abuse, and general feelings of helplessness and disempowerment increasing at such an alarming rate? Environmental toxicity and radiation is destroying not only our health, but our minds. Our indoor lifestyles and materialistic goals have little connection to healthy nature, and at best people can only find a little time to squeeze in a little meditation or attend church on Sunday morning.

Overcoming media pollution and dominator social constructs must also become a high priority. We aren't provided with any clues that not only might there be something wrong, but that there might even be a better alternative. This is especially true if we look only to TV, newspapers, and even the songs on the radio. We're taught that we need to follow the Protestant work ethic instead of following our dreams or engaging in what we feel passionate about until the passion for ourselves and the world at large becomes completely smothered and just dies out. We rely on disconnected cultural signals to tell us what to think and how to act, and thus become just as broken and alienated.

Future possibilities for economic and ecological health must be understood much more widely and in a much wider context. By reconnecting with nature we find that an extended family is readily available, as our Earth Mother can be found even in her small places and with the smallest of her creatures. In that connection we can find meaning, purpose, fulfillment, and ease.

Why are we so complacent about the atrocities that pass for business-as-usual? The question has been posed by therapist Bruce Levine, "Why aren't Americans in the street on a regular basis?" We have plenty to be upset about: the economic meltdown, environmental collapse, unpopular wars, loss of civil liberties and other basic rights, and the basic inequity and injustice imposed by a paradigm that is built on domination and exploitation. And that's just the general milieu. There are plenty of specifics, such as the taxpayer bailout of the financial institutions that caused the economic collapse, the Supreme Court selection of the useful idiot from Texas, the selling of our democracy to the highest bidder—whether foreign or domestic, and a toxic sands pipeline (in size XL) over our

fragile ecosystems to sell foreign oil to foreign markets while the American public absorbs the costs of any externalities.

A close cousin, liberation psychology makes the connection between this unwillingness to act and classic abusive relationships. I came to this conclusion myself while attending the 6th World Water Forum and listening to people talk about the failures of market mechanisms to provide water and sanitation, and then stumbling over themselves in calling for market mechanisms to provide water and sanitation. Then they delve even deeper into fantasy as they insist the market is necessary to protect these rights. Calling on the market to protect the right to water and sanitation is simply not congruent with rationality. As a culture, we've developed a co-dependent abusive relationship with economic growth.

Liberation psychology, however, is not a clinical methodology; it is a critique of and response to traditional therapies that see behavior as only the result of intrapsychic processes independent of historical, cultural, and environmental factors. Thus, it has commonalities with Auyervedic medicine in calling for treating the family, community, and environment in order to affect personal health. Congruent with my own research in natural systems, liberation psychology also says that much distress does not have an internal cause, but is a reaction to external events, imposed trauma or oppressive environments. This framework allows people to understand their relationship within the dominator hierarchy, and how they participate in it—either complicitly or complacently.

As with ecopsychology, there is an explicit focus in liberation psychology on the need to heal instead of medicate or make people feel as if there is something broken in them if they can't adapt to the industrial paradigm, if they can't accept their imposed place in the world, or if they actively oppose empire, elite hierarchies, and corporate rule. Traditional therapies reduce all structural problems to personal, internal ones—the basic scientific reductionism of Enlightenment thinking in action.

As Ignacio Martin-Baro pointed out, in the rush to prove legitimacy within the scientific and political realms, psychology aligned itself with supporting the interests of the ruling class and established power structures. Of course, if early psychologists had just listened to William James in the first place, we wouldn't have wasted the last 100 years. Unfortunately, I see this same move afoot today among a developing second generation of ecopsychologists who think they must cater to mainstream thinking in order to prove legitimacy.

Mental health professionals who treat their clients in a manner that encourages compliance with the status quo are acting politically. Psychological schools of thought that focus on maximization of pleasure as the primary motivation of

human behavior are similar in kind to today's economic theories that make the same erroneous assumption, and are based on an outmoded 18th Century understanding of human nature. This totally ignores justice, freedom, and autonomy. Helping people adjust to oppression and exploitation leads to apathy, defeatism and learned helplessness. How it can be justified as healing, health, or wellness is not apparent to me.

To apply this concept to our understanding of addictive behaviors and see if we can embrace an effective process for breaking bad habits, let's start with a thought experiment.

Have you ever experienced the beauty of nature? A sunset, a forest glade covered in spring flowers, a sandy beach, the grandeur of a mountain range, the freedom of the wind, the spectacle of fall colors. Have any of these or similar experiences brought you joy, wonderment, or awe?

Do you realize that simply as a living organism you're entitled to experience these good feelings the majority of the time? Cultural stories that disconnect us and make us feel like there is something wrong with us that can only be solved with the latest fashion or cosmetic surgery impact how we come to think about ourselves—our identity and sense of self-worth. Think about your ability to sense the beauty in the natural world. If you didn't embody beauty yourself, you wouldn't be able to sense the beauty in the natural world. All attraction relationships are two way—bee to flower, flower to bee.

The story of evolution is that Nature is always changing. The healthy individual does not retain a fixed, unchangeable identity. Ecopsychology, as it expands on traditional Western therapy's focus on the inner landscape, connects the healthy self to its community and its environment—to the greater landscape and shows that an active participation in the world is a necessary aspect of health.

Everything we have and are comes from nature, including our consciousness and intelligence. We are so tightly interwoven and interconnected with the environment around us that every cell in our bodies is replaced on a regular basis. We slough them off and pass them through as quickly as they are created. And the material for all these billions of new cells come from the Earth itself—from the soil, through the plants and animals we eat, from the air we breathe, from the water we drink, and from the energy supplied by our sun. We are involved in a constant exchange of energy and matter with the natural environment and the community of life on all the levels of our existence—physical, emotional, intellectual, and spiritual.

As individuals, we can change both our internal obstacles as well as be effective in helping create the necessary changes in our greater body and

consciousness—our external lives. As conscious mental agents, we can also live and act in ways that are friendly to life and its evolution.

I believe that Natural Systems Principles and their intimately related foundation in applied ecopsychology, especially the NSTP, provide a strong pillar in the foundation for progressive, systemic sustainable change. It's not NewAge, it's AgeOld—and its truth and power are being affirmed on an almost daily basis by every branch of modern science.

Of course, this all makes the central bankers and the rest of the Kleptocracy very nervous. History will not look kindly on this class as they're bringing about their own downfall through Peak Oil and the imminent collapse of a growth economy operating well into the overshoot range of environmental carrying capacity. Using nature's models and returning to natural sustainability is the only thing that I've found yet that actually has the ability to return our sovereignty. The process of thinking and acting the way nature works is very easy to learn, and very easy to teach, because it's a natural part of who we already are.

Remembering, Recovering, Rebuilding All 53 Senses

Recovering and strengthening the natural self is a core practice of applied ecopsychology, and a major aspect of the NSTP.

Based on over 40 years of research in natural areas with groups of students and other learners, which included founding the Audubon Society's Expedition Institute, Cohen developed a means for anyone who is open to the idea to make conscious sensory contact with nature and to integrate what is learned from that connection into their daily lives across the rational, emotional, and spiritual continuum. Use of the NSTP has been shown to help reverse and prevent personal problems, and it has a distinct possibility of doing so on the global level as well.

Cohen believes the reconnecting with nature process is a missing link in the way we learn to think. He says, "Since its ancient beginnings, the global life community has operated like a superorganism that biologically supports, and is supported by, all its members—including humanity. To our loss, industrial society has physically and mentally separated us from that organism. Our destructive effects show that our thinking is missing input from the organism's intelligence, balance and beauty."

The synthesis of this work has developed into an organization called Project NatureConnect (PNC). This includes an accredited graduate degree program in applied ecopsychology which is carried by a number of universities around the world as well as being available over the Internet. PNC is Cohen's gift to nature,

his way of giving back something to the source of life itself. In 1994, the Board of Directors of the University of Global Education, a United Nations Non-Governmental Organization, announced that World Peace University Professor Michael J. Cohen, Ed.D. was the recipient of the 1994 Distinguished World Citizen Award. This award honored his extraordinary 35 years as a founder of nature-connected education and mental health programs. His applied ecopsychology methods and materials catalyze global awareness and personal, social, and environmental responsibility.

If you've read this far in this book, by now you should at least be comfortable with the idea that the mechanistic, purely objective worldview of Western science has a tendency to underdetermine understanding—at the very least. But Cohen's 53 sense model requires a bit of explanation.

An integral aspect of the NSTP is that we have 53 senses—which are more accurately described as sense groups—that have evolved in us to keep us in balance with the rest of the natural world and support healthy fulfilling lives. We often refer to those senses as attraction relationships, or other ways of knowing, and we share them at some level with all other organisms in the natural world. That is, we have more than the five measurable mechanistic senses handed down to us by Aristotle 2500 years ago and validated by Enlightenment science. Even our culturally accepted sense of sight consists of the senses of light and color, and these work together with our mental sense of form and our feeling sense of motion. When we naturally fulfill our senses we feel good. The natural support we receive is a pleasurable experience.

That we have more than five senses is not a particularly unique view in the world of modern science. Guy Murchie, in The Seven Mysteries of Life, lists over eighty senses gathered into 31 groups, mainly for literary convenience. Other researchers, in true reductionistic form, have compiled lists of up to 130 senses. Cohen groups the 53 senses—which can all be rekindled and strengthened through reconnecting with nature activities—into four categories. The radiation senses include sight, color, and temperature. The feeling senses include hearing, pressure, touch, and proximity. The chemical senses include smell, taste, hunger, and hormonal. The mental senses include fear, procreation, play, place, time, community, language, humility, consciousness, beauty, history, belonging or unity, and spirituality. A complete list is included in Appendix C.

Our senses are not mere thoughts, feelings, or emotions. Each sense has a unique neurophysiological blueprint that interacts with information from the environment. Some of them are subtle, and we don't normally pay any attention to them, such as our sense of gravity, but they quite literally help us stay in

balance, such as our sense of equilibrium. Our senses typically combine to let us know when we have maximum support in the moment, and these are positive attraction relationships, or simply attractions. But there are negative attractions as well, such as our senses of pain and fear. These senses function to inform us of when we don't have maximum support in the moment, and that we should be seeking more positive attractions elsewhere. A simple example is when we put our hand on a hot stove. Our sense of pain is a signal to remove our hand before serious damage occurs.

Our reaction to abusive or exploitive relationships falls into this category as well. These relationships are not meeting our natural expectations for fulfillment, to use Jean Liedloff's terminology, in satisfying our senses of belonging, companionship, acceptance, and trust. These relationships trigger our senses of internal pain and distress, and they hinder or block development of our sense of self-worth.

Think about your sense of thirst. When you're thirsty you're naturally attracted to water. Your sense of thirst is just as real as the water that fulfills it. When you drink and your sense of thirst is fulfilled, you feel good. On the other side of the water cycle, you have a sense of excretion. When you fulfill that sense it also feels good—you have maximum support in the moment. Feeling good is the natural state of being, and we have a number of ways of knowing how to achieve and remain in this state.

We need to remember not only the naturalness of these senses, but that we should trust them in a culture that tends to only validate two of the 53 beyond the mechanistic senses—rationality and language. That's why we're so out of balance today. There's a way to tell when the attractions are healthy, supportive and when things are in balance—that's the experience of "green in green" that I started Chapter One with.

Getting back to thinking about systems, our bodies are a system of mutually supportive attraction relationships. Not only do bodies want to stay in balance, that is one of their prime activities. When any of our senses can't find natural fulfillment, they will seek out and cling to addictive substitutes as if our lives depended on them, because in a very real sense they do. The power of addictive substitutes comes partially from the fact that they don't fulfill, so we need more of them and it requires more time and energy to obtain them. Shopping and materialism in general are addictive substitutes for psychological and spiritual health and well-being. Processed foods provide a substitute for nutritional needs. Drugs are a substitute for health. Abusive relationships or other bad habits are addictive substitutes for our very being's natural expectations for fulfillment and the development of fulfilling attraction relationships.

To that end, here's a couple of simple yet profound reconnecting with nature activities for you to try. These are the two fundamental activities that then become integral to all the other activities taught by Project NatureConnect. I very loosely adapted these from Cohen's *Reconnecting with Nature* with minor modifications for my ecotherapy practice.

Reconnecting with Nature: Giving Thanks Activity

The natural world is composed of attractions that intelligently hold it together in a sustainable balance or holistic integration. The natural world includes your inner nature. Reconnecting with Nature activities allow you to consciously participate with nature's intelligence and healing abilities. These attractions in nature and in yourself let nature's intelligence demonstrate to your rational, thinking, languaged mind that it is reasonable to enjoy and benefit from nature connected thinking. The process is attractive in and of itself.

The reconnecting with nature process and activities are collectively known as the NSTP. This process is somewhat analogous to driving a car. You can learn about driving by reading about it, but if you want to actually go somewhere, you have to get in the car and drive. In order for the activities to reconnect your senses with nature, you must participate in them. The activities allow your verbal-reasoning mind to reconnect with your sensory mind while it is connected to nature's ways.

The experiences that occur during nature reconnecting activities also help us build healthy, responsible relationships by sharing them. One of the ways people learn is through verbal communication. Sharing our thoughts, feelings, and experiences with others is as valuable as the nature connecting activities themselves. If you can, do these reconnecting activities with 1-3 friends or family members who are attracted to trying them.

As we learn about reconnecting with nature and attraction relationships, we begin to understand why the world itself works so beautifully, and why our own lives don't often reflect that peace and beauty. The disconnection of any of our senses, or applying addictive substitutes to them results in a rash of ills at many levels. However, research shows that we can rejuvenate our atrophied natural senses and make our lives and the world a better place.

We are born from nature. We were not created from the culture or nationality we were born into. We are, however, shaped by the society and language of our childhood. Industrial society in particular teaches us that we are physically and mentally separate and disconnected from nature's intelligent balance that sustainably supports life.

Fortunately, we do have the freedom to choose another way of life. If we are attracted to a more natural way of living, we can choose to become closer to the peace, beauty and intelligence found in nature. In fact, that's what most of us do when given the choice. We head to the mountains or beach on our vacations or when we retire. Our daily problems don't exist in intact natural areas. We can learn how to return to the life supportive relationships that are the ways of nature, because those ways are already a part of who we are. We merely have to remember that.

These activities are designed to work with things we are attracted to in nature. If at any time an attraction becomes unattractive, because it arouses fears, bad memories, or discomforts such as changes in the weather, seek a new attraction. Negative attractions are a message from nature that we don't have nature's support in the moment, and that we should be seeking a more attractive aspect of nature elsewhere in the moment.

Let's start this process off with a thought experiment. Think of a previous enjoyable experience that you've had in nature. Take a few moments to bring this experience fully into your awareness. What senses or sensations do you remember experiencing or feeling? What was rewarding or worth remembering about the experience?

Do you trust that this experience was real? That you are a person worthy of having enjoyable or pleasant experiences with nature? Do you recognize and realize that you didn't have to learn how to have or enjoy this experience or feelings from a book, in a school classroom, or from a parent or other authority figure? That this experience and the feelings and sensations that were a part of it are a natural part of you?

Would you like to repeat this experience? Would you like to have other experiences that produce good feelings or sensations? Would you like to use all of your senses to give you the ability to repeat these good feelings and make them a part of your daily life?

Through the following nature reconnecting activities you have the potential to recognize more strongly, through direct personal experience, that you're a part of nature not apart from it.

To begin, think about the fact that we are biologically constructed to sense natural attractions. Your most attractive experiences in nature consisted of many senses, such as color, touch, temperature, sound, fun, and belonging. Nature-centered peoples know that following their natural sensory attractions to people and the environment is the key to survival in balance. We each inherit this ability. Have you ever given thanks to nature for it?

While in a natural area, or with some intact piece of nature, notice some aspect of this area that calls to a sensory part of you that appreciates it. Take note of this fact. It is a biological attraction relationship, this connection between you and an aspect of nature, which may be a combination of many individual attraction senses. You naturally sense it; it is a Love that is alive and well in you. The sensory attraction invites and welcomes you, it feelingly encourages you to enjoy this moment. On a feeling-sensation level, it gives you permission to be here. In whatever manner feels most comfortable to you, offer thanks to the attraction . . . and then give thanks to that sensory part of your self that experienced this attraction. This latter aspect is more important than you may realize at first.

Further validate this attractive connection relationship to your sense of language by putting it into words, such as a sentence form similar to: "I know my inherent sensitivities to natural attractions are alive and well because I could enjoyably sense and feel _____." Include whatever you sensed: colors, forms, shapes, textures, pressures, temperatures, fun, motion, emotions, etc. Note that you can have these same sensations and feelings about people, too. Although these senses exist without verbal language, they are a form of connectedness shared throughout nature. You can and should trust them.

With this background, and after a good night's sleep, you are ready to reap the benefits of Cohen's "permission" reconnecting activity.

Reconnecting with Nature: Obtaining Permission Activity

If you have ever enjoyed a good experience with nature, you know what you are missing by not having those good feelings most of the time. Being in a natural area shows that nature approaches perfection when it comes to living in intelligent harmony. Natural systems provide a good model for human systems. Your potential for having good experiences and reaping the rewards of living in harmony is built into your soul, psyche and biology.

These natural rewards automatically take place when you reconnect with nature. You can sustain these rewards, and the Earth, by letting similar experiences in nature teach you how to think the way nature works. You were born with this knowledge intact as part of nature, and can remember it by reconnecting to it.

By consciously bringing this sensory way of thinking and relating into your life, you model the way nature creates consensual attraction relationships at all levels—from microorganisms to complete ecosystems. This is the process nature uses to sustain diversity, peace, and sanity. This life-sustaining integrity, beauty

and intelligence demonstrates that it works. Our challenge is learning how to follow our natural, unstoried attractions to achieve nature's integrity. Fortunately, we can choose to reconnect to this global process that can bring the good feelings of cooperation and wisdom into our thinking and lives.

Industrial society teaches us to think with competition and exploitation instead of cooperation and altruism. It says that in order to exist, we must subdivide and conquer the nature around and within us. This story victimizes us as we proceed in our undeclared war against nature as we conquer and crush nature's intelligence within us.

When we destroy any integrity beyond its ability to regenerate, the integrity will vanish. The disastrous results of sacrificing nature's integrity are exhibited everywhere in the world today. Disconnected from nature, we no longer have the ability to resolve our personal, social, and environmental problems. However, enough of nature still remains for us to recycle our thinking and restore personal and global integrity.

It should seem reasonable then to agree that our thinking is mentally deficient when it is nature deficient. For this nature connecting activity, when you go out and find a natural sensory attraction, notice how you feel, and thank the attraction for these good feelings.

Then, consciously treat this area or attraction fairly, with respect, as an equal or a friend. Don't bully it; gain its consent to visit and enjoy it. Ask this natural attraction for its permission for you to be there. This will increase your sensitivity to the area. Ask it if it will help you learn from it. You can't learn from nature if you approach it with the conscious intent that you are going to injure or destroy it, or it you. Wait for about a half minute, and look for adverse signs or signals of danger such as bee hives, thorns, spider webs, cliff faces or anything else that could be considered a negative attraction. If a good and positive attraction still exists, or if it becomes even more attractive, you have gained its consent or permission. If not, simply find another attraction, and repeat this process.

After you've con-sensuously gained the area or attraction's consent, compare how you feel now, in the present moment, to how you felt when you first felt this natural attraction. Has any change occurred? Remember, if you find that gaining an attraction's permission is rewarding, you can do this activity whenever you want. At will, you can become more connected to nature. It is now a part of you.

To see how this activity impacts your sense of self, complete this sentence: "My experience in nature shows me that I am a person who gets good feelings from _____." Use this sentence form whenever you connect with nature's attraction relationships to reinforce a positive, natural self-image.

Reconnecting with nature and building responsible, mutually supportive and empowering relationships lays the foundation to holistically improve personal well-being in order to improve ecological integrity and create the possibility for a democratic and sustainable future.

Although you can reconnect with nature as often as you like on a daily basis, there's an important concept from the psychology of learning to be aware of. Cohen and his students have developed literally hundreds of reconnecting activities. For the activities to have maximum effect, the mind and body need time to process them. This happens naturally during sleep. So, try not to do more than one "formal" reconnecting activity per day.

9
RATIONAL SPIRITUALITY

> "Inability to accept the mystic experience is more than an intellectual handicap. Lack of awareness of the basic unity of organism and environment is a serious and dangerous hallucination. For in a civilization equipped with immense technological power, the sense of alienation between man and nature leads to the use of technology in a hostile spirit—to the "conquest" of nature instead of intelligent co-operation with nature."
>
> ALAN WATTS

Modern Deism, or Shamanism for the 21st Century

Rational Spirituality, an outgrowth of my work in natural systems principles, is a term Allison and I came up with to describe a way of being that is holistically integrated with the web of life. It succinctly names a process and practice for interacting with the world at large that grounds the healthy and fulfilling lifestyles necessary for the paradigm shift required by Western culture. Anyone who would try to turn it into a religious movement or a cult would simply be proving to the world that they're actually pretty clueless about the concept.

A culture using Rational Spirituality as one aspect of its foundation will naturally be a partnership society because the two concepts share many similarities. One advantage of the phrase "Rational Spirituality" for Westerners is that it provides a sharp contrast to a major drawback of Enlightenment thinking—the disconnection among fundamental aspects of the self and its embodiment or environment. This disconnection has served to underdetermine what we can know as well as undermine who we can become, impeding the actualization of potential. If we don't rapidly heal this disconnection, the B-movie Idiocracy will be seen as prophetically profound.

Rational Spirituality, drawing heavily from ecopsychology, deep ecology, and systems science, is intended to synthesize current thought and provide a firm foundation, an epistemology, for scientific inquiry as well as a framework for daily life. Rational Spirituality is a practice for taking the ecological self into

the ecozoic age (to borrow a couple of other phrases that are becoming more frequently used). This is not a spirituality that only gets practiced on Sunday mornings.

Today we are experiencing a number of interrelated problems in our relationships with our larger body and spirit—to Mother Earth and Father Sun from whom our senses emerge and which give us the ability to experience and ponder them, each other, and ourselves.

The first of these problems is that we have allowed religion to substitute for spirituality. The second has two intertwined aspects: We have forgotten that it is highly rational to experience spirituality, and we have allowed rationality to convince us that spirituality is unnecessary. Rational Spirituality is the explicit re-integration of these two important aspects of being human and developing our full potential while also embracing all of our other emotional expressions.

As previously mentioned, increasing numbers of leading thinkers in the physical, biological, and social sciences conclude that the root cause of our rapidly converging global crises—environmental, social, and personal—is our disconnection from all that is natural and naturally fulfilling. The cause is often attributed to our unquestioning acceptance of Cartesian mind-body dualism, scientific reductionism, and a mechanistic worldview that separates everything into its constituent parts and ignores as irrelevant their relationships.

Rational Spirituality is an antidote to these disconnecting mindsets, embracing as it does the systems view of life as presented in Chapter 6. Life is a self-organizing network of mutually supportive relationships, and our senses—our attraction relationships—connect us in myriad ways to the world from which we emerged to inform us of when we have maximum support in the moment. A disconnected worldview, whether religious or secular, moves us in the opposite direction and results in more pathologies than can be listed in the DSM (*Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association*). Spirituality throughout recorded history has too often been co-opted for personal benefit and power, and much of today's New Age movement is simply ungrounded. Rational Spirituality seeks to heal this separation and reconnect who we are with what we are.

To fully express and articulate Rational Spirituality would be a book unto itself. In the meantime, here's the basic framework as it relates to the broader project of systemic sustainable change.

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Rational Spirituality is grounded in and provides a slightly different framework for articulating the Natural Systems Thinking Process covered in Chapter 8 without dismissing any of its fundamental concepts. It provides a way of expressing in daily life the attraction relationships that underlie the interconnected structure of reality—a construct for how the natural universe communicates its multi-sensory intelligence through the web of life—and draws from current and ancient thought in the physical, natural, and social sciences.

When one examines the results of evidence from the above fields, the inescapable conclusion is that attraction relationships hold everything from subatomic particles to ecosystems to economic systems together.

According to physicist Brian Swimme, the basis of the concept of Love on a Universal scale is that love starts as allurement, which is another name for attraction. This basic binding energy is found everywhere in reality. It is, for example, the beginning of the attraction sense of love of community. The activity of attraction is both the creation of being and the enhancement of life. Thus, it is much more than just an expression of pop culture to state that love is all there is.

Within this framework, attraction relationships can be thought of as the manifestations of a 5th Force within quantum mechanics—what Ervin Laszlo refers to as the subtle field. This subtle energy field that guides the cosmological evolutionary life-force is a Nameless Intelligent Attraction Love known by its acronym NIAL within the NSTP. These attraction relationships can be experientially demonstrated with the Web of Life activity used by environmental educators, and are the process and force that bond quarks and biospheres. NIAL is a way of conceptualizing the underlying field itself. Therefore, to be disconnected is to be in de-NIAL.

Some participants in Project NatureConnect have expressed their experiences of reconnecting with nature as an experience of mental well-being with increased measures of self-worth and esteem. Others describe them as a spiritual awakening or appreciation of nature, of finding or sensing their Higher Power. A few talk about experiencing a personal wholeness or a meaningful fulfillment in honoring the integrity and the unity of nature. Still others say they've learned that the greatest good can be simply to enjoy life and cause no undue harm, and then perhaps to take the next step—to constructively contribute to the community of all life in a harmonious actualization of balanced co-creative evolution. All report a profound, positive shift.

Rational Spirituality recognizes that every individual is biologically, psychologically and spiritually part of nature's nonpolluting wisdom. However, as Cohen repeats in endless ways, humanity suffers great personal and global

troubles because over 95% of our time and 99.9% of our thinking is disconnected from nature. In compensation and through denial, we exhibit unreasonable, hurtful, greedy behaviors which negatively impact the health of all life on the planet—including humanity itself.

Reconnecting with nature is an ecological process of healing the personal and environmental ills caused by the dualistic world view held by Western society and science. This simple activity has the potential to catalyze the major shift in human consciousness needed to overcome the destructive behaviors that are negatively impacting human and environmental health.

Through sensual and rational contact with intact nature, by following and learning to trust our unstoried attractions, we can thoughtfully reconnect with nature's balanced, fulfilling intelligence. We can personally experience the relationship between human and environmental health, and become highly motivated to restore the wellness of humanity and Earth.

Our most pressing need in the Industrial Growth Society is for increased mental health and global ecological sustainability, because Earth and all of its creatures need care and healing. A conscious heartfelt connection to natural attractions in nature is both a teaching and a learning experience that enables us to enjoyably and positively take part in co-creative evolution with nature toward a sustainable world. We can think and live the way that nature works through creating moments that let Earth teach.

Following our attractions, acted out in that subtle field of the creative life force we call NIAL, demonstrates through self-evidence the reality and the truthfulness of the totality of our human experience and capabilities.

One of the founders of ecopsychology, Ralph Metzner, argues that "a core feature of the Euro-American psyche is a dissociative split between spirit and nature." We see spirit as rising up into transcendent realms, and our bodies, which feel and sense Nature, tend downward. Nature is seen not only as separate from spirit, but actually opposed to it, and we are taught that we must overcome our "lower" natural instincts and conquer the body in order to obtain spiritual fulfillment.

This dissociative split leads to disastrous consequences on environmental, social, and personal levels. When we regard ourselves as being mentally and spiritually separate from our own nature, we project this outward so that we also feel separate from Earth, from the nature that is all around us; that is a major input into who we are and a major factor in our own health and well-being. We mistakenly believe that to obtain spirituality we must inhibit and control the natural

instincts, feelings and impulses of our bodies, and we then project this mindset outward into a Conquest of Nature ideology.

This distorted perception has followed the spread of European Civilization around the globe. The fact is, we are not separate from or superior to nature. We are a part of nature and do not have the right to exploit it or to take more than we actually need. We are like cells in the body of a greater organism that can't continue to function healthily if one group of cells is cannibalizing the other systems of the organism.

Indigenous cultures and non-monotheistic religions have long held that the natural is spiritual. This view fosters attitudes of respect, a desire to build and maintain balanced relationships, and the urge to find satisfaction in sustainable lifestyles that recognize that future generations require us to maintain healthy ecosystems. These are the views and mindset that will enable us to overcome the life-destroying pathology, the disastrously dissociative split, between spirit and nature—and guide us into a life-supportive, sustainable post-industrial future.

Our Sensory Way of Knowing

In our Euro-American educational system, we're told to not trust our non-mechanistic senses—especially our emotions: They'll lead us astray, make us appear foolish—they are deceptive. Facts are only available from the measurable precision of the physical sciences, and only then when validated by mathematical formulas. The emotions in particular have this bad habit of calling into question behaviors that have been rationalized by thought alone.

The senses are said to be illusory. But by ignoring the senses we are not only ignoring a major portion of ourselves, but vital "other ways of knowing" that appear to be integral to the actual underlying reality of the physical universe itself.

The senses are ambiguous. And yes, they do contain uncertainty, and we must be cautious and pay full and complete attention to all of our attraction senses within the network they use to inform each other. We must use both the new (rational/verbal) and the old (sensory/feeling) brain to make complete sense of our greater selves.

To reconnect or return to nature we must also return to a sensory way of knowing. Our bodily senses bring us into contact with the breathing Earth around us in every moment. If we don't understand our interdependence and relationship to nature, it is because we have disconnected our senses from their source. Dismissed them as irrelevant. Forgotten their significance.

The senses, such as breathing and eating, are our most intimate connection to our source of life. The sensations and sensitivity of a bacterium give rise to our experience of sentience. This should then re-mind us that all we are, are gifts from NIAL.

Our senses have co-evolved with the physical and sensuous world around us. Our tactile senses have been formed and informed by the shifting patterns and the varied structures in nature. So too have our emotional senses been influenced by their source in NIAL and in all the other lives all around us. If we ignore our senses, we imperil our own lives and the health of the Earth that supports our lives.

We cannot break free from our very intimate connections and attractions to the more-than-human web of influences that has co-created who we actually are and the possibilities of who we may become.

While on the ferry from Friday Harbor to Anacortes, WA through northern Puget Sound one morning in 2003, one of the small islands we were passing called to me. I became fully cognizant that we are one, that little island and I. Its life-force and mine. The Island is the physical presence of another being. It moves along the Earth at its own speed. It interacts with its greater environment. It has its cells, organs, and life processes in its trees, its soil, and its streams. The attraction relationship we shared was a sensory dynamism between two ways of being animate manifestations of Earth and of NIAL.

We humans are participants, we are not spectators. Both life and matter are self-organizing and animate. Our consciousness, our sensuousness, our very souls are inextricably intertwined in the web of life. There is not a hierarchy of needs or any one organism more evolved and worthy. There is a diversely differentiated continuum of being with various uniquenesses that continuously contribute their gifts to one another.

We can fully, sensuously experience who we really are only by learning to speak and act in full awareness of our conscious and sensory intelligence; of our Rational Spirituality; of our conscious and multi-sensory connection to the very much alive, sensuous intelligence and wisdom of NIAL.

Unity and Mysticism

Andrew Newberg's book *Why God Won't Go Away* is a treatise on the biology of belief. It provides what I believe is some very clear evidence that the experiences we have in nature when using the NSTP to follow our attractions allow us to feel

our connection to the All in exactly the same manner as the spiritual experiences that the mystics of almost all religions live their entire lives striving for.

A unique advantage of the NSTP is that we don't have to spend twenty minutes twice a day for twenty years sitting in an uncomfortable position with our hands twisted into unnatural positions to experience this unity. Five minutes of breathing with a tree—the Standing People—can do it for most. Although, a lifetime of practice can continuously deepen this experience as we continue to benefit from its worth.

There is evidence of a biological component—a set of neurological processes—for what is generally known as mystical experience and the practice of mysticism. These experiences exist along a continuum starting with myth and then up to ritual, to spiritual awe, rapture and trance states, all the way up to complete "unity experiences." These are the profound states that are normally only written about by mystics and poets. They don't normally invade the mundane world of us mere mortals.

Newberg points out that ritual is not as strong as the meditative power of the mind in producing unitary states, but is important in the unifying effects of community. Even secular ritual contains spiritual components: patriotic rituals of flag saluting; greeting rituals—even a handshake—that recognize the sacredness of the individual.

One thing that would be helpful is reclaiming the original meaning of mysticism. Today mysticism tends to be pejoratively applied to sloppy, confused, or superstitious thinking. However, as pointed out by Evelyn Underhill, mysticism is an organic process, it is not a philosophy. It is the act of establishing your relation with the Absolute, to use William James' term, a spiritual and conscious union with something greater than the self. I think that every organism that can be said to have consciousness has the capacity at some level to be a mystic. The experience of this connection of unity is another gift from NIAL. And it is this experience of unity that supercedes the false, destructive sense of "other" that has brought life to the brink of extinction under Industrialism.

"Peace comes within the souls of men when they realize their oneness with the universe."

BLACK ELK, OGLALA MYSTIC AND SHAMAN

A sense of oneness with the Creative Life-force (that we refer to as NIAL) is the ultimate goal of all mystical traditions. This sometimes starts by quieting the

mind as in meditation, or by focusing the mind through chants, prayers or visualizations and letting the spirit be released from the delusions of the ego.

Being in community, becoming entranced by music, enchanted by art, feeling the peace and contentment of being in a natural area, and experiencing the "transforming intoxication of romantic love" are examples of "how it feels when the ego slips away and for a dazzling moment or two you vividly understand that you are a part of something larger." Newberg says these experiences form a continuum of transcendent states that "are not religious in any formal sense" but exist along the same neurological continuum as the unity states of religious experience, up to and including Absolute Unitary Being. It seems to me the only actual difference is the context, not the reality and worth of the experience. I should also point out that during the experience of lovemaking, you can connect almost half of your 53 senses. That's a reconnecting activity that more people should spend some quality time on.

The psychology seems to be of egoless transcendent unitary states. Newberg keeps saying that these states are self-transcendence, but I think a modification, or refinement is necessary here. The unity experience is better understood as an awareness of the interrelated structure of reality, of the underlying field of subtle connections, the attraction matrix of NIAL.

Experiencing unity is not so much a shift from or a loss of the self, as much as it is bringing the self into balance, or holistic integration, with its greater body and spirit. I believe it is healthier and more fulfilling to regard these states not as self-transcendence, to not look at these experiences as going away to something, but we should consider the self as becoming totally involved with our greater universal body and spirit.

On this basis, Rational Spirituality provides a modern ecological form of deism—the belief that rationality plus nature equals god, or the experience of the numinous. This belief was shared and openly expressed by many of America's founding fathers, and it will play an integral role in our transition to a sustainable future.

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The basic concept of Rational Spirituality has been approached from other perspectives as well. As previously mentioned, it shares much with deep ecology. Jim Nollman calls it Spiritual Ecology in an excellent book by the same name. Nollman says that deep ecology is spiritual ecology, but they called it deep as an

"adjectival disguise" for the metaphysical aspects of our connection to nature due to a deep mistrust of organized religion.

As a way of being in right relationship with life itself and all the ways it manifests, Rational Spirituality helps people embody the truth of interconnectedness. It is a truism that change begins from within. It is also true that the network known as society connects us to each other. As we change our own perceptions, we help others change their perceptions. Nollman points out that this change cannot be imposed from outside, and as Margaret Wheatley has also pointed out, people must be invited to participate. Nollman refines this point in regard to environmental destruction, as it is destructive to the destroyer as well. The point of changing behaviors that are destructive is not so much that they will make someone good instead of bad, "but because no one can survive for long living in their own physical or emotional garbage."

Rational Spirituality is also fully congruent with the concept of an Earth Jurisprudence. In fact, they require each other for their own fulfillment. Lawyer Cormac Cullinan makes this point: If we are to have a system of governance that not only strives to protect Earth but is fundamentally based in natural systems principles, this governance will need soul in its quality of depth and connection. It must promote community and tend toward enhancing the intimacy of relationships.

Our numinous experience of Earth systems, of life itself, of our deepest selves—an experience that is one necessary aspect of fulfillment—requires a healthy and vibrant Earth. Paving ever larger swaths of land decreases opportunities for this experience and diminishes their quality; increasing pollution and toxicity almost renders them worthless. These are direct assaults on our own spirituality and its expression. They are direct assaults on life, which our systems of governance should be striving to protect as their prime directive.

Our intimate connection and relationships with the natural world are the basis of who we are. It has therefore been to our personal, societal, and environmental detriment that we have been conditioned by our "disconnected" industrial society to ignore and dismiss these connections. Is it any real mystery that our species has created the impending Triumvirate of Collapse?

But we have a choice. We can reclaim our natural inheritance by healing and reconnecting our senses to their counterparts in the rest of the natural world, allowing the wisdom that has kept Earth in sustainable balance for billions of years to guide and govern our lives. Rational Spirituality provides the means for us to live in holistic harmony with Earth and all other creatures we have

co-evolved with. By choosing this path, we can live sustainable lives of meaning, purpose, and fulfillment.

"You don't need religion to have morals. If you can't determine right from wrong then you lack empathy, not religion."

—ANONYMOUS

10
RELOCALIZATION

Fortunately, there's a replacement system for the Industrial Growth Society waiting patiently in the wings. Known as relocalization, it is a pragmatic process for achieving sustainability and creating a sustainable future. This is not a system that purports to have all the answers—that can guarantee how the final product will look—but it provides a framework in which to evaluate proposals and decisions in whether they are congruent with natural systems principles and provides the initial steps in our transition to the goal of a sustainable future based on ecological wisdom and social justice.

Relocalization is a whole-systems approach to creating an alternative public infrastructure that exists within bioregional carrying capacity limits. Instead of being dependent on quantitative growth to deliver progress and prosperity, it focuses on creating qualitative improvements. Rather than focusing on simply creating more jobs, it seeks to develop ways to provide meaningful work or right livelihood to all members of the community.

The concept of relocalization emerged from the academic world mainly as a rational response to Peak Oil, but also to global warming. I have additionally merged in reconnecting, steady-state economics, and an Earth jurisprudence. Together, these provide the core necessary conditions for creating a sustainable future as a systemic alternative to dominator hierarchies, corporatism and the Industrial Growth Society.

As a response to global warming and Peak Oil, relocalization is more than just a Band-Aid for these symptoms: It addresses the environmental, social, political, and economic ramifications at the root of these crises. Core concepts includes rebuilding our local economies; recapturing our sense of place; reclaiming our

sovereignty; restoring our community support networks, and reconnecting to our living world.

As a concrete strategy, relocalization moves production of food, goods and energy closer to the point of consumption, increases food and energy security, and empowers local decisions in the development of currency, culture, and governance. While the important concept of "localization" as practiced in the Global South works to protect local economies from the slow drain of an export based economy, relocalization goes a step further with a commitment to reduce consumption and improve environmental and social conditions.

Relocalization provides a way to realistically connect the dots, and to do so in a manner that can increase quality of life by ensuring that living systems have the widest range of opportunities possible to do what living systems have evolved to do best—create mutually supportive relationships that sustain the web of life. The goal is to become as healthy, vibrant, and resilient as a climax ecosystem.

One thing reaching this goal will require is unenclosing the commons—our common life support system—and accepting the fact that the one true mandate of democratic governments is to ensure the protection, equitable distribution, and shared usage of the commons. This will require the creation of cultures based on Rational Spirituality or a partnership paradigm where nature is one of the partners.

Taken in this perspective, it can be seen that relocalization provides the antidote to corporate globalization. This is also its biggest challenge, because it requires the global middle class to snap out of the consensus trance, one aspect of which is the myth that social class hierarchies are natural, beneficial and that everyone can rise to the top.

Toward the end of 2007 I was asked to write a series of articles on the concept of relocalization for the now defunct Green Times, an alternative newspaper in Tucson, AZ whose focus was sustainability. The paper's founder and editor, Mikaela Quinn, and I came up with the following short definition of relocalization, which was used to start the series off. Following that are the long versions, i.e. before editing to fit the available space in the print version and removal of some concepts and phrasing Mikeala thought the masses might not be ready for, and with some minor updating for the current presentation.

Relocalization: A strategy to create vibrancy and resilience within communities based on providing local food, transportation, healthcare, and goods in ways that are viable for the long-term and in concert with our best quality of life. The main goals of Relocalization are to increase community energy security, to strengthen local economies, to reduce consumption, and to dramatically improve environmental conditions and social equity.

Installment One, Relocalizing for a Green Economy.

No matter how clever we are, our cleverness is wholly dependent on the bounty and health of the Earth and the richness of our relationships.

A growth economy of material goods has an unfortunate outcome for living organisms, and we're told to ignore the connection between constant financial and material growth and the exploitation of people and degradation of the planet. We're told these unfortunate outcomes are simply the price of progress. However, we cannot long escape the fact that the planet's resources are either finite or have a carrying capacity limit to their rate of regeneration, while money is an abstract concept that knows no bounds, and has no basis in hard physical reality.

We use money to assign value to a person's status and contribution to community well-being. But this value is not necessarily tied to community equity or well-being, or is it necessarily fairly earned, as can be seen from lotteries, sweepstakes, and the mortgage backed securities of casino capitalism. We also let ourselves believe that money can be used to meet all human needs and desires. That this is obviously ludicrous as soon as one stops to think about it is why we're told *not* to think. While money can't buy happiness, it can buy the antidepressants necessary to stand in its stead.

My core belief is that today's financial markets are a major contributing factor to the crises life faces. They are little more than a form of legalized gambling in a highly rigged game. They nurture the fantasy of something for nothing. This has worked well for a select few over the centuries, but we've reached a few global tipping points such as overpopulation causing depletion of fisheries and 50% loss of productive topsoil, and with fossil fueled global warming, we're quickly approaching others.

That said, socially responsible investing on a local level can become a leverage point in creating the first steps to a sustainable future. There are models available, such as Solari Circles and steady-state economies, that can help communities regain control of their future and develop sustainably. Today, communities have the impetus and the opportunity to pull together, invest in a future that looks at the bigger picture, and provide true and lasting value for all the species that make up that community.

It is time to begin examining in earnest the standard acceptance that economic growth and accumulation are the only allowable meaningful measures of prosperity and well-being. The pervasive cultural mindset is that bigger, shinier, faster, and more are equivalent to and always mean better.

But what is this actually doing to our health and the overall quality of life? What longing are we trying to satisfy that we accept baubles for payoff and a story

that allows us to rationalize that this is the best we can hope for? The actual results of this mindset are decreases in every quality of life indicator that actually provide meaning to the human condition—plus of course all the ones pertinent to other species and the natural world itself. Strictly from a mathematical perspective, a growth economy doesn't work; it is unsustainable. All the evidence points to the conclusion that it is critical that we seriously consider what we might do differently—NOW.

One of the reasons it's so scary to think about the collapse of the current system is that no alternatives to the status quo are allowed to be mentioned without being denigrated and marginalized as unnatural, naively idealistic, or communistic. We remain unaware or find it hard to believe that not only is an alternative available that's not dependent on future technologies, but that both rational reality and spiritual yearnings show to be more in keeping with human nature. The relocalization alternative will improve overall conditions because it works with the most powerful force in the universe—the creation and maintenance of mutually supportive attraction relationships.

This alternative is based on reconnecting our disconnection from nature and each other and using the process of relocalization to create an explicitly defined sustainable future built on ecological wisdom and social justice. It is an optimistic message that is tempered with an outright admission that if we continue in the direction we're heading, the good news will be the end of Western civilization. The bad news will be passing one too many irreversible environmental tipping points, resulting in the end of life as we know it.

Bigger depends on denying and ignoring the drivers of economic cannibalism offered by the Industrial Growth Society. Just one aspect of this is the slow poisoning by the petrochemical industry—and the pharmaceutical industry attempts to alleviate the resulting symptoms while creating different ones. Underlying this atrocity is a refusal to admit that humans are not immune to being effected by the largest walking chemical experiment in history. In fact, this is being allowed—encouraged even!—because it contributes to a rising GDP. As recent medical research shows, however, the actual cure for breast cancer is shutting down Dow Chemical, et.al.

Better is about having the time and resources available to concentrate on what really matters. It includes having the opportunities available to develop our potential—without constant distractions that not only support and enrich a small controlling elite (and fantasizing that we can be one too), but also support the implicit mandate to subvert our natural desires that contribute to fulfillment, community, and life.

Installment Two, Relocalization Nuts and Bolts.

To appreciate the potential of relocalization, it is important to first understand that the status quo of the Industrial Growth Society is causing our personal, social, and environmental crises. While we know that we're quickly degrading our life support system with the "business as usual" approach to economic growth, we can't say for certain how quickly this is occurring, which adverse impacts will reveal themselves first, or how disastrous these impacts will be. However, there is a large degree of agreement among scientists, and growing agreement among economists, that creating a carbon-cycle neutral economy, *and making sure that all human activities and effects are included in evaluating that economy,* should be our number one priority.

The real inconvenient truth is that the business as usual approach of infinite and unfettered economic growth has created both catastrophic climate destabilization and brought us to the point of Peak Oil. Protecting this system worsens these crises, and attempts to reform a system based on faulty assumptions merely postpones the inevitable collapse. Therefore, our challenge is to approach change with a new way of thinking to create an alternative without these liabilities.

From a natural systems perspective, a green economy is a local economy. By meeting the requirements to be sustainable from a bioregional carrying capacity perspective, a relocalized community is "naturally" healthy, vibrant, and resilient.

The relocalization strategy addresses the production and consumption aspects of an economy in a number of ways that increase local resiliency. Some that haven't been mentioned yet are by reducing dependence on long distance transportation, communities can't be held hostage to the whims of distant suppliers, and they are no longer subject to the inequity and greed of global corporatization—to which relocalization is both antithesis and antidote.

Reducing consumption is, of course, directly at odds with a growth economy—but as I've previously mentioned, this is not a call for an austerity program demanding great personal sacrifice and suffering. We can reduce consumption by sharing rarely used items with neighbors; by only purchasing items that are built to last and be easily repairable; and by turning off the TV and cancelling our subscriptions to magazines that serve as advertising vehicles to decrease their stranglehold on our psyche with their mesmerizing story that popularity and self-worth is dependent on being a walking billboard for this season's corporate fashion. By removing the need to work longer hours to buy all the stuff that never fulfills its promise to deliver happiness, we will have the time to do all those things that do bring happiness.

The reason all aspects of our society must be included in the task of relocalization is quite pragmatic. The ancient Greek word *oikonomia* is the root of economics. It means the management of a household to increase value to all members over time. It is a systemic view that considers all the relationships—natural, social, values, language, history—that contribute to our stay as guests in Mother Earth's home. Oikonomia looks at the overall social good, not just the parties to a transaction or individual claims of ownership to a natural resource. On this latter point, we would do well to remember the words attributed to Chief Seattle: Earth does not belong to humans, humans belong to Earth.

Relocalization and decentralization are concepts that are feared by the ruling elite because they remove power and control from the hands of those who have become addicted, or think they are somehow entitled by birth, to wield it. This is why you hear about agrofuels and carbon capture, but not relocalization and powering down, on the 6 O'clock News. These latter concepts are ridiculed, marginalized, and said to be unmanageable for a mere "working class" either too stupid to take care of itself or without the capacity to understand how the bigger picture "really" works.

Well, the bigger picture works rather simply through natural systems principles. It works by self-organizing attraction relationships that make everyone's life better by making the whole better.

This is what life is all about, and relocalization seeks to return us to it.

Installment Three, Practical Steps Towards Relocalization.

One of the initial steps toward relocalization is agreeing to the necessity, and desiring the benefits, of this process. Hopefully, it's become clear from the first two installments of this series that reconnection and relocalization go hand-in-hand, and that together they provide a blueprint to righting what's wrong in the world today.

Relocalization provides the concepts and a process for making positive, life-affirming changes—but what about the power to realize these changes? We only lose the power to make new choices if we willingly give up that power or believe the assertion that we don't have it in the first place. You can refer back to the "Systems View of Power" section of Chapter 6 to see that we have all the power we need.

It's also important to realize that the shift to a sustainable future through relocalization can start first thing tomorrow morning. There is absolutely no need to wait for a new technology to become invented or widely available. We don't have to wait ten generations for our consciousness to evolve to a higher plane. All we have

to do is remember that whatever we call the wise, nurturing power that created sustainable ecosystems, created us as well. We embody that wisdom and power. It is lying there dormant, just waiting (crying out, even) for us to tap into it.

It is now clear that we will be dealing with catastrophic climate destabilization at the same time Peak Oil impacts our lives. What does this mean for future energy demands? How will this affect the entire concept of industrial production as the means to prosperity and progress? What are the implications for a cultural identity dependent on economic and material growth? Environmental degradation and resource depletion in dozens of other areas also make it clear that even without global warming and Peak Oil, things must drastically change if we're to have any hope of creating a sustainable future.

Things are starting to fall apart at an accelerating pace. But instead of panicking or giving up, we can take a deep breath and look at reality. The fact is, a major part of what's falling apart is a growth economy that isn't real in the first place—although it worsens other global crises like Peak Oil and global warming. We can produce what is actually needed to live sustainably with current renewable energy technologies and a dramatic reduction in production capacity. We possess the knowledge to produce efficient, high-quality, lasting goods. What is quickly being lost are the skills—the craftsmanship—to do so.

Even if everything we think we know about Peak Oil and global warming turns out to be false, if we start changing the way we do business and re-order our relationships to be in harmony with the natural world, the worst outcome is that we'd leave a healthier and more vibrant world for our children.

Relocalization has some broad agendas. One of these is to empower and prioritize local decisions on land use and natural resource management based on a regional framework of sustainability. We can rebuild groups of neighborhoods to be friendlier to people and the environment than to cars, and reallocate the money now going to more and wider roads (and other sprawl enablers) to meet peoples' needs for right livelihood, community security, and ecological integrity.

Further, we can rely on local investment where returns are measured in increased quality of life instead of merely profits, and wake up to the fact that growth increases everyone's tax burden—and beyond a certain point, long since passed, actually decreases quality of life indicators.

We can begin this exercise in rethinking community and economic development by connecting some dots and seeing what picture emerges with just the above two aspects of relocalization.

A relocalized, human-friendly urban community that must reduce sprawl will increase the use of bicycles, other human powered and public transportation,

water harvesting, graywater systems, and solar energy. These will synergistically work with the need to quit drawing down and begin recharging aquifers, and will minimize the energy expended to obtain, deliver and recycle water.

A community can manufacture waterless composting toilets, bicycle frames and trailers, and water cistern systems. This will involve building a manufacturing base requiring skilled jobs in design, production, and installation. We'll need new skills in urban planning, public works and community health; renovation and redesign of the built environment using environmentally friendly products; and research and application advances in clean production and zero-waste techniques.

Waterless composting toilet manufacturing itself can 1) provide ancillary jobs in retrofitting existing infrastructure and solar power installations for the toilet fan and heating element; 2) encourage complimentary production of passive solar devices and other cooling, heating, and energy efficiency improvements; 3) decrease wear and tear on public water and sewer systems; and 4) provide finished compost for neighborhood and community gardens to rebuild soil—since soil is what actually feeds us. Just this one change has the potential to provide many opportunities for education, training, and employment in numerous and diverse green-collar jobs.

As we shift toward a relocalized economy, we will come to realize that meaningful work doesn't require 40–50 hour work weeks. Human ingenuity and existing technology can enable us to work no more than 15–20 hours per week (or six months of 40 hour weeks). This transition will allow technology to deliver on a long withheld promise—increased leisure time. Instead of time spent exhausted in front of the television, after an 8-10 hour work day, we can enjoy hours of leisure time in community, furthering education, engaging in creative pursuits, and reconnecting with the natural world—inherently sustainable desires expressed by the majority of people after meeting basic needs.

Protecting the poor and middle classes from increasing energy and commodity costs and the effects of global warming begins by creating the process to ensure basic human needs. This necessarily includes the desire to be a responsibly contributing member of one's community. This can be accomplished without increasing energy demand, or increasing industrial productivity and efficiency (widgets produced per unit of time) as the only true measure of prosperity and progress. The "downside" to relocalization is that it doesn't protect a growth economy that is benefitting an elite minority. It also helps clarify why reliance on infinite growth is more accurately described as economic cannibalism.

Relocalized, sustainable, environmentally integrated cities will be self-reliant, resilient, and vibrant. They can contain greenbelts among and between neighborhoods, have smaller and fewer roads built with permeable surfaces, provide public transit between neighborhoods and regional centers, and offer electric vehicle co-ops, locally produced food, decentralized renewable energy, sustainable (clean, zero-waste) manufacturing, fewer work hours, and full employment. These shifts will inspire us all to responsibly contribute to our communities—because doing so will increases our opportunities to maximize our potential. Social stress and alienation will decrease because we'll know we have something to look forward to. Purpose and meaning will return to daily life. And all this—especially the latter—will contribute to drastically lowered crime rates.

A future built on the principles of ecological wisdom and social justice may sound utopian, but utopia means "no place." What I'm envisioning by using relocalization as the process to become sustainable is a realistic, pragmatic whole-systems view that works the same way nature does. Instead of enriching a small minority at the ultimate expense of all other life, it is more in keeping with true human nature and better able to meet our needs and desires instead of constraining, limiting, and creating addictive substitutes for these needs and desires.

Sense of Place—Bioregionalism

Gary Snyder once said that it takes five to six generations for a people to develop a sense of place after leaving the lands of their ancestors. After becoming familiar with the Natural Systems Thinking Process, I believe anyone who wants to can rekindle this innate sense in less than five weeks. For some of us it only requires about five minutes, as the NSTP validates and makes trustable this ability.

This rekindling can come about in other ways as well. Environmental restoration work is one way suggested by ecopsychologist Elan Shapiro. In his experience, helping to restore an ecosystem helps us remember how to think like a system and build the ecological self—leading to a feeling of belonging to the web of life. From this it should be apparent that developing a sense of place requires participation in that place.

The bioregional vision is one of recovering our sense of place, of reinhabiting Earth at a scale that is sustainable. Thomas Berry says this provides a context for the human presence along the same natural lines that Earth is divided into ecosystems.

Jeanette Armstrong takes this a step further when she writes, "our most essential responsibility is to learn to bond our whole individual selves and our communal selves to the land." Armstrong relates the story of when she was a

young girl picking berries with her grandmother and father on a hill on the reservation and looking down at the town below. Her grandmother, an Okanagan, said the newcomers were dangerous and insane. Her father said it was because "they are wild and scatter anywhere." The meaning was that they have no bond to Earth or sense of place.

In Okanagan culture the whole person consists of physical, emotional, intellectual, and spiritual components. The physical body depends on what sustains it from the larger world and is the interface to the parts of the self "that continue outside the skin." The emotional self, or what I would call the rest of the senses, is taken to be how the individual self links to the larger self around it. The Okanagan term for this translates as "heart," and provides the capacity to link to the environment, or where "community and land intersect in our beings and become part of us." The strength of this connection is the criterion for leadership. Armstrong says that Okanagans don't ask someone what they think, but "What is your heart on this matter?"

The Okanagan language is thought of as the "language of the land." "The land" and "our bodies" are referred to with the same root syllable. Our bodies come from the land—from the place. To not know and celebrate this is to be displaced.

Reading passages such as this one from Armstrong so clearly point out to me how backward and uncivilized Western culture really is. But hey, as Douglas Adams says, at least we've got digital watches!

An expression of these concepts of place, community, and interconnectedness today can be found in the bioregional movement. At a very simplified level, bioregionalism is about honoring our sense of place; it's a fancy name for living a rooted life and developing an ecological identity.

Bioregionalism shares quite a bit with relocalization, and in many ways can be seen as another way of looking at the same web of relationships with a prime focus on place. In all honesty, the main reason I focus on relocalization as opposed to bioregionalism in my activism, especially at the local government level, is that it appears less threatening, at least initially, to those in the political and business world who still believe Industrial Civilization is a good idea, but realize the need to move toward sustainability.

Relocalization emerged from the academic world as a rational response to Peak Oil and global warming. Bioregionalism emerged from the environmental and social justice movements of the 1970s, shares many common roots with the U.S. Green Party, is seen by many as part of the back to the land movement, and generally speaking tends to embrace the design philosophy and practices of permaculture.

So, bioregionalism often gets marginalized as being less "mainstream." Relocalization can be approached as an alternative economic and energy paradigm; bioregionalism as an ecological paradigm to lower our footprint and return to balance with a living world. And I know I'll get flack from adherents to both movements from this totally arbitrary distinction. However, as should be apparent by now, neither of these concepts can be divorced from one another, so to me the point is rather moot. Know your audience, and use whichever framework works for you to introduce concepts that are going to be strange one way or the other to the uninitiated.

"In Home! A Bioregional Reader," an essay first published in 1981 by Jim Dodge, Living By Life, lays out what is taking shape as the theory and practice of bioregionalism. A central element of bioregionalism is its foundation in natural systems, which provide the source of physical nutrition, the metaphors for spiritual sustenance, and the models for sustainable development. It also makes explicit aspects of cultural behavior such as subsistence techniques and ceremonies based in these models and metaphors. But most importantly, it demonstrates the interconnected nature of cultural and natural systems: for instance, local ecology should determine the political economy. Environmental protection and restoration and social justice are more likely to be implemented in a community built on personal relationships that lives close to the Earth. Thus bioregionalists share with relocalization an advocacy for self-reliance using local resources and living within sustainable, ecological limits. Such an arrangement is only possible when people are consciously connected, both materially and spiritually, to the place they live.

> "If we could think locally, we would take far better care of things than we do now. The right local questions and answers will be the right global ones. The Amish question, "What will this do for our community?" tends toward the right answer for the world."
>
> WENDELL BERRY

A bioregion—broadly speaking and with little agreement on how to actually define the boundary—is an area that shares similar topography, plant and animal life, and human culture. Bioregions are often organized around watersheds, and they can be nested within each other. I tend to subscribe to the view that bioregions are a great deal larger than watersheds, such as the Pacific Northwest which stretches from Northern California up to Southeast Alaska and over to Western Idaho and encompasses dozens of watersheds, or the Sonoran Desert which crosses national boundaries and has a unique mix of flora and fauna.

Bioregional boundaries are usually not rigid, and are very different from the arbitrary political borders around counties, states, provinces and nations. Bioregions are the places that define the largest area in which an economy could said to be local, and should be largely self-reliant in terms of food, products and services in order to be considered sustainable.

To call oneself a bioregionalist means you're aware of the ecology, economy and culture of the place where you live, and are committed to making choices that don't just sustain them, but enhance them. The history of bioregionalism is really the history of the human species.

A people that dwell in the land have a natural bioregional perspective. Survival depends on an intimate understanding of and respect for the unique and distinctive geography, climate, plants, and animals of the place where they live as well as its continued health. Care for Earth has traditionally meant, and been understood to be, care for self.

The industrial age cemented our separation from Nature, and created a way of life that was divorced from our intimate reliance on the natural world. We now live the majority of our lives indoors—at home, school, work, shopping, and entombed in our vehicles while going to and from these places. We no longer personally get our sustenance directly from the land, our food is shipped in cans and plastic from faraway places. We are no longer directly involved in our community, as we zip about in cars, fly away in planes, and communicate electronically. For these reasons and more, we are increasingly unaware of our impact on Earth.

And thus, our designs and artifacts don't reflect, and are often at odds with, natural systems. Our buildings and cities have no relationship with the environment they exist within, and develop a drab sameness. Mass monoculture envelops the world, instead of reflecting the diversity, the variety of abundance, exhibited in the numerous bioregions and ecosystems of the world.

The goal in developing a bioregional perspective is to envision an alternative future. If we consciously immerse ourselves in our place, by learning about it and concentrating our energies there, by drawing our sustenance and taking care of our waste, we'll become aware of the effects of our living patterns on the water, soil and living beings around us. When we have a stake in our own place and are committed to making it last over time, the benefits can be immense—to ourselves, our communities, and Earth.

If you don't know where you are, you don't know who you are. The very ground of one's being comes from Earth, and a close relationship with nature gives roots to your psyche and your spirit. Earth is both your biological and your existential home, as well as the source of all your sustenance.

We can remember, deep in our spirits, our hearts first home in the domicile of the Earth. This remembering of the home that is always there for us shouldn't be too surprising. It is a genetic memory that is the most elemental of all memories. It is a memory that recalls our bond with Earth through the very sense itself of being flesh and blood.

When we have the sense of being alienated, of not having a place in life, of being disconnected, we can go back to our Earth Mother. With her, we can find all that a lost soul needs. With our Earth Mother and the natural community, we can find acceptance, love, wonder, hope, and belonging.

Knowing a place can inspire and empower us to take action to preserve it or take part in its restoration. It also helps to inform us that even in modern society, each individual's action is important.

Living bioregionally looks pretty much the same as living a relocalized life. It includes buying locally grown organic food; avoiding large chain retailers in favor of locally owned stores carrying products made within the region by socially and environmentally responsible companies; banking with locally owned banks that invest in the community; knowing the birds, animals, trees, plants, weather patterns, land features, and soil types of your place; understanding the human cultures that have occupied your place in the past and respecting their ways of life; getting to know and looking out for your neighbors; supporting local artists, musicians, theater companies, storytellers; watching less TV and spending more time with loved ones or neighbors playing games, making music and having your own fun; knowing where your garbage goes and reducing your waste to a minimum; knowing where your drinking water comes from and using water conservatively; knowing how and where your electricity is generated and utilizing sustainable energy sources, such as solar power; voting in local elections and being involved in political decision-making; and being directly involved in your children's education, whether they are in school or are homeschooled.

Bioregionalism is not about deprivation or severely limiting our choices. It's about making sure that the choices we make strengthen our local ecology, economy and culture rather than harming them. The dominant culture tries to tell us that a locally-centered life is parochial and old-fashioned. This negative image is one that global economic forces continually reinforce, since locally based economies do not support the global vision, and are actually a threat to it.

Of course, the local and the global are interconnected. It is important that we are aware of how our local actions, and stories, affect global systems. At the same time, we must ensure that bioregionalism, as Mitchell Thomashow points out, doesn't devolve into "the haughty pride of extreme regional identification."

Gary Snyder says that nationalism is "the grinning ghost of lost community." The dominant story gets us to excel at mistrusting the other, but as we leave the old paradigm behind and embrace the new, strong communities will form strong relationships with those in other bioregions because the strength that emerges from interregional diversity will help take us into a sustainable future.

Bioregional economies will demonstrate the following benefits: Food will be fresher and healthier, we'll know the producers of the goods we need and they'll have a stake in both making quality products and protecting the local environment; workers will be more secure and connected to the companies they work for and less at the mercy of market forces thousands of miles away (such as downward pressure on wages due to lower wages being paid to workers in other countries, or downsizing done to reduce expenses and increase return for investors); and we can bypass the global money economy completely by trading or bartering skills and services informally with each other as we grow to know and trust one another better.

Why Relocalization Needs an Alternative Economy

Most of us accept the status quo as the way things are and therefore must be. We're used to it. It's comfortable. But what if the status quo in which we trust is flawed? Fortunately, there is a rather simple litmus test for the validity of our underlying cultural assumptions: Do they support the Web of Life without which we cannot exist?

Let's take the business-as-usual mindset of infinite growth as an example. Can it provide a realistic framework for how it will continue to meet people's needs as population increases on a finite planet, stop the negative consequences of resource depletion and pollution, and provide tangible benefits and improvements in quality of life for everyone, not just the top 5%? The elementary math of physical reality says no—and thus an alternative is necessary.

Unfortunately, dissatisfactions with the growth economy are generally not allowed expression or rational presentation—and attempts to raise awareness are marginalized as communist rantings against capitalism. But since the disastrous consequences of infinite growth have brought us the Triumvirate of Collapse, it is vital that we examine some of the accepted myths of orthodox growth economists. The most glaring faulty argument is that infinite growth is intrinsically positive.

Oh, really? If you enjoy eating ice cream, Herman Daly says you might ask yourself: "If a little bit of ice cream is good, wouldn't more be even better? Why

not just consume gallons of it at a time?" And forget about broccoli and asparagus, and especially those nasty little Brussels sprouts and slimy okra. Ridiculous thinking—and exactly the kind that is the foundation for the economic theory orthodox growth economists in the industrialized world use today: If production is good, then it must follow that we can't get enough, or more is better. Cancer cells might agree. However, this argument ignores the Economics 101 principles of diminishing benefit and increasing costs. Resource depletion, labor, and pollution are real costs to the economy, and per capita economic benefits are decreasing in the industrialized world today—although this is sometimes hidden by the grotesque financial profits appropriated by the 1%.

As pointed out in the previous section on sustainability, "to grow" means to spring up and develop to maturity, which includes the concept that there is a point where sufficiency is reached; where accumulation gives way to a steady-state of maintenance. This is the way natural systems work; forests grow to a point, maintain themselves with what the environment provides, then die and contribute to new life. Humans, and the systems we create, can emulate this process, because we have natural systems wisdom as part of who we are. Our innate wisdom enables us to recognize that growth is not equivalent to betterment. Therefore, to maintain the status quo, orthodox growth economists must overcome our instincts and convince the world of their absurd assumption.

One effort to do so is a figure economists created called the Gross National Product (GNP), now known as Gross Domestic Product (GDP). It was developed in WWII as a measure of wartime production capacity. GDP is purported to be an indicator measuring economic progress, health and well-being. But it was not developed to measure well-being, only to track products and services bought and sold. It doesn't separate costs from benefits, or productive activities from destructive ones. It either ignores non-monetized exchanges such as household and volunteer work or barter, natural resource depletion, pollution effects, or perversely counts them as benefits. GDP not only masks the breakdown of the social structure and natural habitat; worse, it actually portrays such breakdown as economic gain. GDP measured Hurricane Andrew as a boon to the economy of over $15 billion.

When the natural world is assessed for its contribution to economic activity, such as purifying water, the figure comes in at about $33 trillion—twice global GDP. But, the natural wealth of the world's ecosystems has declined by a third over the past 30 years.

Former World Bank senior economist and Professor Herman Daly reminds us of the elementary economic principle of diminishing marginal benefit and

increasing marginal cost. The 1971 President's Council of Economic Advisors admits that growth in GDP has costs, and there comes a point beyond which these costs aren't worth paying. However, there is no effort put into determining where this point might be. Further, the Council states that people's desires and government policies put "claims upon GDP itself that can only be satisfied by rapid economic growth." By not discussing these claims or growth costs, growth mania is created. Daly calls this "hypergrowthmania." By not properly accounting for costs, the point where growth becomes uneconomic can always be said to exist somewhere in the future, and "the ideology of growth . . . transcends the ordinary logic of elementary economics."

The normal operation of a growth economy is an unrestrained environmental disaster. It's exploitive of human capital, and deadening to the spirit of the advertised beneficiary—the consumer. We should understand that the term "market forces," when used to justify unrestrained growth, is simply the politically correct term for unmitigated greed.

In response to the detrimental effects of the GDP, the Genuine Progress Indicator (GPI) was created to sustainably measure economic well-being. First adopted to US data in late 1990s, it includes social and environmental factors which the GDP dismisses. It differentiates between transactions that add to well-being and those which diminish it. The GPI then integrates these factors so that benefits can be weighed against the costs. This gives a more accurate measure of the overall health of the economy. A visual representation of GDP versus GPI is provided in the section on indicators in Chapter 7.

The GPI reveals that much of what economists consider economic growth, is really fixing past mistakes and social ills, or borrowing resources from the future. The GPI strongly suggests that the costs of the growth economy outweigh the benefits, leading to growth that is actually uneconomic.

Another faulty pro-growth argument is that we must continue to grow the economy in order to pay for environmental degradation and pollution and to provide the funding needed to find new areas for resource extraction necessary for continued growth. Think about this for a moment. We're being told we can't afford to pay for cleaning up after ourselves if we don't continue making the mess of consumption at an increasing rate. But this increases the need and scope of cleanup efforts. Not only will there never be enough to pay for it, the gap will continue widening.

Pollution, loss of non-renewable resources, and using renewables beyond their regenerative capacity is analogous to an iatrogenic—that is, treatment-induced—disease. Calling for increased production to treat the induced pathology

of unlimited wants simply can't be cured by increasing treatment dosage. As they say, It ain't gonna happen. Growth economists insist you can't have too much of a good thing, but as Daly points out, what we need is an emetic, not more of the same medicine.

Our need to move to a steady-state economy, and remain within the limits and constraints of our natural resources—the model exhibited by healthy, thriving ecosystems—is further clarified by Harold E. Goeller. In "An Optimistic Outlook for Mineral Resources," he concludes that if properly managed, the Earth's resources could maintain Americans' current (1972) level of affluence—if we only share it with the rest of the world to "some meaningful degree"— for about 100 years. To which Daly makes the obvious point that "such optimism makes pessimism redundant."

The confluence of Peak Oil, global warming, and the imminent collapse of a growth economy fueled by compound interest accrued on increasing debt to secure dwindling resources is a race to the bottom in which there are no winners. The time to start changing our ways and developing a steady-state economy is now. And we can start relocalizing our economies right here in our communities, right now, by adopting local living economies based on steady-state economics.

Steady-State Local Living Economies

"It is difficult to get people to understand something when their salary depends upon them not understanding it."

UPTON SINCLAIR

We will be much more successful at effectively reaching the overall goal of a sustainable future when we take the emergent social attributes of sustainability—ecological integrity, social justice, economic equity, and participatory democracy—and develop an economic system that explicitly supports these attributes as primary to the health of the economy. While the resulting economic system might share some attributes with capitalism, it's not going to look at all like capitalism, and it's not going to supplicate to the "power" of markets.

There are two main alternative economic systems that have been proposed over the years that dump the paradigm of infinite industrial growth and the idea that money creates value—and thus have the potential to make our economy more supportive of life: local living economies and steady-state economics. The latter one in particular has been explicitly developed with ecology in mind, and thus works to support natural systems, meaning it's better for people and planet.

Steady-state local living economies are the merger of these two alternatives and, together, successfully address the problems that have emerged from infinite economic growth and corporate globalization. It is instructive to first look at their individual histories.

Local Living Economies, which broadly include concepts such as natural economies, eco-city design, local self-reliance, and other aspects of relocalization, are from a concept championed by David Korten, author and founder of the Business Alliance for Local Living Economies (BALLE).

A Local Living Economy is one that sustains itself by helping to maintain sustainability within the community and bioregional ecosystem that it is based within. A Local Living Economy contributes to the local quality of life because its members—farmers, business owners, and consumers—all have a stake in both its success and its impacts. By keeping business profits within the region, creating living wage jobs for local residents, and minimizing impacts on local resources, a Local Living Economy honors by its existence the sanctity of all life.

Local Living Economies directly address the social and economic devastation caused by multinational retail chains. It's true that these corporate giants sell products cheaper than smaller locally owned stores. They can do this because their economic prowess enables them to force their vendors into giving them good deals. These sweet deals come from the sweat of the production workers. The aggregate effect of consumer penny-pinching helps drive down wages—everywhere in the world. When people earn less, they spend less and become more dependent on discount shopping. As a result, small retailers close, downtowns die, real-wages decline, the monopolistic mega-stores grow even more powerful, and the real economy cycles downward yet another notch.

For just one example, and not to pick on Walmart in particular (they've just made themselves to be such an easy target), a report prepared by the Democratic staff of the House Committee on Education and the Workforce and released by Rep. George Miller in February, 2004, concluded that the federal government is providing an average of $2,100 annually in public assistance per Walmart employee. This includes Section 8 housing assistance, reduced-cost lunches and health care programs for the children of Walmart employees, and tax credits for the working poor.

The report concludes that taxpayers are effectively subsidizing Walmart's labor costs, giving the company an advantage over more responsible employers. "There's no question that Walmart imposes a huge, often hidden, cost on its workers, our communities, and U.S. taxpayers," said Miller. "Walmart is in the driver's seat in the global race to the bottom."

The report documents Walmart's labor practices, including its wage and benefit policies, history of discrimination and labor law violations, and role in shifting manufacturing to low-wage countries. Walmart was using its market power to pressure suppliers into providing prices substantially lower than those available to other retailers (after accounting for reasonable volume discounts).

If Walmart has its way, nothing will be produced in America. The retailing giant wraps itself in the American flag, but gives its suppliers price targets. Suppliers find that in order to meet those targets, they must move production offshore. Walmart's American flags are made in China.

This downward spiral is enforced by Wall Street and lenders, such as GE Commercial Finance, who pressure U.S. companies to outsource production to China in order to improve their margins and value to stockholders. People and planet lose out again to profit.

Outsourcing to lower-wage countries is looked at as a solution for individual companies, but it's a short-term fix. When all U.S. companies outsource, we end up with a population working for Walmart selling foreign-made goods, and there are no profits left to circulate in the local economy to fulfill local needs.

What would we stand to gain from the alternative? Let's look at some hard numbers from recent studies on the economic benefits of relocalized economies.

In the Twin Cities region of Minnesota, it was found that if consumers shifted 10% of their spending from chain stores to local businesses for one day, the local economy would gain $2 million. In the Tohoku region of Northern Japan, it was found that an increase of one percent in the food self-sufficiency rate (the amount produced and consumed locally) would have local economic benefits worth about $190 million per year. About two-thirds of this was in food production itself, with the remainder in related industries, which together would create an estimated 4,032 jobs. To boost the region's food self-sufficiency rate by one percent would simply require each person in the region to shift $12 of their annual food budget to locally produced food.

And we don't have to stay in this race—especially as we're in this unwieldy handbasket and the Kleptocracy is flying a Predator drone whose targeting system is locked on us. We don't have to foul our own nest. In fact, it is quite literally true that our survival, as a species, depends on stopping growth.

The second sustainable alternative we can embrace through relocalization is a steady-state economy. Many economists, such as John Stuart Mill in the 19th Century, have noted the necessity of transitioning from a growth to a steady-state economy. Mills pointed out in Principles of Political Economy that wealth has limits, and that the non-growth of capital and wealth "would be a very

considerable improvement on our present condition." Mills believed that achieving a steady economic state would improve the human condition as we would no longer "be engrossed by the art of getting on."

In the 1970s Herman Daly built on the work of Georgescu-Roegen and created an economic model combining ecological principles (including limits to growth), sustainable development, and welfare economics that he called steady-state economics. Daly co-founded—with Robert Costanza and others—the field of ecological economics, which led to establishing the International Society of Ecological Economics in 1990. The three founding principles of the society are: "(1) The human economy is embedded in nature, and economic processes are actually biological, physical, and chemical processes and transformations. (2) Ecological economics is a meeting place for researchers committed to environmental issues. (3) Ecological economics requires trans-disciplinary work to describe economic processes in relation to physical reality."

Steady-state economics recognizes that the economy is a sub-set of our ecosystem, and that our ecosystem is finite and non-growing even though it continues developing in increasing orders of complexity and diversity. A steady-state economy addresses concepts outside the bounds of growth economics. These concepts include: there is an optimal scale for human economic activity; there is an optimum population size; carrying capacity (what the natural world can provide); and sustainability (maintenance of valuable qualities without loss or diminished capacity).

How big can our economy be? Daly states that in order for an economy to be sustainable, or steady-state, it must meet two rules:

1) Output rule: Waste outputs should be within the natural absorptive capacities of the environment.
2) Input rules: (a) For renewable inputs, harvest rates should not exceed regeneration rates. (b) For non-renewable inputs the rate of depletion should not exceed the rate at which renewable substitutes can be developed.

It is this ongoing development that gives steady state economies the ability to provide adequate and sustainable per capita income for all. This is because development (qualitative improvement) is more important than economic growth (quantitative enlargement). From a social perspective, moral growth replaces material growth.

The mindset that says war against a people who did nothing more than try to live where they'd been born is just (both Vietnam and Iraq), is really no different than the exploitation, the actual war against our Mother Earth. Resisting wars and resisting consumer culture requires the same degree of awareness—and responsibility.

The fundamental question posed by Hannah Arendt in her book *Eichmann in Jerusalem* is relevant in both of these contexts today. The question she posed was: what do you do if you're a German? What do you do when all the politicians, when all the organized institutions of your society, instruct you to behave in a way which you know is fundamentally in violation of everything a human being is supposed to be?

The next time you buy a piece of apparel, at either Walmart or Nordstrom's, think about the cotton farmers in India who have the highest suicide rate of farmers in the world thanks to Monsanto's policies; think about the 12 year old girl in Indonesia or Central America who is sewing the pattern for 12 cents an hour; and think about the mother in St. Louis who is on welfare but who used to have a union wage job that has been off-shored in order to obtain higher corporate profits.

Under economic growth the sicker we get, the better off we are. This is business as usual, and this is what we see reflected back on our communities from adhering to the growth paradigm. It is often referred to as the "growth at any cost" model for good reason.

The main rational for a steady-state economy is to avoid the suffering of a failed growth economy. And, it's not just a steady-state economy that we need in order to save what's left of the environment. We also need local living economies to save what's left of our spirit.

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The view of orthodox growth economists is interesting (somewhere between amusing and tearing your hair out frustrating) when they try to rationally defend the spectacular failures of market mechanisms against the intrusions of alternatives such as steady-state economics.

One such view, "The 'Steady State' Economy Does Not Imply Zero Economic Growth," was published in February, 2011 on Energy Bulletin by Zagros Madjd-Sadjadi, Chair of the Department of Economics and Finance at Winston-Salem State University. His basic view is that technology will save us and provide

an ever-increasing standard of living without using more resources—by providing "virtual" goods. He says, "The key is technological change."

Let's see, how can I say this kindly . . . He might as well have said, "The key is magic." The trivial example Madjd-Sadjadi uses of virtual books is a good distraction, because the last thing we want people considering on a planet of almost 7 billion is how well our standard of living is going to suit everyone with virtual housing, virtual clothing, and most importantly, virtual food and water.

What orthodox growth economists don't seem to want to understand, or even consider, is that real people in the real world are much more concerned with quality of life than they are with standard of living. There is more to life than pricing decisions, but Madjd-Sadjadi states that economists can safely ignore ecological limitations because price is all that matters.

Carrying capacity—the balance point among population, consumption, and waste assimilation—is not that difficult to calculate. We know what the rates of regeneration, replenishment, and recharge of ecosystems and their constituent parts are. Those who believe in technology as savior would be a bit disingenuous to then claim we're incapable of doing a bit of simple math.

Madjd-Sadjadi argues that if we privatize everything and get the government out of any economic regulation, we'll never run out of non-renewable resources. But his faith-based argument requires a few definitions as well. For example, define wealth and define prosperity, Mr. Madjd-Sadjadi. As John Kenneth Galbraith pointed out in 1958's *The Affluent Society,* humans don't tend to desire "more" once basic needs have been met. For that to occur requires the world's largest and most active propaganda machine, for which Madjd-Sadjadi seems to be an able spokesman. No disrespect intended, I understand why he was made department chair—he's got the party line pretty well down pat.

The crux of his privatization argument is that if things aren't privately owned, no one will care about them which leads to misuse and overuse. Government or community ownership is simply dismissed or seen as part of the problem. Private ownership is a market mechanism necessary to generate profit or return on investment. In comments and responses to the article on-line, Madjd-Sadjadi suggested the Sierra Club become the private owner of the national park system. There are a couple of problems with this example, though. The first is that the Sierra Club has nowhere near the financial resources that multinational corporations have to purchase large tracts of land, so they are typically excluded from the process. The second is that the profit motive is not the highest aspiration of all humans.

I have this funny feeling that Madjd-Sadjadi, and all other free-marketeers, would be screaming bloody murder should the Sierra Club, or even a consortium

of environmental organizations, actually purchase all the world's rainforests and set a "market" price based on how they value those forests.

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There are numerous other suggestions out there on how to structure economic systems that don't depend on or support greed and disconnection. One that contains some good ideas to draw from is Michael Albert's *Participatory Economics*. Although presented as an alternative to capitalism and centrally planned economies, it still stresses production.

Moving away from production, we have community economist Thomas H. Greco, Jr.'s mutual credit exchanges and other alternatives to money, and Eileen Workman talks eloquently about gifting economies in *Sacred Economics*. In evaluating other systems, such as land or resource value taxes or rents, here's the one thing to think about—do they assume money is an acceptable substitute for destruction? Do they assume our highest aspirations are expressed by being economic actors? If they do, my suggestion is to just say "No thanks" and walk away.

Local Control of Distributed Systems

As a final point on the concepts discussed in this chapter, decentralization—a central tenet of the bioregional movement and the Green Party—is an additional piece of the relocalization model. While many people associate decentralization with the return of control to local governments, the concept can be as easily applied to the production of goods or the generation and distribution of electricity.

Decentralization is another way of saying distributed systems, and the power and utility of these systems is amply displayed in the global communication system known as the Internet. The Internet also provides proof that decentralization doesn't necessitate a return to parochial nationalism. Networks of mutuality among bioregions and continents could more easily and more naturally provide for basic needs at a lower cost and with less damage even without the need to consider conservation or clean tech.

Expanding the basic concept behind Community Supported Agriculture to other relevant areas of human communities, such as manufacturing and energy production, can play a major role in the food and energy security central to relocalization. Food, of course, is a requirement for life. And if we hope to keep from having to move back to the cave—either figuratively or literally—energy security is going to be an integral aspect of a sustainable future.

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COALITIONS —BUILDING CRITICAL MASS

More and more of us around the globe are becoming aware that the status quo is harming people and planet, that the current ruling elite are escalating the crises that threaten the continuation of life as we know it, and that if things don't change soon, the future is dire. And progressive activists of all stripes are realizing that the time for competing over funding, compromising with the life-threatening status quo to remain in their good graces, and allowing sectarianism and factionalization to keep the movement from reaching critical mass is over. Instead, they are sounding an urgent cry for coalition-building to achieve the critical mass necessary to help them fulfill their specific missions as well as turn our hell-bound handbasket around.

The potential for coalition-building is phenomenal. For starters, most of the national groups fighting today's fires tend to have a lot of crossover in their membership lists. There tends to be a better than even chance that if you're interested in social justice issues, you're also interested in economic equity, abolishing corporate personhood, migrant rights, etc. Most of us activists also understand that a healthy environment is important—both for today and our future—for innumerable reasons, and that instead of healing the harm our species is doing to the planet, we're currently headed toward ecocide. An interconnected view of the world is starting to creep into mainstream consciousness. And finally, we share the common frustrations that there simply aren't enough hours in the day to deal with the escalating cascade of crises, and few of us have enough money—especially now—to donate to all the causes we know are in desperate need of support. Therefore, by focusing on our commonalities and working together, we

can support one another to achieve our common goal of a more equitable, peaceful, and sustainable world.

However, it turns out there are some common stumbling blocks to coalition building efforts. And, in order for an effective multi-issue coalition for systemic change (one that disables the arsonist instead of merely putting out fires and provides a realistic alternative) to develop, there are a few foundational requirements.

The common needs for these coalition efforts to overcome the stumbling blocks and be successful include, at minimum, 1) a common goal; 2) a set of shared values; and 3) a truly comprehensive and cohesive, i.e. systemic, framework that includes processes, tools, and concrete action items these efforts can deploy. The framework itself is also a tool, as it provides the understanding of how we got to our present state and what is keeping it in place. This understanding has a secondary benefit, as it helps ensure we're applying our limited resources to the proper issue and not to a distraction or a symptom, and that we're fully addressing all aspects of the diseased underlying root cause.

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As part of our own activism work, we've taken our past decade plus work on building relationships according to natural systems principles and applied it to the task of gathering the building blocks necessary to form a national non-profit whose direct mission is developing multi-issue coalitions to garner the critical mass necessary for systemic, life-affirming change.

My shift to a focus on coalition-building came about when I ran as an independent for Arizona State Senate in 2010 on a platform of relocalization. The specific issues were water (we're running out, and inventing "new supplies" used to be known as alchemy), jobs and economy (the need to create meaningful work not based on the growth of jobs based on debt and destruction), education (a need to return critical thinking skills to the curriculum and teach the actual organizing principles of life), and the border (dump NAFTA and the corporate race to the bottom which are prime causes of forced displacement and migration instead of building walls and arming border patrols).

As our team was gathering campaign support and endorsements, the suggestion was often made to approach progressive organizations in the environmental, social justice, labor, peace, democracy, border, and solidarity movements—whose own mission statements sounded like they came directly from the core campaign platform—to offer support, even in minimal ways.

Approach them we did . . . with dismal results. The only organization to officially support my common sense, scientifically grounded campaign was National Nurses United. Additionally, a small handful of authors and activists who directly challenge aspects of the status quo, such as Derrick Jensen, James Howard Kunstler, Jerry Mander, Wynona LaDuke, Guy McPherson, and Rob Dietz of the Center for the Advancement of a Steady State Economy, endorsed my candidacy.

Pretty much everyone verbally affirmed my platform. But they chose instead to officially support the incumbent Democrat (a good person I actually like) because she was considered to be electable, not because she had a response to collapse, or that she even represented much of a change from the status quo responsible for the mess we're in. They rationalized that she was offering Band-Aids for the worst of the suffering. We heard all of the common excuses that change advocates constantly have thrown at us from people who would rather be popular than right. A couple of organizations were honest enough to admit they didn't think it was worth pissing off their Democratic funders. They didn't think the "mainstream" would support the changes I was advocating , although just about everyone I had the opportunity to talk with, both from the right as well as the left, agreed with the majority of what I was proposing.

Not wasting a vote was integral to all of the above. Since the mainstream (corporate) press, and even the majority of what passes for an alternative press, won't touch anything that says anything approaching a critique of capitalism or that presents an alternative to growth, and thus might negatively impact advertising revenue, we were never able to get enough public support to give voters the confidence to vote for an alternative to the status quo. And there's much more to it all than this, of course.

As ecopsychologists, our work centers on creating and maintaining healthy, mutually supportive relationships—and this just happens to be what coalitions are all about. In fact, as the patterns display fractal self-similarity, this is all structurally similar to the self-generating networks that create and sustain life itself. So the question Allison kept asking was . . . how do we apply what we know about building coalitions to garner the critical mass necessary to support your sustainability platform (i.e, get me elected)?

Well, we didn't manage to build such a coalition during the time frame of the campaign, but this experience did increase our awareness of the need to build an effective coalition that has the critical mass needed to save life on Earth and end the rampant suffering, abuse, and exploitation of everyone who is not a member of the elite—or is simply an outright sociopath.

As I started looking into this in more detail, all it took was a quick cursory glance to discover that pretty much all the progressive magazines, blogs, and news sites have about a dozen articles each in their archives calling for or mentioning the need to build a mass movement to create and support systemic change.

Within weeks of the end of the 2010 campaign season, Progressive Democrats of America held an executive team retreat. One of the main results was an identified need to build coalitions with the global warming movement. Pretty much the following weekend was the executive team retreat for the global warming organization 1 Sky (later assimilated by 350.org), and the main result of that meeting was an identified need to build coalitions with the progressive political movement. However, neither organization could identify a process to build effective coalitions and collaborative actions among single issue progressive movements.

Local coalition-building efforts spring up on a regular basis to network all the grass-roots groups working on advancing the principles of peace, justice, equity, democracy, solidarity, and community, to address numerous environmental issues, and more recently to tackle food and energy security as peak oil and global warming increasingly start impinging on our lives. Unfortunately, the results of these efforts have been minimally effective.

But the need to both stop and supplant the destructive status quo is becoming more urgent. We are reaching critical "tipping points," and even though the current system is collapsing, it would be preferable to not have it collapse directly on top of us. Is there an effective way to say NO to uneconomic growth and empire and destruction—to the exploitation of people, degradation of community relationships, and misuse, overuse and abuse of natural resources? Currently, virtually everything is subservient to corporate profit. How can we end the destruction without getting bogged down by anger and retribution, but without being afraid to express and act on our righteous indignation?

Mere reform of a system heading over the edge of a cliff will only postpone total collapse and make any potential recovery more difficult and expensive—if not impossible. While personal lifestyle changes are being pretty well covered by mainstream environmental organizations, if we allow another 100 coal-fired power plants to be built, or another resource war to begin, any possible good from all the squiggly light bulbs, hybrid global warmers, and the very real value of personal conservation will be wiped out. On the local level, community gardens, water harvesting and low-flow shower heads can't compete against a voracious growth machine whose benefits accrue to elite special interests only concerned

with the rise in perceived social status that comes with further amassing wealth and power.

We've been slapping band-aids on symptoms for hundreds of years, and yet we have never been willing to address the underlying disease—the root cause of our rapidly converging crises. Economic growth, industrialism, and the enclosure of the commons are commonly pointed to as the root. However, as I hope to have made clear, underlying all of these symptoms are dominator hierarchies, our separation from the natural world, and the resulting self-reinforcing beliefs that Earth is our playground and that technology can both resolve any negative consequences of our actions as well as act as a perfectly acceptable substitute for dwindling resources. The cultural assumption that we can create another pill to counteract the effects of the previous pill, and that this is a more rational response than stopping the damage in the first place or creating systems that meet the needs of life—that can deliver joy, fulfillment, meaning, and purpose—without causing the damage, is threatening the continuation of life as we know it.

In addition to recognizing that we have some rapidly converging crises to deal with today (peak oil, global warming, increasing biospheric toxicity, loss of biodiversity, the collapse of the economic growth that Western industrial societies are dependent upon—to remind you of just a few), it is vital that we also recognize these crises are all emergent qualities of the same root disease. None of them would exist if we were sustainable and in balance with a living world that has evolved to meet the needs of living organisms and provide increasing opportunities for them to reach their potential. It is obviously time to put an end to the diseased root and replace it with a sustainable way of being. But how?

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As many have pointed out, simply reforming a system that is based on fundamentally flawed assumptions will not deliver the change sought by civil society or required by a living world. As writer Thomas Pynchon wisely noted, "If they can get you asking the wrong question, they don't have to worry about the answers." Our challenge, then, is to replace the paradigm of the Industrial Growth Society with an alternative system that is equally as systemic and, instead of destroying life, can be shown to meet people's needs as well as bring about an improvement in quality of life. This is the path toward meeting any meaningful definition of progress. It can be shown that becoming truly sustainable will meet these goals.

The basis for the multi-issue coalition development project I am proposing is firmly grounded in systems science and guided by the natural systems principles

that have kept our planet sustainable for billions of years. It details a process to address the above issues and bring together peace, justice, environmental, community, solidarity, and democracy groups—organizations and individuals who are passionate about these causes—to effectively mobilize the public into the critical mass necessary to bring about real, lasting change. After connecting the dots, coalition-building is an integral part of the process of reversing our cultural handbasket. The process:

- facilitates awareness that there is a common goal that supports all the single-issues (will lead to their alleviation/mitigation)
- adopts and works with a globally shared value set and openly reclaims the values argument that is congruent with a living Earth
- recognizes and promotes awareness of the interrelated nature of current crises and their common root cause
- clearly demonstrates that the alternative to business-as-usual known as relocalization can meet people's needs as well as improve quality of life
- provides pragmatic tools and methods to address sustainability issues along the full spectrum from personal lifestyles to public policies
- provides pragmatic tools to organize, communicate, and make decisions in a manner that is non-hierarchical, inclusive, and not coercive

The corporate owned media will neither cover the issues and reasons from which the prevailing crises emerge nor report on any alternative which doesn't support economic growth or existing control hierarchies. Connecting the dots among issues of concern and pointing out the manner in which they grow and are nurtured from a common diseased root is not in the best interests of the status quo. As Richard Heinberg points out in the documentary *The End of Suburbia*, there's no upside for the powers that be. It is therefore up to us to offer the alternative directly to the people.

In many ways, developing an effective mass movement for life-affirming change is not a form of resistance against a system that suppresses and represses, but rather a removal of the legitimacy we bestow upon it. In too many often unrecognized ways, rebellion without a replacement merely condones the existing paradigm because it reinforces the belief there is nothing we can do about it except stomp our feet.

To provide this crucial replacement, those of us who are politically progressive, environmentally concerned, and spiritually aware must come together. If

there is still time, we can do things differently. The coalition framework and tools I am suggesting can become the first step toward change for many and a way to effectively provide additional support for the existing work of many more.

. . .

The critiques of the current system are strong, verifiable, and familiar to many. The tools I've woven together here are by no means all of the possible options, but they provide a firm foundation that is open to organic refinement and a starting point for transitioning toward a sustainable future by providing a new way to think, talk and do change.

The doing part of developing effective coalitions for collaborative action is the means to build the critical mass necessary to enable life-affirming change.

So . . . what do we do to build a coalition powerful enough to supplant the status quo?

1) **Use the resources at hand.**
   An effective coalition requires a set of shared values. Instead of starting from scratch, we can look to the values provided by the Earth Charter. These values provide a framework for sustainable development.
2) **Agree upon a common goal.**
   I propose that the goal of a sustainable future—a future that can only emerge by embracing ecological integrity, social justice, economic equity, and participatory democracy—is a big enough "umbrella" to cover all of our specific objectives. Environmental attorney Cormac Cullinan provides an axiom for this movement: True justice cannot exist without sustainability, and without justice there will be no peace.
3) **Agree upon an ecologically sound and legally defensible definition of sustainability.**
4) **Embrace relocalization as a powerful step toward sustainability.**
   The process of relocalization provides a practical, affordable means to create a sustainable future. It is also highly congruent with indigenous wisdom traditions that see Earth as both parent and partner.
5) **Use the toolkit for change**
   A coalition toolkit for systemic change from the Industrial Growth Society includes ways to develop and practice non-hierarchical

organization, communication, shared leadership, and decision making skills as well as a process for determining a community or region's carrying capacity, assessing its resources, and uncovering roadblocks to change.

6) **Embrace an Earth jurisprudence**
Our laws both reflect our values and determine who we can become. We can create the critical mass to become effective advocates for lifestyle and policy change based on an Earth jurisprudence that reflects who we are and who we want to become as members of a healthy, interconnected web of life that increases opportunities to reach potential.

Toward the above ends, here's a basic vision statement for coalition groups and organizations that seek to implement these systemic changes:

To empower multi-issue coalitions of mutual support to build critical mass using non-hierarchical tools and shared values toward our common goal of a sustainable future.

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In the 2010 US mid-term election, the Tea Party demonstrated how very powerful organizing can be. One weakness of progressives (those left of a center that has shifted so far to the right as to be meaningless as a political indicator) has been the inability to organize large heterogeneous groups around a common purpose, goal, or vision—or even agree on the words to use to describe their shared values. Numerous past efforts have failed due to what is commonly described as sectarian factionalization. But we can use our shared awareness of our critical situation to motivate us to move past our organizational disabilities and rally around a common cause: mutual support among the organizations and individuals working for what can be best defined as sustainability in its many expressions—peace, justice, equity, solidarity, democracy, and respect for the community of life.

Our specific problem isn't that our planetary life support system is dying; it is being killed by a paradigm we legitimize. And because it has been legitimized for millennia and the paradigm is spreading, we are laboring under a meta-narrative—our dominant cultural stories—that the status quo is unchallengeable; that the destruction and negative consequences of the Industrial Growth Society are an acceptable and necessary price of progress; that no alternative exists let alone one that would be better overall; and that the infinite growth necessary for

debt repayment which requires empire provides the only path toward continued progress and prosperity. The story pervades every facet of society . . . and thus our challenge is immense.

Any quest for change at least implicitly admits the status quo isn't working for a sizable segment—currently the vast majority—of the population. It is therefore vital for us to make this admission explicit—because there will be neither justice nor an economy on a dead planet. A multi-issue coalition on a national scale will provide a support network and framework for a mass movement to build a systemic alternative to, and withdraw legitimacy from, the status quo . . . business as usual . . . the powers that be . . . the 1%. One primary goal can be to clearly demonstrate how sustainability will fulfill the desires and needs of the majority and how this can be achieved through non-hierarchical organization, communication and decision making tools that are based on the natural systems principles from which sustainability emerges.

It will take a critical mass of people to withdraw their legitimacy from the status quo and embrace a sustainable alternative if life-supportive change is to occur—if we are going to reverse our handbasket to hell—so our challenge is to come up with and agree upon a clear message to take directly to the people. It will be especially effective to share the message with local governing bodies who are searching for answers, for they are the ones most directly responsible to the people for their welfare and security.

I propose that our message have two fundamental aspects. The first is: We're unsustainable. What we're doing now is not working, and in fact, the longer we keep it up, the worse off we're going to be.

American and European militaries know this. Business leaders not totally in denial know this. But, no current leaders in either government or the private sector have a Plan B in case the fervent prayers for a return to the normal that got us into this mess in the first place aren't answered or are finally admitted to be mere wishful thinking.

This leaves it up to us, the grassroots, to implement a response to rapidly converging crises—but to do so, we require new tools and a practical framework for doing things differently. The tools, processes and policy framework that have been developed to keep business as usual humming along were not designed to enable change, and they will not function under a fundamentally different paradigm. That's why the best we can hope for from the "reform" response is an ineffective slapping of band-aids on symptoms. A systemic, practical and affordable alternative is not only needed, but necessary. Now.

So, the second fundamental aspect of the message is: There is an alternative.

Previous Efforts and Common Pitfalls

Previous multi-issue, cross-disciplinary coalition/consortium/big-tent networks and similar efforts, while well-intentioned, have exhibited a number of failings. They tend to focus on a single issue (peace, global warming, poverty, or a particular ecosystem) which causes disagreements over priorities; they are often unwilling to forthrightly state what they stand for (other than bringing people together and building community—both extremely worthwhile goals that are intrinsic to a coalition framework, but not sufficient for the task at hand) for fear of alienating potential supporters; they tend to be afraid to clearly state what doesn't work, what won't be tolerated, or what is counter to their goals for fear of being perceived as negative; and they are often too willing to compromise so as not to offend or be seen as exclusive and unwilling to get along.

As environmental, social, and economic systems are continuing to degrade, it seems obvious that these tactics and organizing principles are simply not effective. Increasing the amount of energy, time, and resources dedicated to them are thus never going to be able to hold these coalitions together, and they will continue to inevitably fade away until their bi-annual reappearance with a new organizer in another effort that then produces the same lack of results. Exacerbating the problem is that organizers often run out of resources to keep fledgling efforts going and so they never make it to the point of developing a viable business model.

Another factor that commonly impedes the effectiveness of progressive coalition-building efforts is sectarian factionalization. Efforts often bog down in arguments over tactics or what the actual goal might be. The difficulties lie in strong passions for individual causes that are believed to be the most important issue to address, in not seeing the common root cause or in believing that it can't be addressed, and in not understanding how working together toward a common goal can move us all closer to resolving or alleviating our individual issues.

Another issue is that, because so many of us are actively engaged in putting out raging fires that can't be ignored, coalition efforts often quickly turn into thinly disguised efforts to corral more volunteer firemen for a particular cause. Have we reached the point yet that we can rally together to put the arsonist out of commission and, instead of drawing resources away from the important single issues, actually contribute to their solution?

One often unstated goal underlying many coalition efforts, sometimes simply because they're not sure how to articulate it effectively, is to break patterns of domination. Unfortunately, when not stated or addressed, patterns of

domination become yet another weakness—because we are steeped in dominator hierarchies. They are deeply embedded in the cultural stories and social values that our societal behavior is based on, and they determine what is deemed acceptable and what our jurisprudence both allows and protects. Thus, the manner in which we typically communicate and organize today—even in "progressive" coalition-building efforts—naturally reflect dominator hierarchies. This may work great on the right, but that's because that's the foundation of the status quo they're protecting.

If we are going to build a coalition effective enough to turn this handbasket around, it is vital that we learn different ways of communicating, organizing, sharing leadership, and making decisions that are not dependent on hierarchies and that, more than just being inclusive, actually have the ability to bring out the best in everyone and benefit from their gifts.

Another roadblock to effective coalition-building in the past is that many people say the "system" has a lot of inertia and then use this as an excuse for not becoming personally involved in serious change efforts, or to limit their support for change to slow incremental measures and compromise that comes in the guise of reforms. What they're actually doing is trying to bolster their arguments for remaining within the status quo by appealing to the laws of physics. But the system is a story—it has no mass with which to build up inertia. When we change the story, the physical infrastructure of our daily lives isn't going to disappear, even though major parts of it may need to be dismantled as we move toward honoring carrying capacity limitations that are congruent with the actual laws of nature.

For example, when the economy of Argentina collapsed, the factories didn't go away. They remained right where they were for the people to reclaim and press into service to meet their needs. The financial establishment and ruling elite were just cut right out of the picture. People discovered these status quo institutions were completely unnecessary for meeting their daily needs.

That's reality. The system only appears to have inertia because it exists entirely due to increasing injections of energy and resources that must be constantly applied to keep the system from collapsing faster than a punctured balloon that had already been over-filled to the point of rupturing on its own.

Core Requirements for Successful Coalitions

Polls show the majority of people in the US want a clean environment, renewable energy, an end to pollution industry subsidies, to mitigate global

warming, build social justice, and end war—but until now, no one has been able to offer a solution that has the potential to successfully lead us to the fulfillment of these desires. I believe this is because reductionism has infected activism, and we've come to believe that slapping band-aids on symptoms can be effective.

So, the first core requirement for a successful multi-issue coalition is a framework that is coherent, cohesive, comprehensive, and that presents and supports a viable, systemic alternative to the status quo.

Our coalition framework was developed to empower multi-issue coalitions of mutual support and action to build critical mass based on non-hierarchical tools and natural systems principles to institute fundamental systemic change from which a sustainable future can emerge. This basis provides the necessary systemic alternative to the Industrial Growth Society that requires domination through debt, imperialism, exploitation, and destruction. Honestly addressing root causes, providing ways to easily discover and share resources, and using shared values toward a common goal can support—at a foundational level—the core missions of constituent groups. This necessarily means it must be based on ecological integrity, social justice, economic equity, and participatory democracy. This combination holistically works together to improve quality of life for all life because it is more natural.

This coalition framework provides a model for social entrepreneurship that takes an honest look at the systemic failures of industrialism, its growth paradigm and hierarchies, and proposes an equally systemic alternative that both embraces technological innovation and implements sustainability based on working with the underlying natural systems principles that keep ecosystems healthy, vibrant, and resilient.

The overall framework honestly addresses the root causes of rapidly converging crises and provides organization, communication, leadership, and decision making skills necessary to ameliorate these issues of concern by providing pragmatic responses and alternatives. Catastrophe and collapse are approaching from many directions, and denial is not an effective response. Sustainability is more than just a goal; it is a living systems process that keeps destructive symptoms from re-emerging and taking over.

This leads to the second core requirement—agreement on a common goal, which is a sustainable future. Integral to this is the adoption of a legally defensible and ecologically sound definition of sustainability, because it supports at a foundational level the core mission of constituent groups, as well as providing a foundation to move toward an Earth jurisprudence.

The third core requirement is adopting a set of shared values. Rather than starting another coalition effort by spending months coming up with what consistently turns out to be the same set of shared values—and I've personally been through this process with more organizations than I care to count—we can jumpstart our efforts by adopting a value set congruent with natural systems principles that is already internationally vetted—the Earth Charter. Refer to Chapter 7 for details.

Adopting this value set has a number of advantages. It helps us realize that the project of life supportive change is doable, that we are not alone, don't have to reinvent the wheel, and it cuts across cultural, ethnic and economic boundaries to our core commonalities as a species on a living planet. As previously mentioned, the Earth Charter can also serve as a soft-law document to guide sustainable development. This goes hand in hand with adoption of the precautionary principle. Adopting and abiding by these shared values toward a common goal increases the possibility of quickly developing critical mass to institute systemic change that will lead to a sustainable future.

The overall methodology we developed to build coalitions is a practical framework that can be adopted and implemented at all scales—neighborhood, county, state, national, and global—to support place-based innovation in moving toward sustainability. Any coalition effort that hopes to replace domination and elite control hierarchies must itself be organized in a non-hierarchical manner and embody non-hierarchical processes (Chapter 13). This allows direct modeling and practice of the tools as organizational strength and effectiveness is developed. This toolkit is the fourth core requirement for coalition development, and includes non-hierarchical methods of organizing, communicating, decision making, putting on events, planning meetings, and they enable resource and information sharing. We've developed workshops, training, and implementation support on what sustainability entails, how it can be implemented, and to raise awareness that this presents a practical and realistic alternative among progressive, environmental, community, educational, and government agencies and bodies.

This framework allows innovative approaches to the nation's challenges that social entrepreneurs (change agents) can develop and implement—and it can even be adopted by enlightened local governing agencies, bodies, or departments. It works toward building critical mass within an informed populace that is aware of what's going on; describes how this state came to be; identifies roadblocks to change and how our resources can be used to do things differently; it provides a means to measure success; and it offers support for individual causes through resource and information sharing. Using the framework also allows coalitions to

raise awareness that systemic innovation for bold social change must begin by addressing root causes of dysfunction, because slapping band-aids on symptoms only provides temporary relief before erupting again somewhere else—often in a more spectacular and destructive manner.

Realizing that an alternative is available to our badly broken status quo is a step toward change. It's also a plus that the alternative is both practical and affordable. Rather than focusing all time, energy, and other resources on overthrowing the yokes of repression and oppression—while not ignoring that as a valid and necessary tactic for those who are attracted—the alternative directly builds the new and removes the legitimacy formerly granted to the status quo.

This also helps us develop the necessary skill sets for becoming good at "connecting the dots." A sustainable future will naturally provide green jobs and renewable energy, but it won't support infinite economic or material growth. However, powering down on energy use improves quality of life by lowering stress, increasing disposable income, decreasing waste and pollution, and lowering our carbon footprint.

A successful coalition to build critical mass can't be exclusively focused on learning abstract concepts through textbooks, seminars or discussion circles. Thus, our framework also provides a means for active engagement in constituent groups as they advocate for personal and policy change congruent with the values that support and enhance life.

As William James pointed out over a century ago, change occurs through doing, but as Derrick Jensen points out, it starts by believing in it, not by talking ourselves out of it, and definitely not by trying to talk others out of it—and, I might add, not by settling for compromised incrementalism or believing that's the best that can be hoped for.

While systemic change can't be implemented overnight, there are a number of recently developed indicators that can provide evidence of a shift in that direction. These include decreased reliance on imported goods and services, increased local economic investment and production, lowered carbon footprint, city livability and walkability, reclamation of degraded ecosystems, reversals to biodiversity loss, and community relationships that improve the social safety net, provide meaningful work, increase local food and energy security, and maintain social infrastructure instead of increasing profits for absentee owners. Progress toward these goals can be measured through a pressure-state-response model of sustainability indicators.

Coalition success will also be recognized by a growing membership and the numbers of organizations that adopt non-hierarchical methods—and thus

demonstrate to lawmakers and public officials that the necessary public support exists for local governments to adopt sustainability policies and regulations that are not reliant on growth but on improving quality of life—becoming better, not bigger, and demonstrating positive effects on social and environmental issues.

The coalition framework has a major "connecting the dots" awareness raising component. It ties together our shared values, a common goal, and the fact that we are actually the majority; it explains the root cause of our global crises (the underlying philosophy as well as current manifestations); and it offers a practical and affordable alternative. This provides a foundation for a new narrative that is just as systemic as the one it seeks to replace. The non-hierarchical tools also teach practical skills that are not dependent on dominator hierarchies and that strengthen interorganizational collaboration that explicitly develops and benefits community relationships, resiliency, self-reliance, and the environment (restoration, preservation, conservation). This all builds on the growing awareness that, since the opposite of sustainability is ecocide, becoming sustainable is vital—and thus so is understanding what sustainability means and entails in a practical day-to-day manner. We can then work on ways to gain the support to build this understanding into policy and regulation that is ecologically sound, democratic, and supports our true aspirations.

Multi-issue coalitions are needed at the local level to bring together leaders and representatives from activist groups with sympathetic officials who are willing to entertain the notion that sustainability can provide the umbrella to advance individual issues and build local resiliency and vibrancy as Ponzi capitalism and the pollution economy collapses, and as global warming impacts advance.

At the national level, coalition development among recognized national/international organizations and movements (perhaps first among those who are beginning to openly question capitalism and realize the need to put the intersection of the environment and human well-being front and center) can work to strengthen their core missions. Universities can use the framework as a foundation for cross department collaboration and building their own sustainability initiatives and curricula.

The framework and tools can not only be effectively applied to developing and sustaining coalitions, but to furthering organizational goals, strengths and capacity. It's all about mutually supportive relationships, which require respectful inclusive communications and an honest effort to discover and work toward commonalities. This applies whether with coworkers, communities, or accepted systems of governance because they all depend on a healthy living planet. The jurisprudence exists to ground regulatory and policy alternatives to the status

quo and demand a stop to the destruction and exploitation of people and planet. What's missing currently is the support of a critical mass.

If we're serious about change, and willing to admit that what we're doing now isn't working, or at the very least is ineffective and taking too long, we must change tactics. If we want to become sustainable, let's try something that is explicitly based on the manner in which the natural world creates and uses sustainability. It is, after all, one of the few things we haven't actually tried yet at the broader societal level, and too rarely at the organizational level.

One very important guiding concept in creating coalitions is to avoid drawing resources from existing single issue groups, or reinventing the wheel in any manner, if at all possible. A local coalition group or organization will supply a missing piece of the puzzle, fill in gaps, and offer necessary additional support to the urgent needs of single issue groups. However, someone—or some organization—must assume the responsibility of taking the arsonist out of commission and providing a pragmatic and affordable alternative. For existing coalitions, adoption of this overall framework can become an evolutionary step in gaining strength and legitimacy with a broader section of the community without losing their autonomy.

Local coalition groups should take measures to avoid getting bogged down in single issues and focus instead on broad-based sustainability issues and incapacitating the arsonist. However, when a need arises from any of the member organizations, the coalition can lend its resources. This helps prevent the beneficiaries of damage from getting away with insisting to local officials that their only opponents are some small fringe groups that can be easily ignored. As well, an explicit goal and activity of the coalition can be policy formulation and advocacy that will keep the single issues from arising or getting worse.

Some quick examples of catching the arsonist—digging out and replacing the diseased root—instead of being satisfied with slapping Band-Aids on symptoms include: jobs vs. work, growth vs. development, standard of living vs. quality of life, more nukes vs. powering down. This includes helping organizations connect the dots among their individual issues of concern and seeing what underlying commonality needs to be addressed—that is, deep systemic analysis. This holds among national organizations as well as local coalitions.

Yes, this is an extremely ambitious goal. But, a living planet, preserving a biosphere conducive to life as we know it, and increasing opportunities to reach our potential as a species deserves nothing less—especially when you consider the scope of the forces allied against all of this.

12
A BASIS FOR FUTURE HOPE

Peace on Earth requires peace with Earth, pure and simple. However, the reality of this statement can be challenging for us to recognize because the war against nature and our own inner nature is systemic in our modern industrialized world. This war is necessary for Industrialism to survive. It is also necessary for elite hierarchies to remain in control, because if we're at war, we need strong leaders who can win this war for us. But, to refer back to the Fritz Schumacher quote I used in the section on the Triumvirate of Disconnection, were we to actually win this war, we'd find ourselves on the losing side.

When I talk with activists who are motivated to work on change, I often hear a great deal of disillusionment expressed. When I talk with people who don't get involved in change efforts, a set of common reasons are typically given. When I talk with people who generally support the status quo, some of their reasoning sounds eerily familiar to the former two groups.

The disillusionment and the reasoning share some commonalities. A prominent one is that people tend to express their negative reasons as if they are immutable truths and can be neither challenged nor changed. They unequivocally state that people can't change, can't do it quickly enough, won't be motivated to change without first experiencing catastrophe, are inherently flawed, and that this is just the way things are, the price that must be paid for progress, so get used to it, adapt and perhaps work on either making it a little less bad or a little more tolerable—depending on whether the speaker is a pessimist or an optimist.

So, no matter where we are on the spectrum, one of the first things change agents who aren't bound by this limited thinking must do is dispel these myths surrounding the likelihood of change and present the evidence for what are

actually more natural aspects of normal human behavior when not constrained by a paradigm that is anti-life.

The nature of the problems facing the world today are systemic and deeply imbued within both cultural and religious dogma. As detailed in Part One, they involve a worldview based on domination, aggression, competition, and transcendence. This worldview propagates a myth that these concepts are not only "natural," but hard-wired, intractable, immutable even—that they are prime above all others. This worldview assumes that materialism is the path to fulfillment, denies all of the mounting evidence to the contrary, and thus questioning the concept of infinite growth in both material goods and economic wealth is simply off the table—for both political liberals and conservatives.

The systemic global crises manifest as the Triumvirate of Collapse, and are leading to the collapse of our economy, environment, sovereignty, and personal health and well-being.

Since the crises are systemic, and spring from a common root on which this world-view or paradigm is based, then the solution or response must be systemic, address the root causes, and provide an alternative foundation. It must provide a different way of interpreting our relationship with the world and each other, and for giving it meaning. Single issue Band-Aids on symptoms may alleviate immediate pain and suffering, but will not keep them from recurring. Further, as the root grows stronger, the symptoms will occur more frequently, in more places, and will be of increasingly greater destructive magnitude.

The change of leadership trumpeted as a shift in the reins of power that took place in the U.S. Congress in 2006 was heralded by the anti-war movement as a golden opportunity to bring the occupation of Iraq to an end. But, was the display of public sentiment that repudiated a neoconservative agenda at the polls used to address the underlying injustices, inequities, and unsustainability of a way of life inherently at odds with the evolutionary direction of life itself? Of course not. Could we have used this opportunity to put aside partisan politics and sectarian infighting within the progressive movement to address the root causes of the systemic ills so many of us spend all our time and energy working on mitigating and righting? This might have occurred had we had a framework in place to do so. Can the anti-war movement reframe itself to actually become a peace movement? I believe it can.

When it becomes sadly apparent that swapping the Rs for Ds is another case of "meet the new boss, same as the old boss," perhaps our time might best be spent re-examining how the framework of the progressive agenda is being presented. Instead of merely railing against consumerism, corporatism, imperialism,

and the other evils of our culture, we can examine what it is that we are actually longing for; ask ourselves and others what we innately sense we are missing; and explore ways the American experiment in freedom from oppression and adherence to democratic principles can finally have a successful outcome, fulfill these desires, and provide us with the freedom to create the life we want in a manner that doesn't diminish the possibility of future generations doing the same. As a good friend and Green Party activist in Tucson keeps telling me, his goal is to experience true democracy in his lifetime.

As it turns out, there is increasing evidence that we actually can do things differently from business as usual that we can draw from and build on.

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Before exploring this basis for hope, it is important to return to a concept touched on from a slightly different perspective in the section on other niggling inconveniences—that the end of industrial civilization will bring on chaos and lawlessness, and that we should shift our focus from trying to save the world to building lifeboats.

The lifeboat analogy has been a popular one within the relocalization movement almost from its inception, as has been the discussion of where the most productive focus of our energies should be. Talk of relocalizing economies and creating food and energy security attracts a number of people, many of whom don't see the difference between saving the world and saving Western industrial civilization. As the atrocities mount and the possibility of collapse can no longer be denied, it becomes very tempting to fantasize that we could build a lifeboat to take family and a few friends away from the sinking ship of state—whose main response so far is to form the Titanic Deck Chair Rearrangement committee—and arrive on the glimmering shores of Utopia. Systemic relocalization, however, takes a different perspective on the lifeboat analogy.

One thing about taking a deep and reflective look at the natural systems processes that keep an ecosystem healthy, vibrant, and resilient is that it gives one an entirely different perspective on how living organisms actually go about participating in the process of life. While some people like to insist that humans aren't ruled by the laws of nature, and continue to believe that humans can actually control nature, they generally tend to confuse making an absolute mess of things with controlling things.

We humans are amazingly resilient and resourceful. Positing that we can readily and elegantly transition to a better way of relating to and being in the

world is hardly a fantasy, as making changes to better support life is the one thing the universe does best. Neither do I find it naive nor hopelessly optimistic to believe we have the ability to turn our dire situation around, because what I posit is based on empirical evidence from a number of different fields. It also draws from indigenous wisdom thousands of years old.

The majority of us today would love to do something differently—like get out of the rat race. Numerous studies over the past 60 or so years have shown that the things we actually want once our basic needs have been met are inherently sustainable: more time with family and friends, bettering ourselves, just having quality leisure time in general . . . None of these enrich the captains of industry, though—hence, we've experienced them only in our dreams.

One avenue of inquiry within the relocalization movement is whether we can rationally cooperate in transitioning to a sustainable future; whether we can change the current patterns of exploitation and coercion in social relationships and with our environment without being forced to by a catastrophe of some type. A number of people assume we don't have the ability to rationally admit that we're headed in the wrong direction and plan to head somewhere else.

Trotted out as evidence for this negative line of thinking is a book by Steven Pinker, *The Blank Slate: The Modern Denial of Human Nature*, in which he purports to refute the "modern" thinking that humans are intrinsically good and are corrupted by society, or even have a choice in the matter. Pinker says humans can't do long range planning. It's in our DNA to be geared toward responding to immediate threats. This is good old fashioned dualistic thinking that assumes if we're good at one thing we can't be good at anything else. We are simply this one thing and we can't be anything else. Really? Sorry, but if the human attention span couldn't extend beyond the next saber-toothed tiger, then bonobos, dolphins, or elephants would be the current pinnacle of evolution.

The majority of Pinker's arguments are based on strawman fallacies carefully selected to support his thesis and a disregard or ignorance of the systems view of life.

The acceptance of books like The Blank Slate within liberal intellectual circles appears to me to stem from the fact that he does make a number of good points in setting his arguments up, especially in regard to the inherent inequities of dominator hierarchies—although he's quite careful not to refer to them as such. For instance, he says that equality doesn't require sameness, but policies that respect individual rights; that redistribution policies are necessary to care for those with fewer innate abilities; and that laissez-faire economics is based on bad assumptions. However, just the fact that Richard Dawkins and

Daniel Dennett like it should be ample warning this book is based on fatally flawed assumptions.

It is hardly "nostalgic nonsense" or romanticism to point out that some Indian tribes planned for the seventh generation. To simply dismiss this fact out of hand because some of them overhunted ignores that one of the better known instances of this—the hunting to extinction of the North American elephant by the West Coast tribes—was followed by the realization that they screwed up and so they changed their pattern of living with the land so it didn't happen again. Western civilization has yet to achieve this level of cultural advancement and maturity. Just because we have iPods and bunker-busters doesn't mean our technological prowess makes us better or wiser.

To buy into the intellectual paucity of revisionism such as Pinker's "noble savage" is to believe a story that rationalizes the worst of human nature to help sell the myth that what we have now is the best that can ever be. I heard one person comment that we should accept Pinker's viewpoint because he is a "Harvard professor." We would do well to remember that Harvard professors, because of the very nature of their institution (*founded* in 1636 by vote of the Great and General Court of the Massachusetts Bay Colony—*a joint stock trading company, or corporation)*, are probably more deeply embedded in the consensus trance than the average person. For the most part, their livelihood comes from rationalizing the status quo. So, sorry, if you're going to use the appeal to authority, at least try to find an actual authority on the subject matter. Otherwise we find ourselves in a similar losing position of using white papers from conservative free-market think-tanks to "prove" global warming is a hoax.

Does it really make any sense to dismiss everything another culture did simply because they did one thing wrong? We're supposed to be an intelligent species with the ability to learn from our mistakes, even if we seem to rarely demonstrate this ability today or if pop culture refuses to acknowledge it. Why not take a good aspect of one culture, combine it with the good aspects of other cultures, and create something even better with the advancements in knowledge we possess about how life itself actually works?

An oft-repeated argument for maintaining the status quo is that it is human nature to be domineering, aggressive, competitive, and we can't act differently. It's time we put the lie to this assertion. As other cultures have demonstrated, it is every bit as much a part of human nature to be nurturing, compassionate, altruistic, and cooperative. In fact, the aspects of human nature that we choose to nurture and base our stories and values on are the ones that grow and flourish. Change begins with making new or different choices. Pointing out that there are

examples from our past of people making conscious decisions to live more in harmony with the natural world and who attempt to provide for their offspring's future is hardly a call to return to the cave. This is an example of natural diversity at work, a diversity from which we derive our greatest strength.

The above points to the need for us all to spend more time deeply and honestly examining our assumptions and determining from whence they have arisen. Who profits? Whose sacred cow remains ungored?

This even entails the terms we choose to use to describe our situation. If we plan for the "collapse" of Western civilization, and do nothing else, then that's what we'll suffer through. There is no doubt that Western civilization is unsustainable, and if left to its own devices, it will bring life as we know it on Earth to an end. This is the fate of all force-based dominator control hierarchies. However, if we talk about creating something new instead of reacting to collapse, we shift the energetic focus of our actions and responses.

The collapse scenario directly assumes a Mad Max transition. This is because it implies that we're willfully addicted to consumerism because we actually enjoy it, not that it's being forced on us, and that we would react negatively to being offered the opportunity to participate in gaining what we really do want. Severe deprivation of what we most deeply need describes our current situation. The materialism offered as a salve is superficial at best. Not allowing ourselves to think about this is part of the consensus trance, and I don't think the red pill needs to be as strong as many people think it does. This became even clearer to me when I was running for public office. People across the political spectrum are willing to engage in this conversation, they just aren't aware of an alternative to the status quo. However, they can quickly connect the dots as soon as they are pointed out to them.

Now, with all this having been said, it would be the height of foolishness to ignore the dangers in our situation. We must indeed protect ourselves from those few true sociopaths, quit putting them in positions of authority and power, be aware that we're surrounded by a culture that has raised us to not believe in ourselves while simultaneously worshipping the individualism that says we can't believe in anyone but ourselves, and that promotes the idea that it is perfectly ethical—and just good common sense—to screw the other guy before he screws you. But this is simply not normal human nature. It is a response to unmet needs. I realize we live in a society in which the Darwin Awards have been created to celebrate the three most common last words of the stereotypical Southern Redneck: "Hey! Watch this!" as they spectacularly remove themselves from a gene pool that they were swimming in the shallow end of anyway. But all this really

does is point to the failure of both American education and Western culture, not to an innate deficit or defect in human nature.

We have a choice. We can, of course, choose to let ourselves be overcome by despair, believe in the worst of human nature, and then capitulate because there's nothing we can do about it on our own. This is, after all, the actual foundation of Western religion. Or, alternatively, we can look at the creative, cooperative direction of life, and rationally, sensuously, and spiritually decide to work with it for the benefit of the web of life. As Allison has said . . . even if our efforts are not fully successful, when her days on Earth are drawing to an end, she can look into the eyes of her children and grandchildren and say, "I tried."

But you're not going to be doing anyone any favors whatsoever by telling them they're muddle headed at best to believe we could consciously make different choices, or that they should ignore the fact that the power of the current dominator paradigm comes from nothing more than a story to which we grant legitimacy. For example, feminism was not widely accepted because it was a reaction against patriarchy (damaging as this mindset is), but rather because it pointed out how much we were missing by ignoring and denigrating the contribution of over half the population.

A lifeboat is what takes you away from imminent disaster—but the disaster remains a reality, and because of the interconnected nature of reality, we ultimately will not be able to escape it. Relocalization is a process that has the potential to return our entire planet into the beautiful, life-giving and nurturing lifeboat for us all—including our non-human relations—that it originally was.

> "You can never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete."
>
> BUCKMINSTER FULLER

Relocalization also provides a process for creating a partnership society that adheres to the natural systems principles that allow us to maximize the potential of who we really are. Relocalizing does not waste our energy on fighting the old, but offers it hospice as we create the new—a sustainable future based on healthy environments and people that care for one another.

A scientifically validated process for starting us on this journey is consciously and sensuously reconnecting all of our senses to their roots in the natural world. This is a remembering that when we're in holistic integration with the natural world, including each other, nature provides an abundance to meet

natural expectations of fulfillment, as well as the models and metaphors necessary to create a sustainable future.

The best way to transition through times of chaos is to do our best to ensure that chaos doesn't become our reality in the first place. One way is to help return meaning and purpose to people's lives, which relocalization's alternative to corporate globalization and the enshrinement of greed does.

Yes, we humans have become highly conditioned and habituated to our current deprived state of being. But, as the current structure fails to maintain its functions and more and more of us begin to realize that the next "fix" is never going to come—when we can no longer ignore the widening cracks in the foundation of our culture, nor the unraveling of the strands in the web of life—our first instinct will be to look for an alternative, not who we can beat to a bloody pulp to steal their Pop Tarts.

The purpose of beginning the relocalization process now is to fulfill the promise of Buckminster Fuller's quote. People will be drawn to what is working, a way to both survive and thrive without The Beast that turned us into consumerist slaves.

It is quite true that most people are still not aware of how dire the situation really is. Environmentalists with a degree of mainstream credibility, with Al Gore and David Suzuki being prime examples, tend to water down their message so as not to cause alarm or panic. I've heard this justified by the need to be taken as "serious but not radical." The suggestions they put forth do result in personal changes that while necessary, are wholly inadequate to successfully deal with our current situation. Peak Oil, global warming, and economic meltdown will necessitate massive changes in our social infrastructure. And, as victims of the "boiling frog syndrome," most of us think we're comfortable with the materialistic, rat race lives we struggle through because the negative changes have been incremental, and it's not part of our cultural story that we can jump out of the pot.

We must seriously consider what the first two stages of the grieving process—denial and anger— will look like. Are collapse and chaos inevitable? The Industrial Growth Society has provided what people expect and cling to for their creature comforts. The inevitable collapse of an unsustainable industrial civilization will require lifeboats of some type. Lifeboats are built to survive storms and make it to safety, but they must be available, provisioned, and have a navigation chart to the destination. What are the lifeboats for an entire culture going to look like? Do they resemble a single family bomb shelter, an eco-village, a community preparing through relocalization? Will providing the basic necessities and ways to achieve natural fulfillment be enough in the initial stages?

Paul and Sarah Edwards wrote *Middle Class Lifeboat* to address many of these issues. When they started thinking about doing an updated version a few years ago, their publisher wanted them to keep it light and upbeat. Sarah says "the problem is, a major storm is not light and upbeat." The fear is that the end of the paradigm that is providing what little people do have today could be regarded as a catastrophic storm, especially when alternatives are not an integral aspect of cultural consciousness.

Building lifeboats for the sinking industrial culture are what relocalized communities are all about, and they are a first step toward the shore of a sustainable future. We have the technology today to get by just fine without fossil fuels, as long as we start reducing population down to a sustainable level over the next couple of generations and get over the idea that a growth economy is the only path to prosperity, progress, and well-being. Relocalized economies are far superior to corporations in satisfying the needs of the populace (except from the perspective of the corporate elite). And global warming will naturally be addressed (at least partially) as the Industrial Growth Society collapses and we "power down."

Relocalized communities can survive the end of business as usual—because what it actually means is the end of a financial system that places and keeps us all in servitude. The end of a ruling hierarchy that still believes in the divine right of kings and the necessity of the noble lie. The beginning of us all having increased opportunities to become fully human. Instead of resulting in chaos and anarchy, the end of the status quo holds the promise of a meaningful, peaceful, equitable, and sustainable future. If we choose now to put an alternative in place.

The choice that confronts us is this: Are we going to cling to the dying paradigm and go down with it, or take this opportunity to abandon the selfishness endemic to the consumer culture of individualism, and embrace a nobler ethic deeply ingrained in human nature—to care for everyone and abandon no one.

Some people have attempted to use the "looting" that occurred in New Orleans after hurricane Katrina as proof that people will act badly in a disaster. But let's step back a bit and look at the bigger picture. The people in New Orleans were not looting, they were attempting to survive when help was not forthcoming—in fact, was being deliberately withheld by the Bush administration.

The response from civilized peoples, however, was swift. Even with all the things American policy has done to Cuba, they were prepared and willing to send their disaster relief teams to New Orleans—and were denied. Plane loads of supplies from Germany were turned down. Semi-trailers full of ice were parked hundreds of miles away and not allowed to deliver their loads. Instead of sending

help for people, armed militias were dispatched to protect property and corral the people into holding pens.

The actions of the good citizens of New Orleans is a perfect example of a natural reaction to an untenable situation of which the flooding, devastating as it was, was almost minor in comparison.

It's not that we're bad or flawed or prone to destructive tendencies, but that we're disconnected. We cannot truly disconnect any aspect of our lives from nature, and in the futile attempt to do so we plant the seed of our ultimate destruction. Nature provides all of our sustenance. Nature, of which humans are an intimate and inextricable aspect, is necessary for our physical, emotional, and spiritual well-being.

A good case can be made that what we have now is not all that great, both socially and personally. There is also a whole lot of evidence that humans can do and have done things differently, as well as being able to change rather quickly. We could use, as a base for creating relationships, cooperative partnerships instead of competitive domination. The systems view of life shows that the former is the way life was created and evolves. It would thus be both easier and require less energy.

Becoming aware of this possibility is of the utmost importance is because we've all been told that there's no alternative possible to the status quo, and even if there were, it would have to be worse because what we have now is the best that could ever be. There are also numerous stories based on both Eastern and Western religions that life is about suffering, that nature is a cruel and heartless mistress, and that humans are inherently flawed—they can always be counted on to act badly and do the wrong thing.

But as our current system unravels in myriad ways, and as it becomes impossible for all but the most obstinate to continue denying it, we need both hope that change is possible and a framework for realistic change to plug our actions into. Relocalization not only provides these things, but combined with processes for reconnecting with nature and building critical mass, provides the foundation for a new story that can improve quality of life because it cares for life; that it would be in our and the planet's best interests to change, even if it weren't for catastrophic climate destabilization and general resource depletion and toxicity.

I very firmly believe that only in a society that provides empty promises and intentionally disconnects people from any actual possibility of achieving true fulfillment can you expect the worst of them. But by working together, we can create a sustainable future based on ecological wisdom and social justice. This is what the vast majority of us actually want.

Yes, as a society we may refuse to accept this challenge. But that doesn't mean we should all decide to not even bother trying, or to not even put any effort into making others aware of the possibility—even as we remain honest about the worst that might happen.

There are dozens of ways we can gain the confidence that another way is possible, and if change is based on natural systems principles it will require less energy, better support our lives and desires, and increase the possibility it will occur within a timeframe that will be meaningful considering the crises we're actually facing. The following examples present just the tip of the iceberg.

The "Aha" or Eureka Event

The "aha" moment is something I think we've all experienced in one form or another at least once, and more likely dozens of times, in our lives. This is when the pieces finally fit together and we gain an understanding that we've been actively searching for.

This experience is known as the "Eureka event" after the Greek philosopher Archimedes. He was sitting in his tub trying to formulate a solution to a problem, when the answer came to him in a flash of insight. This event was so powerful to Archimedes that he jumped from his tub, and still naked, ran down the street shouting "Eureka!" ("I have found.")

Archimedes had experienced a feeling of achieving a new state of mind with altered synaptic connections, and by observing his environment, he had become enriched and "discovered" a new way of perceiving reality. These flashes of insight, of various intensity levels, are also known as knowledge acquisition, or learning.

These intensity levels are also experienced as a slowly dawning realization that get expressed as "oh, wow" or in a long drawn out "oh my god," when the lightbuld gets turned on.

Certain aspects of psychologist Abraham Maslow's peak experience fall into this category as well. The main point here is that radical changes in understanding can occur instantaneously when the proper set of circumstances come together.

Fast Learning—Enriched vs. Impoverished Environments

Studies have shown that the proper stimulations, or "enhanced environments", can substantially improve brain functioning, brain growth in the size of the neurons and number of glial cells, and even neuron regeneration. Pioneering experiments and studies conducted at the University of California, Berkeley in

the 1960s by neuroanatomist Marian Diamond and biological psychologist Mark Rosenzweig demonstrate this brain expansion by stimulation.

Experiments were conducted on rats that had been selectively breed to be as genetically similar as possible, with the generations dating back to the 1920s. The rats were placed at weaning into environments that were designed to be 1) standard, where groups of three rats were raised in ordinary wire-mesh cages, 2) impoverished, where the rats were solitarily confined to opaque walled cages with dim lights, low noise, and generally minimized stimulation, or 3) enriched, where the rats were raised in groups of twelve in large tiered cages filled with toys, ladders, slides, and a variety of frequently changing challenges and stimuli. This was done to study the effects alternate environments might have on brain structure and chemistry produced by different levels of brain activity.

In a period ranging from days to months, the rat's brains were analyzed. Those from the enriched environment were found to exhibit neurochemical changes by way of increases of the brain enzyme acetylcholinesterase and physical changes resulting in increased brain weight. The increased weight was found to be a combination of:

a thickening of the cerebral cortex,
a 15% size increase in individual neurons,
an increase in the amount of dendridic branching,
increases in the number of dendridic spines and the size of the synaptic contact area,
a 15% increase in the number of glial cells,
and an increase in the weight ratio of the cortex to the rest of the brain.

This last finding showed that the increases attributed to the mental stimulation provided by an enriched environment affected mainly the areas in the brain specifically linked to cognitive processes.

Other experimental evidence points to neuronal growth across the mammalian phylogenetic scale due to enriched environments, with corresponding decreases in neuronal mass in impoverished environments. Research in this area was refined to the point where measurable changes could be observed in as little as forty-five minutes. As reported by Maya Pines in *The Brain Changers*, psychologist David Krech's studies with genetically bred maze-dull and maze-bright rats showed that when maze-dull rats were raised in an enriched environment, and maze-bright rats were raised in an impoverished environment, the maze-dull rats outperformed the maze-bright rats. This helps establish a rational expectation

that we can overcome the hereditary effects of generations of breeding in a dumb-sized America by being immersed in a psychologically stimulating environment.

Today, we live in an impoverished environment in more ways than one. It takes slightly more than flashing web ads and game boxes to enrich a cultural environment built on isolation and Madison Avenue shallowness, as well as myriad losses of natural fulfillment from a degraded natural environment. For a current example of impoverished environments, one need look no further than the recent studies showing people who watch FOX News know less about current events than people who don't watch any news.

A distinguishing factor in the enriched environments is change. In humans, in addition to environmental enrichment, we also have personal enrichment with the cultivation of new interests and the development of talents. A quote from William James is pertinent here: "Genius, in truth, is little more than the faculty of perceiving in an unhabitual way."

Some studies have shown that the proper mental stimulation can help recover memories in Alzheimer patients. With the work of evolutionary biologists such as Nobel laureate Gerald M. Edelman, change through learning, as modeled by computer neural net simulations, point toward our ability to actively and willfully (as per William James) work towards increasing the complexity, richness, and interconnection of our neuronal groups. In a mutually reinforcing manner, our personalities and our neuroanatomy change and shape each other.

These findings from the lab, when applied to the real world, are optimistic about the control and responsibility we have over who we are and what we become. As neurologist Richard Restak says, "But we can no longer blame anyone or anything other than ourselves if, because of laziness or disinterest, our brain never develops its full potential. . . . [W]hen it comes to our mind and its development, we retain a gratifying measure of control after all."

Paulo Freire and "Illiteracy" in the Developing World

> "Education either functions as an instrument which is used to facilitate integration of the younger generation into the logic of the present system and bring about conformity or it becomes the practice of freedom, the means by which men and women deal critically and creatively with reality and discover how to participate in the transformation of their world."
>
> PAULO FREIRE

Paulo Freire's literacy work with indigenous and poor people in Brazil and elsewhere shows that developing critical thinking skills provides a non-violent way to create systemic radical change. People that the Western mind would assert were incapable of literacy became literate in as little as three weeks with only two conditions being met: 1) being taught who, and/or what, was oppressing them, and 2) being taught what they could do about it.

This work has been replicated in inner city America. When we become aware of what's going on, why it persists, and what we can do to create change, we eagerly and rapidly take to the task. When we do this together, we learn even more quickly, because learning is a social experience. The results show that complex competencies in a wide range of areas can develop in a matter of weeks, not years.

Integral to our work as change agents is to kindle this innate desire, and not allow ourselves to believe it can't be done or will take too long.

Spectacular Failures of Radical Behaviorism

In the history of psychology an important area of study in the mid-20th Century was the field of associative learning, mainly the subfields of classical and instrumental conditioning, the latter of which is sometimes known as radical behaviorism. This field is closely associated with its best known proponent, B. F. Skinner, and is sometimes simply referred to as Skinnerism. The failures and weaknesses of these fields and their mathematical models was part of my academic research in the early 1990s on a non-hierarchical theory of consciousness, so it's a subject I'm quite familiar with.

Conditioning and behavior modification through the application of various stimuli using various methods does have real world effects. Most parents are familiar with coercion and bribery, and starvation, electrical shocks, high-pressure streams of water, and other unpleasantries were common in experimental psychology and are still used with political prisoners. The manner in which advertising is used today is as unethical and immoral as the latter—for many of the same reasons.

The core commonality in the failures of the various conditioning models is that they assume a strict linearity among stimuli and response in determining associative strengths. When this doesn't hold, various fudge factors, such as reinforcement schedules and suppression through feedback loops, get introduced. They also discount biological and cognitive factors. The overriding assumption is

that behavior can be reduced to constants and variables in mathematical formulas. How wrong they are.

In the 1960s, Keller Breland and Marian Breland attempted to take operant conditioning techniques out of the laboratory. However, as they became further removed from the precise control allowed by a Skinner box, they report having "run afoul of a persistent pattern of discomforting failures . . . [that] all represent breakdowns of conditioned operant behavior." Oops.

In one case reported by Breland and Breland where they had conditioned pigs to pick up a wooden coin and drop it in a slot, the animals starting developing problem behaviors after a period ranging from a few weeks to a few months. Instead of taking the coins to the slot, the pigs would drop it on the ground, root it along, toss it up in the air, and root it some more. When reinforcement schedules were changed in an attempt to increase drive, the problem behaviors became worse, until the pigs were not getting enough to eat during the day.

The phenomenon of the complete breakdown of conditioning theory was called "instinctive drift" by Breland and Breland. They said, "When behaviorism tossed out instinct, it is our feeling that some of its power of prediction and control were lost with it."

In addition to instinctive drift, it could also be that boredom was setting in due to lack of novelty or loss of purpose in what had basically become an impoverished environment, or that they were witnessing the onset of neurosis by keeping animals in a forced, unnatural environment. This would seem to be in keeping with Konrad Lorenz's view on the possibility of total conditioning of humans when he says, "I strongly doubt whether you can condition man so that he does not become nervous and neurotic when he is crowded." This is important to keep in mind when mainstream environmentalists advocate growing our way out of growth problems by using urban infill as a response to sprawl and overpopulation.

Breland and Breland then conclude ". . . that the behavior of any species cannot be adequately understood, predicted, or controlled without knowledge of its instinctive patterns, evolutionary history, and ecological niche."

When we try to reduce behavior to the strict one-to-one functions of the stimulus-response paradigm, we forget the warning of cognitive scientists expressed by Owen Flanagan: "Any theory of mind that fails to talk about the intervening mental processes that link these stimuli and responses will be unacceptably incomplete." As E. C. Tolman pointed out in the 1940s, incoming stimuli are "worked over and elaborated . . . into a tentative cognitive like map of the environment. And it is this tentative map, indicating routes and paths and

environmental relationships, which finally determines what responses, if any, the animal will finally release."

If you hold that humans are mere numbers, and behavior is mechanistic-deterministic, you'll see nothing wrong in the strong linkage with mathematics in psychological theories showing predictable patterns. I, however, am left feeling more than slightly unfulfilled.

All species quickly revert to more natural behaviors as soon as artificial stimuli are removed, or as the subjects are moved closer to their natural environment. And they do this much more quickly than the time it took to condition them to act unnaturally. Operant conditioning is only effective for any length of time in an artificial, sterile environment that can be constantly controlled. While all creatures can heal from conditioning, social support networks and counseling can be extremely helpful in fully overcoming the effects of conditioning for humans.

While we're not quite at the point of Orwell's 1984, the effects of corporate media to control a message we are constantly bombarded with to consume more and report any suspicious activity by those who don't are indistinguishable from Orwell's bleak future. As citizens of Western industrial society, we have allowed ourselves to become subjects in the world's largest and longest running experiment in operant conditioning. It's time to replace this paradigm—and we can.

Affluenza

Affluenza is the disease of overconsumption; an unsustainable addiction to growth with Industrialism as the pusher. John DeGraaf and others further refine affluenza to be a painful, contagious, socially transmitted condition of overload, debt, anxiety and waste resulting from the dogged pursuit of more. So why am I mentioning this in a chapter on the basis for hope?

Well, because as American economist John Kenneth Galbraith pointed out in the late 1950s in his book The Affluent Society, people don't actually desire more stuff once basic needs have been fulfilled. Maintaining consumer culture requires massive energy and a 24x7 effort—that can only be described as propaganda—to manipulate people into doing things they wouldn't do of their own free will.

As previously mentioned, these wants are manufactured out of whole cloth in order to prop up a very fundamental flaw in basic economic theory—denial of the concept of satiation. The theory of consumer demand is necessary to shore up the myth that increasing production and efficiency are the only route

to prosperity. The assertions that economic growth is good and that we can't get enough of it are totally unsupported by the evidence.

Using standard economic terms, Galbraith points out that while diminishing marginal utility is a foundation of economics, the related concept of diminishing urgency of wants is simply not admitted. This was rationalized "on the grounds that it could not be scientifically assimilated." There is, however, an empirical link between production costs and advertising costs to create a desire for the product. In fact, in modern enterprises advertising is often more important than production. Is increasing production really necessary for progress and prosperity if people don't desire the products? What's really necessary is the manufacture of desire, but economic theory can't account for this.

The analogy Galbraith uses is of a humanitarian raising funds to cover the shortage of hospital beds while refusing "to notice that the town doctor is deftly knocking over pedestrians with his car to keep up the occupancy."

Popular antidotes to affluenza include downshifting and voluntary simplicity. But the real cure for affluenza is shutting down the Industrial Growth Society. And as we saw in the previous section on operant conditioning, there is every reason to believe that humans will very quickly revert to more normal behaviors—much more quickly than it took the advertising industry to get us into our current sorry state.

Humans as Natural Systems

Environmentalism, although not called that then, was becoming well established by the mid-1860s thanks in no small part to George Perkins Marsh and the conservation classic *Man and Nature*. This is also about the time that Ernst Haeckel coined the term ecology.

One of my favorite passages by Marsh is, "all nature is linked together by invisible bonds, and every organic creature, however low, however feeble, however dependent, is necessary to the well-being of some other among the myriad forms of life with which the Creator has peopled the earth."

This basic understanding would be echoed by Aldo Leopold in Sand County Almanac almost a century later when he pointed out that every organism within the food chain contributed some type of chemical process that was necessary for the health and well-being of organisms on either side of it in the food chain. Today, thanks to systems science, we realize it is better described as a food web, but the basic principle still holds.

Although I've already discussed ecopsychology and indigenous wisdom, I included this section because the concept of humans as natural systems can't be reiterated often enough in a culture that is based on disconnection and individualism. One of our greatest hopes for turning things around is remembering that we are an integral and intimate aspect of the creative life force, and we can reconnect with the wisdom that has kept the planet in balance for billions of years.

Wilderness Therapy

There is a concept that comes from the wilderness therapy of Robert Greenway that culture is only four days deep. When he takes people on three week wilderness excursions, it normally takes three to four days for people to leave the stress, depression, and worries of their daily, industrial lives behind. The reverse is also true. It takes about the same amount of time to get back to those same pathological levels of isolation, stress and depression when they return to the artificial world of Western civilization.

Our conditioned patterns are not immutable, and the natural world is available to help us break those patterns and lead us to alternatives. One of Greenway's findings is that 77% of people reported major life changes after returning home from wilderness trips, and for 38% those changes remained after five years.

One of the most important aspects of the experience of wilderness, which we've touched on previously, is that in the awareness of our expanded self, we experience the health and healing of wholeness. Therapist Stephen Harper says this experience "is perhaps the most healing experience available to us." It is in embodying what we discover in nature that we can become integrated.

Cultural Creatives—95 Million People Who Think They're Alone

I initially became aware of the work of sociologist Paul H. Ray and psychologist Sherry Ruth Anderson through a review by Peter Montague of their book, The Cultural Creatives, in Rachel's Environment & Health Biweekly #711, November, 2000. I immediately sensed the importance of this work for the prospect of systemic change.

Along with ecopsychology and systems science, this work was inspirational for the work Allison and I started doing in 2001 in creating examples and providing tools to facilitate patterns of living and relating based on natural systems

principles. Their 13 years of research on over 100,000 Americans and focus groups revealed that there is an invisible culture that cares deeply about ecology and relationships, peace, social justice, self-actualization, spirituality, and self-expression. Those of us that make up this culture are both inner-directed and socially concerned, and we tend to be drawn toward activism and volunteering. Chances are good that you, as a reader of this book, are a Cultural Creative.

Because we have been invisible to one another in a culture that works to keep us disconnected, it can be astonishing to discover how many others share our values. These shared values are the ones that tend to be either ignored or denigrated in popular culture, so we who fit the demographic of a Cultural Creative tend to believe we are the only ones who feel the way we do. Once we realize our numbers, our impact will be enormous. This is a major aspect of my belief in the effectiveness of multi-issue coalitions.

Montague's review presents an excellent synopsis of The Cultural Creatives, which I've greatly shortened and adapted here for my present purposes.

Ray and Anderson did survey research to discover who holds what values in the U.S. as a predictor of behavior. They found that people can be grouped into three major categories: Moderns, Traditionals, and Cultural Creatives.

Moderns are the dominant subculture in the U.S. today, representing 48% of the U.S. population (93 million adults). They control the civil service, the military, the courts, and the media. Their ideology is carried in the New York Times and the Wall Street Journal, and it is presented in the shows on TV, regardless of which channel. Moderns believe in a technological economy, and they tend to dismiss other cultures and ways of life as inferior. "The simplest way to understand today's Moderns is to see that they are the people who accept the commercialized urban-industrial world as the obvious right way to live. They're not looking for alternatives," say Ray and Anderson. To Moderns, growth is not only good, it is essential.

A few of the things most important to moderns are

(a) making lots of money;
(b) climbing the ladder of success;
(c) having lots of choices;
(d) being on top of the latest trends;
(e) supporting economic and technological progress;
(f) rejecting the values and concerns of native people, rural people, Traditionals, New Agers, and religious mystics.

Traditionals represent 24.5% of U.S. citizens (48 million adults). "Many Traditionals are not white bread Republicans but elderly New Deal Democrats, Reagan Democrats, and old-time union people as well as social conservatives in politics."

Traditionals tend to believe that

(a) patriarchy should return to dominate family life;
(b) FEMINISM is a swearword;
(c) men and women need to keep their traditional roles;
(d) family, church, and community are where you belong;
(e) customary and familiar ways of life should be maintained;
(f) it's important to regulate sex—pornography, teen sex, extramarital sex—and abortion;
(g) men should be proud to serve in the military;
(h) all the guidance you need can be found in the Bible;
(i) preserving civil liberties is less important than restricting immoral behavior;
(j) freedom to carry arms is essential;
(k) foreigners are not welcome.

Many Traditionals are pro-environment and anti-big business. They are outraged at the destruction of the world they remember, both natural areas and small-town life. Traditionals tend to be older, poorer, and less educated than others in the U.S. At the end of World War II, Traditionals were 50% of the population, but today they are 25%, and their numbers are not being replaced by younger ones.

Cultural Creatives are a third subculture discovered by Ray and Anderson during their decade of research. They are 50 million strong (26% of American adults), which is a population the size of France, and growing fast. To see if you share the values of the Cultural Creatives, take the survey in Appendix B. When these values are extended to include Europeans, there are about 95 million people who can be considered Cultural Creatives.

Cultural Creatives are not defined by particular demographic characteristics—they are accountants, social workers, waitresses, computer programmers, hair stylists, lawyers, chiropractors, truck drivers, photographers, and gardeners. They tend to be very mainstream in their religious beliefs. They are no more liberal or conservative than the U.S. mainstream, though they tend to reject "left-right" labels. 60% of them are women, and most Cultural Creatives hold values and beliefs

that women have traditionally held concerning caring, family life, children, education, relationships, and responsibility. In their personal lives, they seek authenticity—meaning they want their actions to be consistent with what they believe and say. They are intent on finding wholeness, integration, and community and are quite clear that they do not want to live in an alienated, disconnected world. Without rejecting modern medicine, their approach to health is preventive and holistic. They want to go beyond earning a living to having "right livelihood."

Ray and Anderson say, "In the twenty-first century, a new era is taking hold. The biggest challenges are to preserve and sustain life on the planet and find a new way past the overwhelming spiritual and psychological emptiness of modern life. Though these issues have been building for a century, only now can the Western world bring itself to publicly consider them. The Cultural Creatives are responding to these overwhelming challenges by creating a new culture." They are creating a new world in our midst, and it is being largely ignored by the media.

By different paths, Cultural Creatives emerged from the social movements of the '60s and '70s, and are now putting a positive spin on movements that have been mainly oppositional. "Slowly a lesson has been drifting in on one movement organization after another. At some point, opposing something bad ceases to be enough, and they must stand for positive values, or produce a service that is important to their constituency."

Ray and Anderson see this shift occurring in the environmental movement. "Cultural Creatives are urging the environmental movement into a new phase. Having educated us through protests and information, some are moving beyond that now, to develop new kinds of businesses, technologies, and cooperative ventures."

A major impediment to further innovation is the fact that Cultural Creatives all think there are very few of them when in fact there are very many of them. Therefore, "They do not know that they have the potential to shape the life of twenty-first century America. Like an audience in a theater, Cultural Creatives all look in the same direction. They read the same books and share the same values and come to similar conclusions—but rarely do they turn toward one another. They have not yet formed a sense of 'us' as a collective identity; nor do they have a collective image of themselves."

Again and again, Ray and Anderson stress that Cultural Creatives are hampered by their own lack of self-awareness. They don't yet see themselves in their diverse totality, and so they fail to recognize their own potential for creating a new world. "Since they are part of a subculture that cannot yet see itself, these millions of Cultural Creatives do not know what a potential they carry for our common future."

This is one of the purposes of this book. Until we recognize each other's existence, and the commonalities that we share, we cannot work together.

Individual Versus Group Selection in Evolution

Howard Bloom, in *Global Brain*, details the evidence and research that supports the more powerful aspect of group selection over individual selection in the evolutionary process. One important aspect of this distinction is that in a culture of individualism and an economic system where everyone must look out for themselves, the concept of altruism must be denied as a myth or the rantings of those whose goal is to take away your individual rights and curtail your personal freedoms.

The argument for group selection, which is backed up by the systems view of life, is that evolution is a team sport. We are not lonely individuals at odds with a cruel universe. I echo Lynn Margulis's hope that Bloom's work will purge the scientific world of the neodarwinists and selfish gene advocates. Of course, as long as their views are necessary to continue rationalizing industrialism and capitalism, this isn't likely to happen.

For anyone who would like to delve deeply into these concepts, I highly recommend *Global Brain* for its sheer thoroughness, as well as Bloom's engaging style. The main text is 223 pages, and then Bloom has 65 pages of notes and a 61 page bibliography—the latter two being printed in about an 8 point font.

The core of Bloom's thesis is that our interconnected nature, our existence as nodes within a larger network, is fundamental to the workings of evolution and integral to global communication networks that work from the bacterial level on up.

It's instructive to look at the counter arguments to the idea of group selection. The thinking behind individual selection is that life is driven by the greediness of genes to replicate, which ensures many copies of themselves in a rapidly expanding family tree. In good dualistic fashion, it is assumed the only alternative to this would be a self-denial to replicate in order to help out a stranger, and this unselfish behavior would eventually fade away as it wouldn't be carried to future generations.

As we've already seen, individual genes actually can't do much of anything on their own or in isolation. Group selection posits that individuals will sacrifice for the good of the group. This cooperation is a necessity to keep the overall environment conducive to the continuation of life. This sharing was required for the existence of the individual in the first place. Without cooperation, knowledge doesn't get passed on as it might give someone else an advantage. If selfishness is the driving force, that has future consequences as well.

The concept that our basic drive is self-interest was used to popularize the "fight or flight" instinct in the early 20th Century. As it turns out, there was never any good evidence for aspects of this theory. There is also an ignored third response option exhibited by prey—capitulation, or surrender to being subsumed into the larger whole.

Capitulation, one of our 53 senses, was described by David Livingston in a passage that recounted the experience of being attacked by a lion. As Livingston was shaken by the lion, he said he was overcome by a stupor similar to what a mouse seems to feel after the first shake of a cat, which caused a dreaminess accompanied by neither pain nor terror, even though he was quite conscious of what was happening.

The question pertinent to the purpose of this book, however, is if individual survival is all there is to existence, how do we account for altruism? Some have tried to pass this off as kin selection, where we'll give up something if our relatives who carry similar genes benefit. Closely related is a concept called reciprocal altruism, which Bloom calls a theoretical loophole, in which an individual will give up a bit of personal welfare if it has a reasonable expectation of being repaid. Both of these are merely ways of protecting the belief that a creature is nothing more than a gene's way of replicating itself.

However, studies have shown that primates don't necessarily ally themselves with relatives, and humans who pool their resources tend to make better decisions than those who keep to themselves. Aggregates of individuals display emergent qualities beyond the capabilities of the individuals. In fact, isolation and rejection can trigger depression, ill health, and death—what Bloom calls a self-destruct mechanism, an aspect of psychoneuroimmunology. At the cellular level this is known as apoptosis, the self-destruct mechanisms programmed into cells when they are no longer benefitting the larger community, or organism.

A fact that tends to be stubbornly ignored by individual selectionists is that one of the original proponents of group selection was Charles Darwin. In *The Descent of Man*, Darwin argued that "a selfish and contentious people will not cohere, and without coherence nothing can be affected." He explained that tribes who exhibit the qualities of foresight, aiding others, performing benevolent actions, and social virtues will be victorious and these moral qualities will spread throughout the world. Groups who are the best organized and cooperate on strategy will be the winning team. Individuals who only take care of themselves will be the ones killed when their homes are plundered by the invading hordes.

I believe that altruism can best be seen as the mechanism underlying group selection, which supports the evolutionary path of life supporting more life. This

holds great promise for not only the effectiveness, but also the naturalness, of creating broad-based coalitions that work together in building a society based on the values that support life. The attainment of our potential—ecological integrity, social justice, economic equity, and participatory democracy—would be another benefit.

The Industrial Retooling of WWII America

The fairly complete retooling of the entire industrial infrastructure of America in the WWII era of the 1940s in less than three years is a powerful example of just how quickly things—even well-established complex systems—can change when the motivation is strong enough. There are a couple of related examples that go along with this. One is the use of Victory Gardens, which seemed to be equally if not more popular in Great Britain during WWII. These gardens, also known as "food gardens for defense" produced 8 million tons of food in 1943 from 20 million gardens on public land and private residences.

The other related concept is what happened in Cuba after the fall of the Soviet empire. Their supply of oil was halved and their food imports were cut by 80% virtually overnight. Although it seems hard to believe, at the time their industrial agriculture was even more fossil fuel dependent than America's is. The documentary The Power of Community: How Cuba Survived Peak Oil provides a detailed look at what Cubans refer to as "The Special Period."

While the average Cuban lost about 30 pounds, Havana, a city of roughly 2 million people, now gets about 80% of its food from organic urban gardens. Any red-blooded American patriots out there that want to tell me that we can't do better than the Cubans?

The main takeaway here is that entire societies can change, and they can do so rapidly.

Working WITH nature

To sum up, working *with* nature is really the bottom line for creating a sustainable future. Since it's who we are, at our essence, let's do it! Remember that the most powerful social systems can and do change. Although the difference may currently seem rather slight to the majority of people, remember that we now live in democratic republics—not under monarchies as was common only 200 years ago.

PART THREE: NON-HIERARCHICAL TOOLS

"One of the penalties for refusing to participate in politics is that you end up being governed by your inferiors."

PLATO

"Who can protest and does not, is an accomplice in the act."

THE TALMUD, SABBATH, 54 B

Qui tacet consentire videtur. He who is silent appears to consent.

MAXIM OF LAW

"The only thing necessary for the triumph of evil is for good men to do nothing."

EDMUND BURKE

"The world is a dangerous place to live; not only because of the people who are evil, but because of the people who don't do anything about it."

ALBERT EINSTEIN

"I swore never to be silent whenever human beings endure suffering and humiliation. We must always take sides. Neutrality helps the oppressor, never the victim. Silence encourages the tormentor, never the tormented."

ELIE WEISEL

> Never, never be afraid to do what's right, especially if the well-being of a person or animal is at stake. Society's punishments are small compared to the wounds we inflict on our soul when we look the other way.
>
> MARTIN LUTHER KING, JR.

> "Washing one's hands of the conflict between the powerful and the powerless means to side with the powerful, not to be neutral."
>
> PAULO FREIRE

Now that we've traveled down some of the major avenues that have brought us to our mell of a hess, seen what has been created and who the major beneficiaries are, and examined some of the major structures available for doing things differently and evidence this can be effectively carried out, let's look at why it is necessary to participate in change, and some of the tools that can be used to create new avenues that can take us where we want to go.

The following presentation is not a cookie-cutter approach to change. There's no one size fits all, or Ten Easy Steps to reach Nirvana. The one commonality that is required is participation. The option of standing aside is simply not available within this larger context. That this has been known for a long time should be apparent from the above quotes.

This is also not about handing you a toolkit to Rebuild the Dream. The time for idealistic dreams is past. This is about full-blown, wide-open awakened reality. This is about what we can do and a supportive framework to bring it to fruition. Experiencing justice and equity is not a dream but a right of all living creatures and participatory democracy is one of the ways humans can bring this out of the dream world and into reality for all peoples, species, and the living planet itself.

In balance with the holistic integration of the natural world and the creative direction of the life force, there is another way of being—an alternative to the Industrial Growth Society—and a number of actions emerge from that, and many more are possible that are congruent with this basic framework. When you run across or develop new ones that should be your first step in analyzing their efficacy—are they congruent with the basic framework and processes of life?

Plus, it must be realized that the core actions that must be implemented are the ones covered in Part Two—reconnecting with nature, relocalizing our communities, and building coalitions to create critical mass. These are foundational

to the success of the following individual actions necessary to create a sustainable future.

In this section we'll cover tools and methods for organizing, building networks that are comprehensive and cohesive, communicating, sharing leadership, and developing group decisions that are explicitly non-hierarchical and that support the whole by ensuring that all voices have the opportunity to be heard.

We'll also look at a number of actions that can help us move from the Industrial Growth Society to one based on Rational Spirituality. While it's true that the best use of our energy isn't in fighting the old, its worst harms must be stopped before they do further damage to innocent lives and the planet. Stopping the growth lobby and abolishing corporate personhood are two examples of this.

Some of the strategies and actions are really only transition steps, as they wouldn't be necessary in a society that worked with the creative life force. Some of the concepts will be necessary aspects of the foundation of a sustainable society. Examples of these are family planning, zero waste production, permaculture, and an Earth jurisprudence.

Finally, let's think about what it might look like. How big could cities be and still be sustainable, how will they be designed, or is tribalism really the way to go? Is civilization a root problem, or can people come together to create without relying on industrialism and a pathological sense of the other?

Hopefully, this will be the beginning of ongoing and deeper conversations and action plans.

13

RECLAIMING OUR SOVEREIGN POWER

"It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change."

CHARLES DARWIN

Many people are willing to admit that the U.S. has made mistakes but maintain that the good far outweigh the bad. As proof they point to how people from all over the world, including the Middle East and South America, are coming to live in America, legally and illegally, educated and uneducated, and in droves, to work and to live. They say you don't see people wanting to move to Iraq or Mexico. Therefore, something about America must be working.

If we only look at one small aspect of our current situation, and ignore the reasons why this is the case, it is possible to be fooled into thinking that things might be moving in a positive direction here in the land of the free.

But let's be honest about what's actually going on. People are fleeing the Middle East because we've managed to set the foundation for a civil war in Iraq . . . and Syria . . . and . . . . We've also spent the past 50 or so years propping up despots who enrich corporate coffers to the detriment of their people and the depletion of their natural resources, such as the Shah of Iran, Saddam Hussein, the House of Saud, Noriega, Pinochet, etc ad infinitum ad nauseum. In comparison, America does look better, but in this particular case (not having Hellfire missiles fired at your wedding party), it hardly seems something worth bragging about.

Repressive regimes must be opposed wherever they arise, but it is the regime that must be dealt with, not the peoples that are being oppressed. Carpet bombing the Cradle of Civilization was perhaps the most immature response imaginable, and could have only been carried out by a group of people with either no culture or history of their own, or who were ashamed of what they had, or who

were simply suffering under delusions of grandeur and juvenile fantasies of domination. It is so hard to objectively try to understand neoconservative ideologues because everything they do goes in the opposite direction of actually supporting life and the planet all life depends on. And this holds whether one has a religious or a secular perspective on this life, how it came to be, and how it should be best honored and respected.

It's hard to see the invasion of Iraq as anything other than a trade of blood for oil, especially when the Bush administration was well aware that Iraq had absolutely nothing to do with the 9/11 attack on the World Trade Center and Pentagon, or even in supporting international terrorism, as Saddam Hussein was actually seen as an enemy of al-Qaeda. The Bush administration had to deliberately lie and deceive the American people, the U.S. Congress and the United Nations to sell the invasion. While recent and current U.S. administrations may not care one whit about protecting life, they are totally consumed with protecting a lifestyle—specifically their own.

America had been seen as a beacon to the world for freedom, liberty and opportunity for over 200 years. Then we got the Patriot Act, suspension of habeas corpus, and evisceration of the posse comitatus act. These combine to create, to borrow a phrase from Arundhati Roy, a "broad-spectrum antibiotic for the disease of dissent." All of these policies are, once again, heading in the exact opposite direction of what the America of our forefathers stood for (well, according to one popular version of the story, anyway). America is supposed to stand for the rule of law, not for a unitary executive (the politically correct term for dictator) who holds himself above the law.

This has been our political reality at least since 2001, it still holds in 2012, and shows no obvious signs of changing for the better. A handful of politicians, from both sides of the aisle, have been doing their best to wake people up to this reality. Unfortunately, beacons of sanity like Lincoln Chaffee, Republican senator from Rhode Island, got caught in the mostly unthinking desire for sea change that was demonstrated in the mid-term elections of 2006 as we swapped Rs for Ds.

However, instead of sea change, people are belatedly discovering that they've merely participated in changing the color of the deck of the Titanic from red to blue. Meet the new boss, same as the old boss. Plus now we've got the Teapublicans to deal with. However, don't make the mistake of confusing this latter group with the original goals of the Tea Party or with the traditional values of the Republican Party. While this is a subject best left for another book, it does help round out the picture of what we're dealing with.

So, how do we actually go about affecting real change? Systemic change. Change that works for people and planet, not compromised incremental reform of a paradigm that simply isn't in tune with the creative life force.

Managing Change in Self-Organizing Systems

Let's first look at what is required for change, either on a system wide basis, or within an organization of any type.

I have no idea where the following chart came from. Allison found it when we were looking for something else as we were pulling together a workshop we'd been asked to give. When we looked again later to be able to give credit where it was due, we couldn't find it again. If this is yours or you know who developed it, please get it touch and if there's a second edition of this book, we'll give due thanks for this amazingly simple and powerful tool. Literally everyone we've shown it to loves it and identifies with it.

Vision + Skills + Incentives + Resources + Action Plan = Change
_____—Skills—Incentives—Resources—Action Plan = Confusion
Vision—_____—Incentives—Resources Action Plan = Anxiety
Vision—Skills—_____—Resources—Action Plan = Gradual Change
Vision—Skills—Incentives—_____—Action Plan = Frustration
Vision—Skills—Incentives—Resources—_____ = False Starts

The top row shows the critical elements required to manage complex change successfully. Read across each row of elements to see how a lack of any one critical element results in less than ideal results. This provides an excellent starting point in either gathering resources or in evaluating where an existing organization might be having problems.

Another of the core books I've drawn from in weaving this project for systemic change together, and recommend in its entirety, is *Finding Our Way: Leadership For an Uncertain Time*, by Margaret Wheatley. One of the many important concepts Wheatley details is that there are three conditions of self-organizing organizations. These are the necessary conditions to access organizational intelligence and adapt to changing conditions.

Identity: This is the sense making capacity of the organization. Organizing occurs around an identity, which in an organization includes its vision, mission, and values. In rapidly changing times, identity needs to be stable. A coherent sense

of identity and a shared purpose helps keep policies and procedures from being used to coerce, and instead engages people's desire to contribute.

Information: This is the medium of the organization. Information lies at the heart of life, and is the nutrient of self-organization. When information is accessible to everyone, it can be used in unpredictable ways. Within the coalition model, this is the framework.

Relationships: These are the pathways of organizations that hold the intelligence of the system. "Without connections, nothing happens." Resiliency and organizational strength increase as more people have more access to each other.

When it comes to dealing with change, Wheatley builds on the systems view of life, especially the work of Maturana and Varela. In living systems, change "occurs in the tangled webs of relationships—the networks."

Some part of the system notices something, and if it chooses to be disturbed, it takes the information and rapidly distributes it through its networks. Others grab, amplify, and distort the information from the original, but it accumulates more meaning in the process. The information then becomes so important the system can no longer ignore it, and only then does change begin within the system. The meaningfulness of the information causes the system to let go of present beliefs and patterns.

Only after letting go of who it was is the system open to change. It reorganizes with new understandings of what's important. "It becomes different because it understands the world differently." Just as with any living system, "it changed because that was the only way to preserve itself."

Have you ever prepared a report on a critical issue that would have severe consequences if not addressed? And people respond with polite disinterest—at best? They moved on to what they thought was important, you thought it was a failure to communicate, and so you prepared a new report with better graphics.

But it wasn't a failure to communicate. They didn't share your sense of what was meaningful. "This is a failure to find shared significance." They exercised their freedom and chose not to be disturbed. I don't think this concept can be emphasized strongly enough. People always have the freedom of choice, even when it manifests in subtle ways within an organization.

Wheatley says there are four core principles of change. I'm going to quote extensively, or adapt loosely, but mainly the parts directly relevant to the social change relevant to the thrust of this book.

1. **Participation is not a choice. We have no choice but to invite people to rethink, restructure, and redesign if we're going to be**

serious about systemic social change. We ignore people's need to participate at our own peril. If they're involved, they'll create a future that has them in it, and they'll work to make it happen. People only support what they create. Struggles to implement are created every time we try to deliver changes rather than figuring out how to involve people in their creation.

2. Life always reacts to directives; it never obeys them. It doesn't matter how visionary or important a message is, it can only elicit reactions, never compliance. Life accepts only partners, never bosses. People always need to include themselves in how a procedure or process gets carried out.
3. We do not see reality; we each create our own interpretation of what's real. Organizational intelligence isn't the ability to solve problems. It is the ability of its members to enter into a world whose significance they share. Shared significance is achieved by engaging in conversations, not debates or oratories. We all need to participate and when offered the opportunity we want to work with others. To create a partnership society, we must invite participation!
4. To create better health in a living system, connect it to more of itself. Solutions are discovered within a system if more and better connections are created. This is of the utmost importance to multi-issue coalitions. Systems change with new and richer information; they have a natural tendency to move toward better functioning or health. We can work with life's natural tendency to learn and change. This functions to increase the degree of success and the rate of adoption.

What's Wrong with Top-Down Hierarchies?

The Business As Usual, or status quo, response to suggestions to do things differently is often expressed as "That's not the way we do things around here," or "You're just not looking at it correctly."

Top-down hierarchies have proven to be either ineffective or sub-optimal, although with enough coercion one or two people out of an organization or group can seem to benefit at least temporarily. The rest of us remain addicted to a fantasy that we can become that one or two. This works because we have created a culture that withholds most available means of fulfillment, and becoming that

one or two is said to be our ultimate purpose and goal. Nothing else matters; no other alternative is possible.

This overall paradigm effects how we communicate, how we organize, how we make decisions, and even the manner in which we plan and run our meetings. Thanks to this accepted way of thinking, we now have general biospheric collapse as manifested in water, soil and air toxicity and global warming, and we have the collapse of an economic system that thought it could grow forever fueled by a non-renewable resource on a finite planet. Not only was it thought that the pie could be sliced up into infinitely more pieces, but that each of those pieces could get infinitely larger. Herman Daly calls this arithmamorphication.

Advocates of the status quo argue that hierarchies are not only natural but nature's highest form, and the consciousness movement tries to make a distinction between hierarchies of domination and hierarchies of actualization. While the latter is definitely much better, as we've discovered with the systems view of life there is an entirely better framework to apply—the network model of mutuality and the emerging properties of expanding levels of complexity that are the foundation for life.

Some of the main problems with hierarchies are that they are inherently inequitable, tend toward narrow self-interest, discount other views, are linear, static and focus on the preservation of control, preserve class structures, and they support centralization and consolidation of wealth and power in the hands of an elite. In every way possible they move in the opposite direction of life.

Fortunately, there is a non-hierarchical alternative model that addresses all of these problems. Let's turn now to methods that are congruent with this model.

Non-Hierarchical Organization

Living systems are networks, and they also follow the cycles of nature. A natural question then arises, How do we implement this understanding into our organizations? What would it look like for organizing our daily lives, events and projects, let alone our entire life from birth through adolescence to adulthood and into the wisdom of elderhood? As day to night, and as the birth of springtime is eventually followed by the death of winter, natural systems provide the models and metaphors we can apply to these questions.

Many others have thought deeply on these questions as well, of course, and we were introduced to a system in 2004 that answers these questions with a depth and comprehensiveness that I haven't found anywhere else. Initially known as the Acorn Model, as it developed it was renamed the 8-Shields Model. Its primary

developers were Jon Young, co-founder of the Wilderness Awareness School, and Jake Swamp, an elder with the Mohawk Nation—although I suspect that Ingwe, the other co-founder of the Wilderness Awareness School who grew up with the Akamba tribe of East Africa, played a hand as well. Originally developed as an oral tradition, not much was written on it that I'm aware of until 2008 when Jon Young, Ellen Haas, and Evan McGown wrote *Coyote's Guide to Connecting With Nature*, where it is referred to as the Natural Cycle of the Eight Directions.

I'm still partial to referring to it as the Acorn Process Model, though. I find the metaphor from nature perfect for the process. From a small acorn grows the mighty oak, which grows slowly and spreads widely to feed its ecosystem and help maintain the holistic integration of life's networks.

8-Shields is a perfectly descriptive term for the process, however. The core form of the model begins with the medicine wheel or the four directions and it draws heavily from Native American and African traditions, but is also informed by Eastern traditions, such as the Bagua used in Chinese medicine.

Thus, there is much much more to the 8-Shields than organizing and planning. It is an integral aspect of the Art of Mentoring course taught at the Wilderness Awareness School, and I highly recommend turning there for more depth than what you'll find in the following pages. To keep distinct my use of the model as one tool in the domain of non-hierarchical social organizing, and not confuse or constrain the full uses of the 8-Shields, I'll simply call it the Acorn from here on out.

The Acorn is the foundational organizational model used by our non-profit organization and its event and project teams. We first started using the Acorn when we co-founded Sustainable Bellingham when it was suggested by a vision team member, Lynnette Allen, one of the co-developers of the Open Question Circle (more on that in the next section). As we gained proficiency in its use, we were able to pull off major events with an ease that is hard to imagine. Of course, it's hard to separate it from the other tools that were integral to the most efficient and effective organization I've ever been part of. All the core team members were familiar with the Natural Systems Thinking Process (Reconnecting With Nature), and the natural systems refinement we developed for the formal consensus process (more on that to come as well). The SB core team developed a method of keeping a meeting on track that I'll cover in the last section of this chapter. When we had guests at one of our core team meetings, they'd take a look at the prepared agenda and often remark we'd be lucky to get a quarter of the way through it in the time allotted. They were always amazed when we completed the entire agenda, and normally ahead of schedule.

I can't recommend the Acorn highly enough for its organizational effectiveness. Although there are other ways of getting around many of the stumbling blocks common to the dynamics of organizations, if the Acorn is used as a base many of these stumbling blocks won't arise in the first place, and when they do, they are easily dealt with.

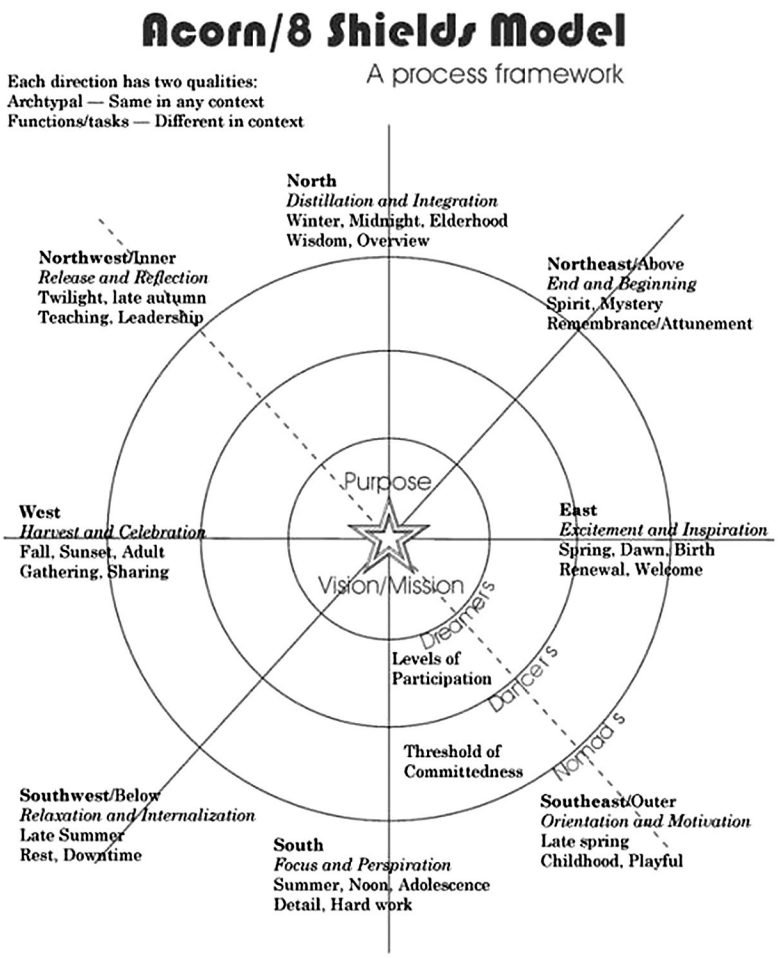
The Acorn is built on the cycles of nature, which provide a non-hierarchical, inclusive, self-organizing framework for groups and events where the whole is greater than the sum of the parts. It is a universal pattern, a map for organizational design, a checklist for events, and a flowchart for projects. You can even use it to pack your suitcase.

There is no "leader" in an organization that implements the Acorn model. All roles and functions are equally important in contributing to the success of the whole. In standard organizational terms, everyone is a co-director or chair. Whose job description includes filing legal papers would fall to either the North or the South, depending on the organization.

The Acorn uses the mnemonics of the compass directions to map natural cycles—the sun's movement across the sky, the march of the seasons, life and death—to organizations, event functions, and the natural learning journey. It incorporates our senses of direction and time. At its center is the vision and mission of the organization, or the purpose of the event or project. One powerful aspect of the Acorn is the concentric circles surrounding the center which stand for levels of participation or thresholds of committedness. See the Acorn/8 Shields Model for an idea of what this all looks like graphically.

Each of the directions has two qualities. One is archetypal—the same in any context. The other is functions and tasks, which can be different depending on the context. If you imagine the Acorn as a three dimensional model, conceptually you would have the four cardinal directions plus above and below, and inner and outer. You can also flip it on its side and picture it as a bowl which contains the organization and its levels of membership.

Within any organization people will have different roles and responsibilities which can change over time. This is where the threshold of committedness or levels of participation come into play. In a typical non-profit or social service organization you'll have a core team or board (dreamers), staff and committees (dancers), and members and volunteers (nomads). Going "upshield" is dependent on an individual's willingness to increase their responsibility. These thresholds must be made clear to new or potential members. As always, clear and open communication is essential for the success of any endeavor.



Another powerful aspect of the Acorn is that it scales. A community can have an acorn as well as all the organizations within it. The Acorn for an organization will be different than the Acorn for an event. Each direction can also have its own Acorn—and often should. Let's examine how this works for organizations and events.

In the figure above, the "energy" for each direction is encapsulated in the italicized terms on the first line. Also, be mindful of the fact that the Acorn is a framework, it isn't a rigid structure. For some organizations, coalitions, or teams it might make more sense to map some of these roles and responsibilities to a

different direction or even across directions. If a role or position isn't used, make sure you're clear on why, and not because it was overlooked.

East—This is a natural place to start, as the sun rises in the East and spring is the time of birth. Almost all cultures have welcoming rituals for these times, and this maps to outreach and marketing for organizations, and to welcoming and communications for events.

Southeast—This direction handles site preparation, planning, permitting, and facilitates the flow. For example, helping arrivals find registration and activities, and keeping participants motivated.

South—The South is where the money and detail people hang out. Registration, payments, fundraising, attendance, medical forms, timekeeping, etc. The South is a good example of how a direction can have its own Acorn. The East of the South would collect money, the West of the South would take care of medical and dietary forms, the North of the South would see to the smooth functioning of the overall team, etc.

Southwest—Many of the worker bees will be here. This is the direction the North for an event tends to send Nomads when they show up to volunteer at the last minute, although all the directions tend to need extra hands at a large event. The Southwest takes care of setup, cleanup, facilities maintenance, and meals. But the Southwest also has an extremely important healing and well-being function. The Southwest makes sure breaks get taken, handles first-aid, and offers backrubs when people get tired or tense.

West—The West provides information. Gathering and sharing fall in this direction, which is the facilitation of community. The West organizes the teaching team and curriculum, as well as teaching resources such as flipcharts and handouts, supports guest instructors, and handles Master of Ceremony duties.

Northwest—The Northwest is responsible for staff training, research, and leadership. For some organizations, this direction will be merged with the West. Integration of elders, cultural heritage, and conflict mediation are responsibilities of this direction.

North—A major role of this direction is to develop and coordinate the big picture, and represent the organization or team to the wider community. Budget oversight, behind the scenes support, and adherence to vision and mission are further responsibilities. The North also identifies recruits and delegates roles and skills, and handles facilitation for team meetings if shared facilitation isn't used—but the North is responsible to make sure it is carried out in the latter case.

Northeast—The gestalt of this direction is awareness, attunement—keeping in harmony—and assessing opportunities or catching the spark of creativity.

The person who holds the energy of the Northeast makes a good vibes watcher in consensus meetings. This direction has an additional function for events. The Northeast is both the time of death, as well as the time of conception; it marks a transition point. So, the Northeast takes care of opening and closing ceremonies.

These directions work together in a synergistic fashion. For example, if you've got lots of inspiration from the East, but no perspiration from the South, you get in a rut. So pull some motivation from the Southeast to flood the rut and get things flowing.

An important concept to keep in mind, and that the Acorn inherently supports, is just because you're holding the energy for a direction doesn't mean you have to do all the tasks. Delegate! Grab some Nomads and create an Acorn of your own.

Much more could be said about the Acorn. The full treatment in Coyote's Guide runs to almost 100 pages. After eight years, I'm still discovering more of its abilities. As with any tool, you must become familiar with it, and it must be practiced to make effective use of it. Nothing will turn people away from a tool quicker than its improper implementation. I'll touch on this more in the section on Natural Consensus.

• • •

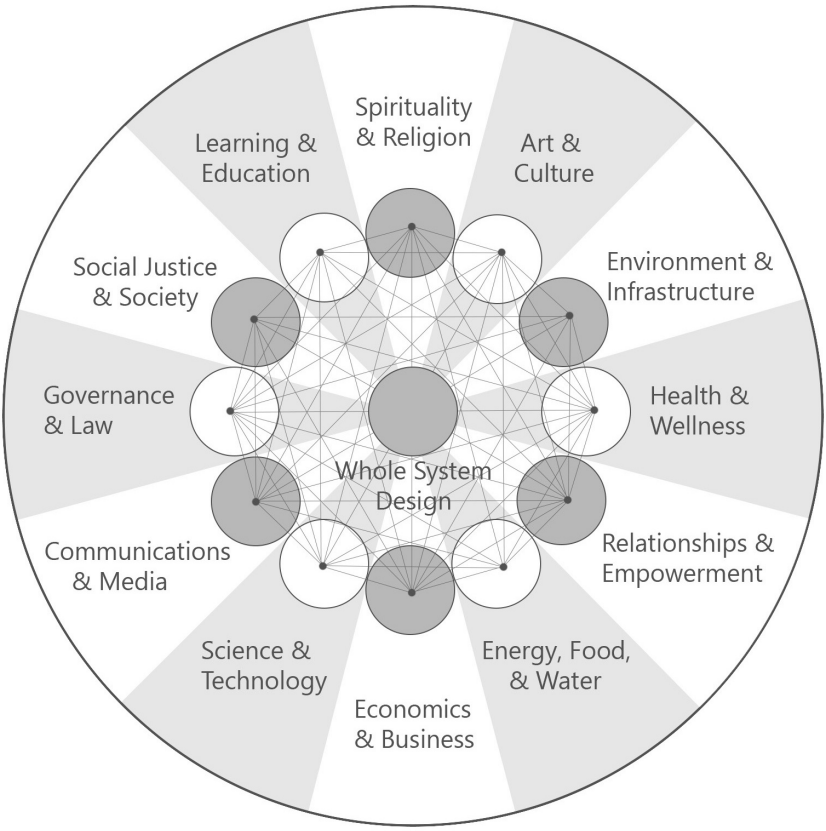
SYNCON, which stands for Synergistic Convergence or Convening depending on the context, provides a non-hierarchical method of organizing and networking for community strength and resiliency. It works with groups from twenty-five to several hundred.

This framework, developed by Barbara Marx Hubbard, author of *Conscious Evolution*, is useful to us in the transition to a sustainable future if we adapt it to our needs and use it in conjunction with other non-hierarchical tools like Acorn, Open Question Circles, and the NSTP. Assemblies of the Whole can be scheduled and organized on a regular basis (say quarterly—near solstices and equinoxes). The affinity or sector groups can meet on their own as often as they like in-between.

Hubbard says the SYNCON is a democratic process and way of bringing all members of a community together "to discover how each person's passion to create can be supported, connected, and fulfilled through participation in the whole community." We use it as an event format organized by the Acorn. The affinity groups that emerge from a SYNCON event develop their own Acorns. The two processes are congruent and supportive.

My recommendation for community visioning and relationship building is to start with Open Space Technologies (covered next) to get a sense of who you are and what you want, and then use SYNCON for implementation and long-term development—with both of them grounded in the Acorn and natural systems principles, and using the other tools for day to day operations and meetings.

Here is a brief description of the SYNCON process taken from Conscious Evolution, which I've edited ever so slightly. Examples of the 'sectors' mentioned follow the SYNCON process description, and others can be used to meet the needs of different communities and organizations. I suggest at least half a day be allowed, and if the participants are diverse and this is their first experience working together, a full day is better coupled with other team building exercises. See Step 6 for a suggestion of how to create the space.



1. People meet in each sector of the wheel according to their functional interests and vocational calling. Participants form one or more circles in each sector of the wheel. Try to keep each circle no larger than 6–8 people. A scribe, facilitator, and a spokesperson volunteer in each circle.
2. Each member of the circle responds to three questions: 1. What is my passion to create now? 2. To fulfill this desire, what do I need that I do not now have—what is lacking? 3. What resources do I have to give to this group or to people in other sectors of the social body?
3. After listening carefully to one another (I suggest that people use the Open Question format for this), participants form smaller groups based on shared purpose and affinity. They support one another and often devise joint plans.
4. The smaller groups reassemble in their sector of the wheel and share their joint strategies.
5. Each sector prepares a composite statement of goals, needs, and resources.
6. The whole group meets in an Assembly of the Whole. The assembly can be visibly exciting, in theatre-in-the-round style, with ribbon dividers, placards, or artistic renditions to suggest the different functions of the social body.
7. Each task force spokesperson presents the shared statement of goals, needs, and resources of its group to the assembly. Everyone listens actively to each presentation, noting where one group's needs and another's resources match. "Vocational ambassadors" are assigned by the group to visit other sectors.
8. A facilitated mingle occurs, either of functional sectors or of individuals and groups, seeking the synergies, linkages, and connections that are natural to any system, but are often unnoticed because an individualistic dominator process does not facilitate their discovery. The four Ss— synergy, syntony, synchronicity, and suprasex (which are defined below)—are cultivated.
9. The Assembly of the Whole reassembles. Each group represents its goals, needs, and resources, taking into account expanded connections and synergies. According to the time available, the assembly can discover more synergies and experience the fact that the whole is greater than the sum of its parts. Nature forms whole

systems out of separate parts, as we have seen. When these parts connect in a nonlinear, exponential interaction, a quantum jump may occur. We discover in SYNCON that the energy of the whole is greater than the sum of its separate members. Participants find that they are better able to achieve their goals through cocreation than through adversarial or even competitive tactics. Music and dance can be used.

10. Each task force is invited to place its goals, needs and resources on the Cocreation wall. Depending on the organization hosting the event, these should be transcribed or posted to a website to help people find common goals and match needs with resources throughout the system. People can check what's going on in their fields to serve as inspiration and guidelines for newly emerging projects.

Here's a description of the sectors of the wheel. In a large enough space, the wheel can be used as a pattern for the SYNCON itself. The sectors also provide as good a list as I've seen anywhere for the minimal aspects of a sustainable community. If you're designing an event of any type and one of your goals is to have as wide a representation from the community, make sure at least one person from each of the following sectors is included.

Art & Culture—Creative expression, sports, ethnicity and the diversity of human societies.

Environment & Infrastructure—Natural ecosystems, human habitats, and the innate interplay of these core aspects of human-earth existence.

Healing & Wellness—From the leading edge of Western medicine to the ancient wisdom of indigenous healing practices, contributing to the fulfillment of a healthy, balanced mind-body-spirit relationship.

Relationships & Empowerment—Families, couples, children and youth, counseling and coaching for healthy communication and clear direction and opportunities in one's life.

Energy, Food, & Water—Attending to the basic life-support needs of humanity and the resources of the Earth.

Economics & Business—Trade, commerce, and the exchange of goods and services within and among cultures and as a global community.

Science & Technology—Understanding the workings of nature and applying this knowledge in developing innovations that improve the life-conditions of humanity without degrading the natural world.

Communications & Media—The Internet, television, radio, books, magazines, satellites, PDAs, etc: how (and what) we communicate across town and around the world.

Governance & Law—Policies and legal structures that guide the pursuit of humanity's quest toward a sustainable future. An Earth jurisprudence provides a necessary foundation here.

Social Justice & Security—Human rights, peacekeeping, appropriate defense, emergency relief: bringing balance and safety to society.

Learning & Education—From pre-school to graduate school, and beyond to life-long learning.

Spirituality & Religion—The many facets of our metaphysical and divine experience as humans in a living cosmos.

Also included is the center category called Whole System Design. This is where the synthesis of all sectors comes into an integral, comprehensive wholeness. It is included as the "one" in the center since the purpose of the SYNCON is to engender social synergy by maximizing the interrelatedness of all of the parts into a new level of whole system design. Organizations and individuals that are working within an integral viewpoint can post their projects and services in this category.

Here are the definitions of the Four S's mentioned in Step 8:

Synergy—overcoming the illusions of separation—the experience of becoming part of a larger group or body—becoming ourselves more fully through deeper participation with others—The sum is greater than and unpredictable from the sum of the parts.

Synchronicity—a meaningful coincidence—what is needed appears outside the bounds of random chance through the natural systems process of self-organization and communication in an interconnected universe—in a convergence zone, synchronicities increase.

Syntony—resonance, the relationship between cosmic design and the individual intensifies. Subjective experience and objective reality blend with the interconnections between intuition and intellect. This can also be seen as the integration of our 53 senses. We don't have to figure out what to do for spontaneous right action.

Suprasex—when genius is aroused with the desire to co-create. Giving birth to our full potential. The combination of eros (erotic) love, with agape (altruistic) love, arouses our passions at all levels of being.

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Open Space Technology is a self-organizing practice that enables groups of any size to address complex, important issues and accomplish meaningful work. It was designed to release the inherent creativity and leadership in people by inviting them to take responsibility for what they care about. Open Space establishes a marketplace of inquiry, where people offer topics of interest, reflect, learn and work together. Participants in an Open Space event create and manage their own agenda of parallel working sessions around a central theme of strategic importance—what is it we want to accomplish, what is our goal, and what is important?

The essence of Open Space are four principles and one law, and these can be equally applied to events and meetings of all other types:

1. Whoever comes are the right people
2. Whatever happens is the only thing that could have
3. When it starts is the right time
4. When it's over, it's over

The Law of Two Feet: (It's been pointed out that the facilitator should first do a quick visual check when introducing this law to make sure everyone has two feet, otherwise call it the Law of Personal Responsibility.) This law states that if you're neither contributing nor getting value where you are, use your two feet and go somewhere else. It also means to stand on your two feet to express what's important to you.

The Law of Two Feet also means death to egotists. The law moderates their behavior by knowing that people not only can, but are encouraged to leave if they hog air time. Nothing takes the wind out of the sails of someone who just likes to hear the sound of their own voice quicker than an empty room.

There are two animal totems that people can adopt during Open Space meetings. The first is a bumblebee who cross-pollinates ideas. You can sign up for multiple sessions at the same time; it's possible to be in multiple places at once. It's amazing how frequently someone will come into a session with an idea from another session that is just perfect.

The other totem is the butterfly. They look very delicate and they're deceptive in their impact. Butterflies may never attend a session; they hang out by the snack table, or gather in the lobby or lounge. But if you sit down and have a quiet, reflective talk with one of them as you're being a bumblebee, a chance remark may impact you're thinking and you take it back into the larger group and it affects others. So if you're irritated by people who never go to the sessions, know they do serve a useful purpose. If you're one of them, you don't need to feel guilty about it—in Open Space you're valued.

An Open Space meeting gets started by the facilitator doing an opening of some type with everyone gathered around them in a circle. Quick introductions can take place at this time. With a large group keep it to name, organization, and main interest. Don't be afraid to use a gong or similar if someone starts going on too long, and there is always someone(s) who will. The principles and laws are explained, and then the circle is convened by placing large blank sheets of paper and markers in the middle.

The facilitator points to the blank sheets, says, "Here's your agenda," and promises in next 30 minutes you'll wonder how we'll do it all. Participants are invited to come into the circle, write down their topic, name, announce it to the group, and then attach it to a wall.

When everyone who cares to has done so, the facilitator goes to the wall with the break out session topics and conveners, combines those that are similar (this provides an initial "finding our commonalities" activity), and then everyone signs up for as many sessions as they're interested in. After the sessions are over, everyone regathers as a group for a synopsis of the sessions.

Normally you'll want to have at least four breakout rooms or areas that are far enough apart that the conversations don't interfere with each other. Sessions should be scheduled to last 45 minutes to an hour. In a four hour block of time you can do the opening, first session, break, second session, and final gathering. Do not attempt to do an Open Space meeting in less than three hours, and you'll be limiting the number of sessions possible at that. While you could, theoretically anyway, if your venue was something like a college department with 30 empty classrooms, do all the sessions at once, you'll be severely limiting the effectiveness of the bumblebees and butterflies, and lose much of the power of the Open Space process. If you want to do a community gathering or conversation in less time than that, use an Open Question Circle, Conversation Café, or Fishbowl.

A number of things can emerge from Open Space, such as working groups for the convening organization or even entirely new organizations. Perhaps a vision document for local government, or a set of guidelines for community action. It can be used to brainstorm ideas, bring clarity or insight to issues, build networks, and bring communities together. The possibilities are quite literally endless.

Non-Hierarchical Communication and Conversations

Like all other mutually supportive relationships, communication is a two-way process—deep listening is every bit as important as clear expression.

A wounded language and its communication protocols cannot articulate a healing story, an effective cure, nor even a conversation that can empower all

involved. A language that has emerged from dominator hierarchies and disconnection can be said to be wounded at the very least.

Language is fundamental to communication and the spread of knowledge and values. For humans it is an integral aspect of the evolutionary process. While it's true that we can't stop progress, nor should we want to, we can change what it means and looks like. We must also realize that when we're standing on the edge of a cliff, a step forward is not progress.

We must become fully aware of the dizzying height of the cliff we're standing on, and the enormous width of the gap to the other side. Baby steps and incrementalism isn't going to get us to the other side. As the ancient African saying goes, you can't jump a twenty foot gap with two ten foot leaps.

As a rational, languaged species, changing the manner in which we communicate is a necessary step on the road to change. As living systems, reintegrating all aspects of the self is also fundamental to change. As a start, let's bring our bodies back into the art of conversation.

A non-verbal method of communication was developed by a dear friend of ours, Michael Bridge. His Gestures of Conversational Presence were designed to bring our bodies into our communications.

Bridge's gestures, or hand signs, help us consciously recognize and remember that not all language is verbal. They allow us to communicate to each other our state of mind-and-heart during a conversation.

A few of the important points Bridge makes are the balance between words and silence. There is often as much if not more meaning in the space between the words. It is also important to realize not all silence is healthy. While we must learn to hear the quieter voices, to become capable of hearing the trees growing, we must learn not to tolerate the silence that is the result of intimidation and oppression. This is a pathological silence more properly known as dysquiet.

The gestures provide an alternative to the unconscious patterns of domination and alienation that tend to permeate verbal communication in a dominator culture. They allow us to strengthen our inner voice, and regain a sense of the sacred in communications with one another. The gestures also work to equalize power between those who are more verbal and those who are less so.

The gestures also help us shift from an exclusive focus on what one person has to say (often the assumed "leader"), and our attention can expand to include the quality of what is taking place between us. They can be used in meetings, and while walking down the street. There's only six of them, so they are easy to learn, as well as fun to practice:

Offering Presence: Palms together, in the traditional gesture of prayer. Can be used as a non-verbal greeting. Also used to convey the message that "I have full attention to offer."

The Stirring: Hands clasped, both index fingers pointing upward. Can be used to signal that "there is something stirring within". We tend to view this sign as a way of acknowledging and honoring what is taking place inside one's self, rather than as a "request" for "permission" to speak. (The latter perspective tends to reinforce the paradigm where the listener is "giving away" their power.) At the same time, a speaker who observes someone else making this sign may choose to respond by offering their attention, either immediately or at the next opportune moment. When running a consensus based meeting, the stacker will acknowledge and pass in order.

The Urgent Stirring: Hands clasped, index and middle fingers pointing upward. Conveys the stirring within has an urgent need to come forth.

Retreat: Hands fully clasped. Used to signal that one's attention is withdrawing or becoming unavailable. The speaker may continue to speak if he or she so wishes, but the listener shall not be held accountable for hearing any of it. Also used as a non-verbal reply to the presence sign when used in greeting. In this case it means you can't talk at the moment, for whatever reason.

Pause: Hands clasped, pinkies (little fingers) pointing upwards. Used to request a pause, or to signal a brief interruption. For example, it can be used by a listener as a substitute for: "I'm really interested in what you are saying right now, but I need to take a break to use the bathroom." It could also mean that I am requesting a pause to process, and/or inviting the speaker to take a breath. Alternatively, this sign might be used by a speaker to signal, "I see that something is stirring within you, and I am just about to reach the end of my train of thought."

Requesting Another's Voice and/or Passing the Conversation: Hands clasped, index and middle fingers of both hands pointing towards another person. Can be used as a substitute for: "It seems John hasn't said anything in a while. I wonder if he has something that he'd like to share." Or, if we see someone making the "Retreat" sign, we might use the "Requesting" sign to inquire about what is happening with them.

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Another communication style is known as Nonviolent Communication (NVC), a process developed by Marshall Rosenberg and others which people use to communicate with greater compassion and clarity. It focuses on two

things: honest self-expression—exposing what matters to oneself in a way that's likely to inspire compassion in others, and empathy—listening with deep compassion. Formal NVC self-expression includes four elements: observations (distinguished from interpretations/evaluations), feelings (emotions separate from thoughts), needs (deep motives) and requests (clear, present, doable and without demand).

NVC has a place, and can be effective when done properly. However, much like the consensus process, when done improperly, or in the wrong context, the experience of those on whom it is being subjected can be painful at best and the results will not be those expected. Of course, the same can be said for all of the tools and methodologies presented in this roadmap.

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A non-hierarchical conversation technique called the Open Question Circle was developed by Daimon Sweeney, Lynnette Allen, and Robert Bystrom. Allison and I were part of the initial group they tested it on during the Monday Evening Conversations we were hosting in Bellingham, WA, and we helped refine the method in its early days. We've successfully used it in organizational consulting, group counseling, and for helping audiences process "heavy" documentaries such as *What a Way to Go: Life at the End of Empire*.

As the Open Question became a regular part of our workshops and community activism, I wanted to have a handout for people, but Daimon, who now runs the Open Question Institute, didn't have anything suitable available yet. As I was starting to put something together, Allison discovered that a mutual friend, Tom Atlee of the Co-Intelligence Institute in Eugene, OR had already done so for one of his newsletters. So I grabbed that and adapted it for our needs. Thanks, Tom. I also highly recommend the Co-Intelligence Institute as a resource highly congruent with the overall project of systemic change.

The Open Question Circle is a way to communicate desires or needs within a very distinct context. It features respectful deep listening, and it encourages a person to say what's on their mind without fear of interruption or criticism. The basics are that participants get in small circles and answer a three part question. The participant across the circle writes down the core idea expressed on a sticky note. There is no crosstalk, although short clarifying questions can be asked. People are allowed to either repeat or build on someone else's response, and they are allowed to pass. The same set of questions goes around the circle as many times

as possible in the time allotted. By the third or fourth round, people go beyond obvious or superficial answers to more meaningful ones.

One thing Open Question Circles do is help us discover our shared commonalities. This becomes apparent when all the circles categorize their sticky notes on a large blank spot on a wall.

Here are the details of how an Open Question Circle works. Participants gather in circles of 4-7 people, each with a "Designated Facilitator" whose main responsibility is simply to start the ball rolling, and who has a card or small piece of paper with three questions written on it:

"What is one thing that would make _____ [the name of the shared organization, enterprise or circumstance] more wonderful for you?"

"What would that do for you personally?"

"What would this do for us?"

"Thank you."

After a very brief initial discussion laying out the guidelines for the circle and encouraging participants to listen deeply to each other, each Designated Facilitator asks the person sitting next to him or her the first question. The other person takes a moment to let an answer emerge and then shares it briefly. The need for brevity tends to need reiterating often. In each round we're just looking for one thing. This process is repeated for the second and third questions. The Designated Facilitator then thanks the answerer and hands them the card. The person who just answered the questions then asks the same questions of the next person, thanks them, hands them the card—and so it goes, around the circle. There is no cross-talk, discussion or criticism during this go-round process and participants may "pass" at any time. Each person is in complete control of their degree of self-exposure.

A round usually takes about 10-20 minutes. Try to do at least 3-4 of them. They go faster as people learn the process, as they become attuned to deeper layers of meaning in themselves, and as their self-expressions become more comfortable with that deeper meaning. The more rounds, the more shift, depth and magic seem to happen.

After two or three rounds people start to realize the circle is a safe and inviting space in which to express themselves and be heard. They begin to say things resonant with a depth of meaning seldom touched in ordinary conversation. They tend to relax and become even more engaged, expressing themselves more freely, deeply, and creatively, and a remarkable sense of excitement and connection can begin to build.

After the rounds, it is often useful have an open discussion period. This allows normal conversation to take place within the newly emergent and expanded context of meaning fostered by the circles. This can stabilize any transformation that has occurred, and so is sometimes referred to as "weaving the social fabric." These discussions can be short, or they can begin longer conversations.

For large groups, you may want to use two or more sets of rounds, mixing the membership of the circles between sets to multiply the connections within the group.

The primary question is an Open Question, which changes according to the needs of the group, while the follow-up questions never vary.

An open question has particular qualities: It embraces the concerns of everyone in the group. It does not presume an answer. And it has heart.

We have found that the primary question should have a positive, open-ended word like "wonderful" to elicit extraordinary levels of creative energy and transform the group dynamic. The most evocative questions reflect an identification with the whole of humanity and nature. This standard question works well: "What is one thing that would make _____ more wonderful for you?" Fill in your group, community, organization, the world or whatever you have in common.

Another question that I've seen work well with a group that had a common interest they wanted to explore is, "What is one thing that would make me a more effective spiritual activist?" Or, "What is one thing that would help us transition to a sustainable future?"

Each person in the group must be able to relate to the topic to become deeply engaged in the process. If the question evokes an answer from the heart, it will probably be effective.

The follow-up questions never vary. They are: "What would that do for you personally?" and "What would that do for us?" These questions are an essential part of the process. The "us" is context dependent, however. It can be the circle itself, the organization hosting the process, the larger community, or the entire universe.

Although you may be tempted to drop them, much of the power of an Open Question Circle actually resides here. In contemplating and responding to the follow-up questions, participants become aware of and communicate their values, needs, and meanings, which are also held in common by all human beings. The experience of sharing this common ground of humanity opens the door to new possibilities of awareness, connection, and action.

After the rounds are finished, the ideas generated in the Circles that were written on the sticky notes are posted and rearranged into affinity groups by the group as a whole. An affinity group is a cluster of ideas with a common theme. This identifies and organizes the interests present in the group, thereby clarifying collective intent—in both its unity and its diversity. The group can then develop programs or focus groups based on these idea clusters.

Some groups are experimenting with Open Question Circles, Affinity Diagramming and the resulting focus groups as a fundamental internal process for organizational effectiveness and operations.

Simply listening and attending carefully to others for an extended period of time tends to create rapport and connection. Combined with the mutual non-hierarchical nature of the process, the discovery of shared values, and the intellectual and creative connections that occur as ideas evolve in the course of the circle, a real bond can develop among participants, especially with repeated experiences of the process.

By responding to a well-designed Open Question, participants develop an emotional, visceral, and intellectual recognition of shared values. This sharing replaces the assumption of separation with an experience of deep connection. This experience often feels like a great discovery which leaves participants more energized and enthusiastic.

This experience of deep connection naturally tends to expand one's sense of community, from narrow self-interest to the more inclusive interests of the group or community. From such an expanded sense of mutual caring come inspiration and personal motivation to develop new strategies and the willingness to do what it takes to make the world a place where everyone can have a full and satisfying life.

Open Question Circles can create a context of openness and appreciation of common intent among participants, setting a productive tone for the gathering right from the beginning. People with a pressing need to express themselves can feel heard from the start, which helps them be more available to hear and respond to others. Open Question Circles can lead to conceptual breakthroughs by shifting the conversation from fixed positions and strategic stances to a deeper recognition of common interests. Conflicting strategies can thus be seen as related through their focus on similar needs, and this can lead to more inclusive strategies which are more likely to be effective.

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A Conversation Café is another non-hierarchical conversation technique. Developed by Susan Partnow and Vicki Robin, Conversation Cafés have the same benefits, for many of the same reasons, as Open Question Circles. Their style and uses are quite distinct, however.

A Conversation Café is an informal dialogue method which invites people to take part in discussions about topical issues. Hallmarks of the process include building respect, deep listening, and an ability to shift from small talk to BIG talk.

Conversation Cafés are not a means toward a goal such as reaching consensus or making a decision, but can be extremely effective in clarifying intent for the consensus process, as just one example.

The process is simple and straightforward. Assemble up to 8 people per table or circle including the host or table facilitator; agree on a hearty topic, find a talking object, and set a time (60-90 minutes works well). The host explains the agreements and process.

Open-mindedness: Listen to and respect all points of view.
Acceptance: Suspend judgment as best you can.
Curiosity: Seek to understand rather than persuade.
Discovery: Question assumptions, look for new insights.
Sincerity: Speak what has personal heart and meaning.
Brevity: Go for honesty and depth but don't go on and on.
Round 1: Pass around the talking object; each person speaks briefly to the topic, no feedback or response.
Round 2: Again with talking object, each person deepens their own comments or speaks to what has meaning now.
Dialogue: Open, spirited conversation. Use a talking object if there is domination, contention, or lack of focus.
Final Round: With talking object, each person says briefly what was meaningful to them.

That's all there is to it. I have two suggestions for making a Conversation Café a successful event. The first is to re-read the agreement on brevity. The second is to try not to be a heavy-handed facilitator. You can usually get a sense of the table when someone is going on too long, or when the conversation gets side-tracked. Although, sometimes that's a good thing. Be flexible. Oh, and as more people become familiar with the hand signals used by the Occupy Movement for their general assemblies, these might be useful to incorporate, as are the Gestures of Conversational Presence, especially the sign for pause.

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Another conversation or dialogue technique that is effective is known as the Fishbowl Process. This is a way to have respectful and informative community dialogues or town hall meetings—at least those who don't have a pre-planned agenda to force down everyone's throat while pretending to seek input. The goal of a fishbowl dialogue is to move beyond rhetoric to substance, rather than getting stuck in the win/lose format of debates where truth too often takes a back seat. Instead of having the goal of winning an argument, issues and evidence are clarified to help the audience gain understanding. New perspectives and options that may not have occurred previously can develop, and strident positions tend to soften or breakdown. Fishbowl dialogs are a wonderful alternative to typical panel presentations that are followed by limited Q&A sessions.

The general outline for the Fishbowl process is to have one more chair than the number of presenters in a circle in the middle of the room (or semi-circle at the front of the room) with audience members in concentric rings surrounding the Fishbowl. The extra chair is the 5-minute audience seat.

Each panelist has about ten minutes to talk about what they would like to see, what they're currently doing, support they can offer, and/or support they need for the development of the topic.

After the individual presentations, the panelists spend the next 10-15 minutes engaged in a conversation among themselves on the issues and ideas that have been brought up. The next 45 minutes are spent engaged in a conversation with an audience member occupying the 5-minute seat. Rants and confrontations need to be discouraged, as this isn't the forum for them.

The 5-minute audience seat takes advantage of some Open Space Technologies concepts: The people there are the right people to be there, and the Law of Two Feet which states that if you are neither contributing nor learning, open the space for others.

The goal of the Fishbowl is to have a respectful but spirited conversation on community values, issues and policies. The conversation is meant to be non-confrontational, and to intelligently discuss issues and projects that impact the community.

Non-Hierarchical Decision Making—Natural Consensus

Consensus is more than just making group decisions, but an effective way to run meetings that are inclusive and delve deeply into issues. The latter is greatly helped if those issues have first been through the Open Question process, a

Conversation Café or two, and especially if the issue or question has been taken to nature first.

When we were introduced to the consensus process, no one had formal training or was really sure of its intricacies, and the process seemed more than a little cumbersome—but Allison and I could sense its possibilities. So, I searched for what was available on the Internet, and among the better resources was a website put together by C.T. Lawrence Butler, author of *On Conflict and Consensus*. I made liberal use of his material and a few other articles I ran across to put together a consensus training for Intentional Bellingham with modifications based on natural systems principles to address the most widely reported drawbacks. We've used this successfully over the years, especially with groups who had been struggling to make the consensus process work effectively. The bulk of the following on the formal consensus process is from Butler and other Internet sources.

The decision making process is a part of group dynamics. Changing the way decisions are made in this culture could be one of the most important tools for social change available. The manner in which we approach decision making as a part of group interaction reflects the manner in which we treat people in general. An alternative process is necessary that doesn't rely on the values of competition where someone has to lose, or that maintains elite dominator hierarchies, or that are dehumanizing and alienate everyone they are inflicted upon. These are, however the current standards of group interaction in which we have all been socially conditioned.

Because of this conditioning, group processes tend to get built around hierarchies. This is the standard, or normative, system of interaction and relationships where competition is seen as not just acceptable, but as natural and even desirable. In this system much effort and energy is expended on controlling the group members.

What is needed within the dynamics of group relationships for both justice and equity is not competition, but cooperation. This is not to say that competition needs to be eliminated. As Butler points out, as team coaches know, the key to victory is team cooperation. The fundamental shift is to "use competition not to win, which is just a polite way of saying to dominate, beat, destroy, or kill the opposition; but rather, to use competition to do or be the best"—to showcase our skills and abilities. In addition, the cooperative spirit recognizes that "it is not necessary to attack another's efforts in order to do your best; in fact, the opposite is true. In most situations, helping others do their best actually increases your ability to do better. And in group interactions, the cooperative spirit actually allows

the group's best to be better than the sum of its parts." Cooperation is a process of creativity, synthesis, and open-mindedness which leads to trust-building, better communication and understanding, and ultimately, to a stronger, healthier, and more successful group. It also happens to be the model Nature uses to create and maintain healthy ecosystems.

Sometimes the quickest or most efficient way to make a decision is to just let the CEO or manager make the decision. At least then one knows where the responsibility lies as well as where to focus the blame. In an organization that is actively trying to implement principles of participatory democracy, and to enable the input from a diverse group of intelligent members, however, more than efficiency needs to be considered. The question of fairness, whether the results are generally desirable or satisfactory, and whether feedback is being properly utilized all need to be considered.

Consensus provides an alternative process for decision making. It is a powerful tool to bring groups together and enable them to move forward with decisions that are both inspired and effective. As with any tool, in order to use it properly and effectively, knowledge and practice are necessary. This cannot be overemphasized. I've already mentioned this in regard to the other tools, and it is perhaps even more necessary to bring out the full power of the consensus process.

The basis of any strong and sustainable community, organization, or team is cooperation. The consensus approach to decision making is thoroughly cooperative. While not the best tool for crisis situations, for groups with a shared set of values, a common purpose, openness toward and trust for each other, and a willingness to delve deeply into the issues surrounding a decision, the consensus process leads to decisions that everyone can feel good about through its inclusivity. Consensus does not contribute to the us vs. them separation caused by majority vote style decisions.

The NSTP (Natural Systems Thinking Process) helps bring out and clarify the values and purpose in our shared commonalities, and helps strengthen trust and build openness—a requirement for highly functioning groups. The bonds that the consensus process builds are intellectually, emotionally, and spiritually developed and sustained through developing and strengthening all of the senses that we share with Nature and with each other. This is our most powerful commonality and enables participants to communicate beneath the level of personal egos.

Consensus agreements rely on each individual putting forth their honest best effort to seek unity, and thus it enables participants to communicate beneath the level of personal egos. There is not a need for groupthink, or unanimity where all opinions are identical. The essence of the common ground, and reaching a

shared level of understanding in achieving progress toward the goal is what is desired. This again models Nature's diversity where each contributes their best in support of all to maintain the balance and integration of the web of life. Organizational systems must mirror this natural structure on a smaller scale in order to reach decisions that support the whole.

The consensus process supplies a framework for group interaction, whether discussing ideas or reaching decisions. An agenda item in a consensus meeting starts with an introduction of a discussion topic—whether a question, problem statement, or action idea.

The next step is to clarify the topic to be presented to make sure everyone is clear about what the topic is, but wait for the question period to go into depth. This way people can understand the concept and the context for it. While this is going on, the other members will be evaluating the idea and preparing responses and questions.

Open discussion is next with a facilitator to keep track of time and make sure everyone gets a chance to be heard. This concept is extremely important, because it implies listening and attention. Active cooperation in the consensus process requires disciplined speaking and listening from everyone and by everyone. The contributions of all members must be solicited and respected, even if they are disagreed with. Active cooperation also means accepting the responsibility to actively participate as a creative individual within the process.

A quick aside, which I'll get into more depth in a bit, is that the responsibilities of a facilitator can be shared, and in a large meeting should be. This includes the roles of timekeeper, stacker, and vibes watcher.

During the open discussion, suggestions, criticisms, hypothetical examples, concerns, support (and why) should all be voiced. The facilitator must keep the discussion balanced so the less assertive don't get bowled over by a few dominant figures, or those with very strong viewpoints one way of the other. The open discussion may be augmented with small discussion circles or brainstorming sessions. Everyone needs to make sure they are paying attention to the needs of everyone else. This is one of the practice items that too few of us are used to or good at. The facilitator must be open to feedback on how they handle this part of the process.

The facilitator will integrate the groups input, and a general sense of direction will emerge. At this point it will also become clear where further alignment toward that direction is needed. This is where the main challenge in using consensus lies. If an environment where everyone's piece of the truth is welcome can be created, the inherent wisdom and creativity of the group comes through.

Once substantial airing of the issues has taken place and every member has made a good faith effort to find solutions and common ground, there are three structural responses available to each participant for a decision: agreement, standing aside, or standing in the way (blocking).

Agreement does not necessarily indicate high enthusiasm or that the proposal fulfills one's personal preference. It means that maybe you love it or maybe you just think it's okay, but you see how it benefits the group and you can live with it.

The second possibility is standing aside. One may choose to stand aside due to personal conscience or strongly differing individual opinion; either way, one owes it to the group to explain one's reasons. In the Quaker tradition, standing aside means that you would not be called upon to be an active implementer of a decision, though you would still be bound by it. Even though you may vehemently disagree, you honor the group's need or desire to move in that direction. If more than one or two people are standing aside, however, it is a signal that the group is not yet in alignment.

Depending on the issue, another possible option is to send the issue to committee. More background information may be needed, or it may not be time to reach a decision on an issue which was introduced for discussion or evaluation.

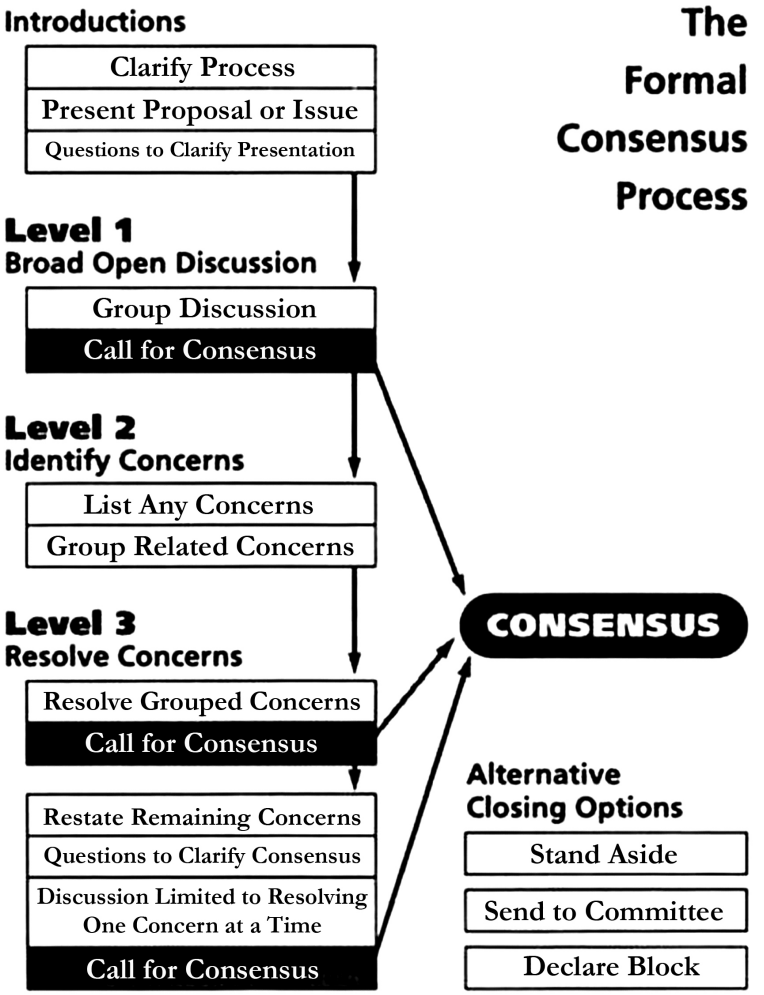
The third structural response is standing in the way of a decision, also known as blocking. This ability to prevent the will of the rest of the group is what gives consensus its special power, and it's also what many people are most scared of. Blocking is never to be undertaken lightly. It is the responsibility of any participant with concerns to bring them up as early in the process as possible, and normally the ideas and feelings of every member are naturally woven in as the discussion moves along. In a well-functioning consensus group, the frequency of blocks ranges from nonexistent to extremely rare.

However, occasionally in the course of years, it may happen that a member perceives a proposal as representing a disastrous direction for the group. Not a big risk or a decision that they personally don't like, but an action that would contradict the group's purpose, mission, or values, irrevocably injuring the organization or its members. It takes significant ego to presume that you have more wisdom than the rest of the group; yet paradoxically, one must never block from an egotistical place or from personal preference. When the alternative is catastrophe, it becomes a member's responsibility to serve the group by stopping it from moving forward. Anyone considering blocking a decision is obligated to thoroughly explain the reasons and make every effort to find a workable solution. This obligation is paramount, and one of the core refinements of Natural

Consensus. Caroline Estes of Alpha Farm, a respected consensus teacher, says that if you have blocked an emerging consensus half a dozen times, you've used up your lifetime quota.

Following the rest of this presentation of the formal consensus process, I'll describe the Natural Consensus refinement we developed. It has proven very effective for groups that have been using the consensus process, in some cases for over a decade, both for dealing with blocks and with clarifying intent.

Here's a handy flowchart for the consensus decision process that comes from Butler.



One of the most important, and too often overlooked or brushed off, aspects of an effective meeting of any type is creating an agenda. Making a plan, or having an agenda, is what keeps consensus meetings from becoming scattered, and from dragging on for too long. Without an agenda the most pressing items get dealt with in a haphazard manner without the thought necessary to deal with them efficiently or effectively. Rushed decisions are rarely good decisions. Meetings need—at minimum—a designated facilitator, a note taker, and a set agenda which includes the allotted time for the overall meeting and for each agenda item.

The facilitator and note taker should not be among those presenting agenda items. If either of them are taking the lead on a particular agenda item, someone else must assume those roles for the duration of that agenda item. The end of the meeting should include feedback on what worked and what needs improvement. This is part of the learning process and will improve group effectiveness.

The agenda should be arranged to include the urgency of action needed, balance heavy and light items at each meeting, and which items had been waiting longest for attention. The agenda planner should also clearly designate whether the item would be an introduction, discussion, or possible decision.

It's also important to learn to distinguish when an item is small enough to fit in the box of a committee or manager's domain. This can save everyone countless hours of frustration and boredom. Committees fall into two categories: standing and ad hoc. Standing committees perform ongoing tasks for an organization such as membership or fund raising. Ad hoc committees are formed for a one-time task, such as planning a party, doing legal research, or creating a specific public relations campaign.

When a committee is set up, it's important to be clear about the extent of their power. What is the purpose of the committee? Are they doing research only and reporting back? Making recommendations for the larger group to implement? Making decisions and following through themselves? Committees need a mandate from the larger group and a timeline. Even if the committee's work isn't finished for a while, reporting back in a timely manner keeps the committee and the larger group in touch with each other.

The most functional size for a committee is usually three to five people. A balanced committee includes representatives of the breadth of opinion on a subject, as well as depth of expertise. You probably need people who are energetic initiators, thorough on follow-up, skilled at writing, smooth interpersonal communicators, linear thinkers and gestalt thinkers—luckily each person does not need to have all of these qualities, so long as they are represented in the group.

The Acorn model is extremely effective here. One person should be designated as the convener, who sets up the first meeting.

If the committee is open to it, posting when and where its meetings will take place so that others may observe can help defuse possible tensions. Once trust is built and the relationship is established, the larger group will naturally send items to the committee for seasoning and input. When the committee returns its ideas to the larger group for final decisions, a sense of wider ownership and participation is created. This also helps engender consensus when the committee has input into the consensus process for organizational decisions.

Meeting minutes serve as the memory of the group and create a common record that everyone has access to. Minutes also play an important role for groups organized around the Acorn model. New group members or those who want to go upshield to the next threshold of committedness can refer to the minutes to learn what has gone before.

The note taker's goal is not to record who said what when. Rather, the information readers will likely want to know is:

date of the meeting
who was present
title of each item clearly labeled
main points of discussion
questions answered
range of opinion
concerns raised
whether each concern was resolved or not
"sense of the meeting"
new ideas
agreements and decisions
reasons and intentions for a decision
name and reason of anyone standing aside or blocking
next steps

If that's all too much to cover, then just go for the core. If there is a proposal, and especially if there is a consensus decision, that needs to be stated clearly and explicitly. During the meeting, if the group is nearing consensus, the facilitator should state the sense of the meeting and then have the note taker read out the proposed minute, because it's the minute that will actually serve as the record of

what was agreed to. In the next section on running an effective meeting I'll show you a format we use that is very effective for one aspect of this.

Finally, minutes will be most useful when the information is clearly organized. It is useful to index them by both subject and date if the system you use for filing allows this.

The most important role in running both an effective and enjoyable meeting is facilitation. The facilitator is responsible for keeping the meeting on track. Yet every member is also responsible for each other and the group, and every person can engage in facilitative behaviors such as soliciting input from quieter members, bringing the discussion back to the main topic, and summarizing what's been said.

Facilitation is an art and a skill, a science and an intuition; every facilitator has room for growth. Rotating everyone through the role helps minimize power differences in the group. If the least skilled members get more practice, it brings the level of the whole group up a notch. Being thrust into the facilitator role makes people better meeting participants too. However, it makes sense to call upon more skilled facilitators for more challenging or controversial topics.

The facilitator is the servant of the group, they are not the leader. She or he must never push their own agenda. While everyone has biases, for the duration of the meeting it is the facilitator's job to leave their attachments aside in order to be a clear channel for what the group needs. Neutrality and objectivity are essential. If you are in the facilitator role, a few minutes before you start, clear your mind of worries and fatigue; breathe and center; ground yourself. All your attention will be needed for the task at hand.

As the facilitator, you carry an attitude of group success. For every group, in every situation, there is common ground that can be discerned—your job is to see that and reflect it back, over and over. As each person speaks, listen carefully, and every few minutes step in to weave together what's been said—but also be aware that this can be taken to extremes. You also don't want to overly disrupt the flow. It takes longer for some people to develop and express their ideas. Look for the reasons behind the positions. If someone's contribution is hard for others to take, search for what's underneath that others will be able to relate to and name it. If someone becomes frustrated, look for what's not being heard. Unity is present, waiting to be discovered. Trust that this is not only possible, but the natural order of things.

Energy, tone and body language will tell you at least as much as the words spoken. If your group also uses the Gestures of Conversational Presence this will be more readily apparent. Don't be afraid to name openly what you see

happening, yet be gentle and concentrate on the positive. Employing a vibes-watcher to pay special attention to this can be helpful. The vibes-watcher may suggest a break, or a moment of silence. Silence is a powerful tool. Sometimes a moment to think is all that's needed to break a tension. Seek the path forward, but don't be afraid of conflict; it's a natural experience and it shows that people care enough to put energy in. Highly skilled facilitators are able to take that energy and use it to help the group.

If someone proffers a premature block, you can work with the substance of their objection in the moment, or you can acknowledge the seriousness of their concern and ask them to hold it and listen with an open mind to more discussion. If you come to a stuck point, remember that you have options. An item can be laid over for future discussion. You or someone else can talk one-on-one with an individual during a break. Items can be sent to a committee for further consideration. The group can request help from an outside facilitator. With patience and effort, agreements can nearly always be reached.

Facilitator Paul DeLapa sees consensus as a creative route to collective discovery. More than a decision-making method, "Consensus is a process that leads to agreements that people are unified on," he says. "It requires a different mindset . . . to create and build out of what's present." All our lives we're taught that we'll be rewarded for delivering the "right" answer—suddenly there is no right answer. Instead, there is a cooperative search for elegant, creative solutions that meet everyone's needs.

In a culture where we're taught that every person must struggle for themselves and we can't get ahead without stepping on others, consensus is a radical, community-building alternative. Consensus helps us realize that no one can get ahead by themselves: our success with the method depends utterly on our ability to work with others. Competition is no longer the root of experience; instead, we honor and integrate the diverse life surrounding us. Consensus is interdependence made visible.

This leads us to the Natural Consensus refinement to the formal consensus process, which was developed to deal with some of the major stumbling blocks (quite literally in one case) that can keep the consensus process from being effective that delivers additional benefits as well. These are blocks, clarifying intent, and building trust. The impetus for this refinement is a direct result of the paradigm we find ourselves in and which informs our values, behaviors and what we unquestioningly believe to be the best way of going about things even as we experiment with alternatives.

The old unsustainable paradigm is starting to fail, and the alarming handwriting about the future of our planet—if we don't change course post haste—is

on the wall, written in large block blinking neon capital letters. Now more than ever before, it is vital that those of us working together to create a new model for being in right relationship with self, others, and Earth have an efficient, respectful, and effective system in place to achieve our mutual goal of a sustainable future.

The formal consensus process for group decision making is a wonderful beginning for those of us who realize the current hierarchical structure of domination is at the root of what ails us. Often, however, in groups of bright, strong-willed people who feel under the pressure of a ticking clock, there tends to be a common urge to take control, and to think we know best. As well, in a culture that doesn't teach alternatives or critical thinking and analysis skills it is also often difficult to clearly discern or articulate what the issues are.

Natural Consensus effectively overcomes these challenges to formal consensus by using a methodology grounded in natural systems principles—applied ecopsychology's Natural Systems Thinking Process of reconnecting with nature. Taking issues and concerns to nature gets beneath the indoctrinated urge to control while building on and strengthening our commonalities in the web of life. Another group dynamic that is necessary for success is trust. Today, however, we don't even trust our own senses, let alone each other or other's motivations. The NSTP has been demonstrated to be useful and effective in rebuilding all those layers of trust.

Using the NSTP as an integral aspect of the consensus process provides an opportunity to experience how our healthy connections to the natural world, which include our relationships with one another and our communities, can present models and metaphors that support the consensus process as a tool for decentralized, non-hierarchical and non-coercive governance in a sustainable future.

Since the consensus process starts with the introduction of a concept or issue, we'll start with the Clarifying Intent Activity, especially since it has the added benefit of greatly reducing the likelihood of blocks. Consensus decisions are greatly enhanced when we double-check to be sure we're asking the right question. The core idea behind taking it to Nature is to consciously bring our greater body and spirit into the process—to fully tap into the network intelligence of life. This is a direct example of creating moments that let Earth teach.

Refer back to the core reconnecting with nature activities in Chapter 8 for the fundamentals. For both clarifying intent and dealing with blocks the main idea is to find an attraction in nature while the issue is on your screen of consciousness. You can formulate this as, What question are we trying to answer, What is the best way to make it clear, Is this block the best choice, Is there a better path?

While in a natural area, or with an intact piece of nature, find an attraction that calls to you. When you've gained its permission, convey your question or query in a manner that is comfortable to you. The goal is in seeing what Nature has to contribute regarding a decision, plan or process.

This process can also be used if the group has reached consensus on an issue, but something just doesn't seem right about it somehow. The community of life is there to participate. The way this works is similar to when we're thirsty, and our sense of thirst attracts us to water. When we need guidance, information or support what we're attracted to in the moment, while unencumbered by cultural stories, is what we need in the moment.

The person presenting a block must also accept the responsibility to help the group find an alternative. You can't just block, even if clearly stating the reason why, without taking the lead on finding a resolution. A reconnecting activity is the base for this. Again, find an attraction and see what nature has to contribute to the issue. The block will either be resolved, or an alternative will be discovered. The resolution to the block, of course, can go either way. The blocker will withdraw the block, or others will join the block. In the latter case, it's probably time for a Clarifying Intent activity. But as pointed out at the end of Chapter 8, wait until the next day to give yourself processing time. Some things can't be rushed.

Finally, doing the permission and thanks activities as a group and sharing your experiences is just simply the best, as well as perhaps the quickest, way to build trust among a group of people. I've experienced a number of trust building exercises in my decades of environmental, social and political activism at workshops, conferences and various trainings for actions in civil disobedience that run a pretty wide gamut. They all have positive aspects to them, and some are more effective than others. In every case, though, I've come away thinking they'd be so much better off by doing a reconnecting activity.

If you have experience with trust building exercises, and they've tended to leave you feeling just a bit wanting, give the NSTP a try. Of course, as the famous disclaimer goes, your mileage may vary. But they've always worked for us.

To close this section on consensus, here's a summary of the roles and responsibilities within a consensus meeting. We use a quarter-sheet handout for our workshops that has the consensus flowchart on one side and this role summary on the other that people can refer back to as they gain familiarity in using the consensus process.

Presenter—Introduce discussion topic—question, problem statement, or action idea—clarify the topic.

Facilitator—Ensure everyone gets a chance to be heard—integrate the groups input—this role rotates through the group.

Timekeeper—Schedule and time warnings.

Vibeswatcher—Optional, otherwise facilitator responsibility — attention to the sense of the mood (energy, tone and body language). Openly state what you see happening, yet gently concentrate on the positive.

Notekeeper—Meeting minutes—group decisions.

Stacker—Keeps the order of questions and speakers.

All participants—Active cooperation in the consensus process requires disciplined speaking and listening from everyone and by everyone. Active cooperation also means accepting the responsibility to actively participate as a creative individual within the process.

Agenda—Keep meeting from being scattered and going on too long.

Feedback—What worked and what didn't.

Committees—Need a mandate from the larger group and a timeline.

Running an Effective Meeting

While a clear and well planned agenda is a necessary starting point for running an effective and productive meeting, capturing what occurs during the meeting is equally important. Besides having a good note taker, here's something else we've found to work quite well. As previously mentioned, if your organization is based on the Acorn, when someone wants to join the group or increase their level of participation, the organizational history that is contained in the meeting notes provides a starting point so they know what has come before.

One way to capture this history is with what we call the Magic Chart. It's a schematic that can be drawn on a flip chart or similar to make it convenient to use during the meeting. It has a number of advantages over having a single note taker, one being that everyone can be sure the important aspects of the meeting have been captured.

The Magic Chart provides the normal services of having an agenda everyone can easily see, such as keeping the meeting focused and on time. It lists the assigned roles for the meeting, captures the essence of what transpires for easy recap at the next meeting, and is a wonderful reference for writing up meeting notes later.

One of the Magic Chart's strengths comes from having a place to captures "ah-ha" ideas that are not on the agenda for discussion later, and for capturing

concerns. We've all been in meetings where someone has an "Ah-ha" moment, or a concern comes up that side-tracks the meeting. If these can be captured instead of being dismissed as off-topic, people feel they are being heard and it keeps resentment and frustration from building up.

The Magic Chart also makes homework assignments clear and fair, and gets the agenda for the next meeting started. Speaking of homework assignments, another role for the Acorn model in consensus meetings is that it saves huge amounts of time in determining roles and functions for events and committees—automatically. For example, instead of having to write down that Jane is doing this that and the other thing for an event, all you have to capture is that Jane is taking the South. This quite literally speaks volumes that do not need to be spelled out. It also lets you quickly determine what is missing.

<table>
<tr><td colspan="3">Agenda
Item 1—time
Item 2—time
Item 3—time
Item 4—time
Item 5—time
Item 6—time
If time allows: discuss concerns and Ah-ha's</td><td>Next Agenda

Facilitator
Notetaker
Timekeeper
Vibes Watcher
Stacker</td></tr>
<tr><td>Decisions
Who, what</td><td>Concerns
Who, what

Note these as the meeting progresses to keep from getting sidetracked.</td><td>Ah-ha's
Who, what

Note these as the meeting progresses to keep from getting sidetracked.</td><td>Homework
Who, what</td></tr>
</table>

Something else we've adopted for our meeting is "Voting With Fingers." This is a form of instantaneous consensus—or not, but it's still a huge time-saver. It works especially well with short agenda items.

1 finger = "Yes"
2 fingers = "I'm not 100%, but I can live with it."
3 fingers = "No, but I'm willing to work toward coming up with a decision we can all live with."

Try these out, and feel free to modify them for your own needs. The main thing to be careful of, and we've been through this, is to ensure that any modifications remain congruent with natural systems principles.

14
STRATEGIES AND ACTIONS

"No piecemeal solution is going to prevent the collapse of whole societies and ecosystems . . . a radical re-thinking of our values, priorities and political systems is urgent."

MAUDE BARLOW

This chapter is not intended to present an exhaustive list of strategies and actions, but a starting point. These are the main issues that we keep running across, and that many individuals and groups are already actively engaged in. They are all, however, still outside of mainstream thinking. They are meant to address the perennial question of "What can we do?" in the areas one is most concerned with that can support the goal of creating a sustainable future.

Of course, the most fundamental strategies are those contained in Part Two. Getting the basics right provides a foundation for success for all the rest of these strategies and actions. Some of the core actions include those that address the issues brought to light in Part One, especially global warming. This includes actions such as stopping the Keystone XL pipeline, stopping the TransPacific Partnership and other "free" trade agreements, stopping the austerity agenda, and putting an end to student debt. Oh, and imperialism and our addiction to growth would be an excellent idea as well.

We must also be aware of how easily we can be overcome by a feeling of powerlessness. Activists who dedicate their lives to change, to creating alternatives to the death culture of the status quo, can become disheartened when suggested changes are shot down as not being politically viable, and when people just don't seem to get it.

This came up in a conversation Derrick Jensen and I were participating in on a global warming e-mail discussion group. One participant had concluded there was nothing he could do while the dominant culture plays itself out. He wished he could contribute in a positive way, but had come to the conclusion there was nothing left but to contemplate his doom. Of course, this is what dominant

culture wants us to believe. My reply can be found in the Growth Battle section of Chapter 15 in the story of Allison's conversation with the parent of one of her students. Derrick's reply on what we can do fits in here so well, and deserves repeating in its entirety.

"We can take the offensive.

"We can protect particular pieces of ground.

"We can bring down this culture.

"I actually think this state of powerlessness is a wonderful place to be. We need to pass through this powerlessness, and give up on the system, as you have. And once we've done that, once we're dead, once we're really truly dead, then we can proceed to fight like hell, because once you're dead they can't touch you. Not with threats, not with promises, not with anything. You can still sing, and you can still dance, and you can still make love, and you can still fight like hell, but they can't touch you anymore.

"Once you're dead in this way, once you give up on them, give up on the system, the whole world of opportunity opens up to you. And then you become very dangerous, which of course is a very good thing.

"Ask the land where you live what it wants you to do. Ask local rivers. They'll tell you."

As I said in the section on applied ecopsychology, our role as activists is to become nature's archetypal warriors in the battle to save a living world.

Community Assessment and Sustainability Inventory (CASI)

Chapter 7 provides the lead in for this section. If communities are going to assess where they are and what they have to build on in regard to sustainability, they must first clearly define what they mean by sustainability in general and sustainable development in particular.

A number of communities are beginning to undertake studies that look at one particular aspect of resource availability, such as water, food, or transportation (in the civilian, defense/safety, and industrial sectors). Some are concentrating on ways to reduce their carbon footprint as a response to global warming. The Transition Initiative movement (covered later) has a community process called an Energy Descent Action Plan (EDAP), and there are similar ideas floating around out there.

One systemic option for communities to address the issues of Peak Oil, global warming, and corporatism is to undertake a beginning relocalization

project that builds a foundation for communities to begin working toward the goal of a sustainable future. Relocalization connects the dots in order to take a systemic and holistic approach, and is intentionally more inclusive than the typical community visioning process that focuses on narrow and disconnected human needs, and that often tend to define community stakeholders as only those who have a financial stake—although they insist they're "open to input."

While an EDAP is a good idea, when I evaluated it I thought it was just a bit too narrowly focused on energy. For energy issues in a post-peak world, it's an entirely logical transition step (pun intended). But, like so many others, it doesn't define sustainability, and ignores the reality carrying capacity insists upon.

So I developed a more systemic process based on natural systems principles called a Community Assessment and Sustainability Inventory (CASI). As with most of my work, I found a number of existing tools that provided an excellent starting point, wove them together from a common perspective, and modified them as necessary to present an integrated and mutually supportive framework that is as systemic as possible for creating a sustainable future that is bioregionally adaptable. The main tools were Maureen Hart's Sustainability Indicators workshop, an early test edition of the Earth Charter's EarthCAT Guide to Community Development, and the Global Ecovillage Network's Community Sustainability Assessment. We've applied this process in Bellingham, WA and Tucson, AZ; two communities that are so different in many ways despite their similarities.

The CASI project is designed to provide a policy framework for sustainable development and a way to measure progress toward becoming self-reliant in basic necessities in a world that must power down and find alternatives (economic diversification) to dependency on export economies (both our own and others) and throw-away consumption in a world facing resource depletion in a number of sectors. The CASI is not a one size fits all cookie-cutter solution. What the CASI provides is a framework to gather the necessary data to help communities figure out the resources necessary for their unique situation.

The CASI project has three main steps. The first is a one day Sustainable Community Indicators workshop meant to be presented to a broad cross-section of community leaders. The goal of this workshop is to introduce the concepts of sustainability, carrying capacity, natural systems principles, and how to develop and evaluate economic, environmental, and social indicators for a sustainable community. This begins with developing a clear understanding and full accounting of likely impacts from Peak Oil, global warming, and the collapse of free-market based growth economies.

The second step is a one day interactive workshop to complete a Community Sustainability Assessment. This is a subjective measure of how we see ourselves as a community, discover what we have, where we need to improve, what we're missing, and what roadblocks are in the path to sustainable change? The data developed and gathered from these first two steps is then used as a guide for the third step, introduced at the conclusion of day two.

This step is to undertake a Regional Sustainability Inventory. This is a comprehensive environmental and economic carrying capacity analysis. Sustainability planning in general covers four main need areas and the subsystems which have formed to meet these needs. These areas are:

1. Economic—the needs for money and work provided by the financial and productive subsystems.

2. Social—the needs for care and values provided by the social subsystem.

3. Governance—the needs for self-determination, information, and power provided by the local government subsystem.

4. Material—the needs for food, water, energy, housing, and transportation provided by the environment and infrastructure subsystems.

The inventory provides the hard data necessary to guide planning and sustainable development within the reality of a rapidly changing world. By gathering the data to calculate both environmental and economic carrying capacity, it also allows us to seriously address the growth issue by quantifying sustainability thresholds beyond which we don't want to go in order to preserve a quality of life the community has agreed upon.

By focusing on positive outcomes, the CASI process strives to answer the questions, "What are our needs, and how can they be sustainably met?" Not just to obtain basics such as food and shelter, but in gaining a sense of belonging, a voice in decisions, participating in a self-reliant, vibrant and resilient local steady-state economy, and having recreational and personal development opportunities.

Current planning processes do not take Peak Oil, global warming, the uneconomics of growth, carrying capacity, or a concrete definition of sustainability congruent with natural systems into consideration as a core aspect of their underlying assumptions, policy guidelines, or comprehensive plans. They are quite literally planning in the dark. Neither have they used robust and realistic quality of life indicators as yardsticks to tell if we're going in the right direction or if we're getting further behind. This does not bode well for a sustainable future, and leaves us wide open to be blind-sided by any type of supply shock in a world experiencing rapid and unprecedented change.

The real question we must keep in the back of our minds is not how much it will cost to create an ecological economy, but what is the price we will have to pay as a society for not doing so?

Truth be told, the worst we could do by acting as if Peak Oil and global warming are real and urgent issues, and beginning the planning process for a sustainable future, is to leave a better world for our children.

In order to create a sustainable future based on ecological wisdom, social justice, economic equity, and participatory democracy we must first accept what sustainability actually means and entails. We must then use this perspective to inventory what we have to work with, assess what's missing or inadequate, and uncover barriers to change. As a systemic foundation for sustainable change in the policy arena, this process also takes an honest accounting of the likely local impacts of Peak Oil and global warming according to the best available current scientific evidence.

However, this should not be seen as a doom and gloom message, or a project to get people to don hair-shirts, return to the cave and start carrying water from the stream (if you're fortunate enough to live in an area that still has year-round running water), but a message of hope based on a viable and realistic alternative available to us that contains concrete steps for action that emerge from broad-based community agreement and cooperation congruent with the natural systems principles that have been allowing ecosystems to be sustainable for billions of years.

Even for communities that would rather remain in denial about what's heading our way, the CASI project can and should still be undertaken as a risk assessment tool for emergency preparedness or disaster management purposes.

Abolishing Corporate Personhood

After the CASI, this is probably the most important single action that individuals and communities can get involved with. The legal protections and mythology of the corporate form today directly hinder just about all other actions for systemic change that is life affirming. Yes, we must get money out of politics and have public financing of elections, but this will only constrain one aspect of the corporate form today, and not the one causing most of the actual damage.

There are a number of excellent resources for information on the concept of corporate personhood and what we can do about it. The Women's International League for Peace and Freedom (WILPF) developed a ten session study guide on abolishing corporate personhood and reasserting the people's rights. The

Program on Corporations, Law and Democracy (POCLAD) and the Community Environmental Legal Defense Fund (CELDF) tend to concentrate on the legal and governance aspects, and Democracy Unlimited of Humboldt County (DUHC) covers it from an activist perspective. Plus books by Thom Hartmann, David Korten, Naomi Klein, and Noam Chomsky, and the excellent documentary film *The Corporation: The Pathological Pursuit of Profit and Power* all provide excellent perspectives on the phenomenon of corporate personhood and the damage inherent in the Industrial Growth Society, even if they don't use those exact terms.

These resources do more than examine the corporate form, but the quasi-legal and financial institutions that have been developed to support the overall goals of Industrialism by the financial and ruling elites. The core problem with the corporate form today is that corporations, especially multi- and trans-national corporations, have usurped democracy. I've covered the philosophy behind this in Part One. So, the fundamental question we must ask is who rules, the people or their tools? If the answer is the people, then some fundamental cultural changes must be instituted.

Abolishing corporate personhood is the campaign to reign in corporate power and its stranglehold on the democratic process and regulatory environment, which were ostensibly created to protect people and the commons from corporate greed and abuse. It holds as a fundamental premise the words of Paul Cienfuegos, "We the people are more powerful than we dare to believe."

Corporate power rears its ugly head in many ways, and can be addressed on many levels such as campaign finance reform, ending corporate welfare, requiring corporations to prove the safety of their products, holding officers and shareholders responsible for the harms they cause, and reversing the power flow of regulatory agencies. These must all first start with building an infrastructure that people can use, is easily accessible, and has the enforceable power of law. This all begins with a cultural shift that returns people's powers and their ability to use them.

The basis of the concept of corporate personhood is the claim by the corporate form that the 14th Amendment to the U.S. Constitution, written to protect freed slaves and worded to protect persons against any state trying to deprive them of liberty or property without due process of law, equally applies to the legal fiction of a corporation. Corporations have gamed the system to have limited liability and limitless power. The outcome is that the corporate form claims that neither people nor the state have the right to do anything that in any way impedes the single-minded pursuit of increasing profits and market share. What

we're dealing with is the corporate taking of our power and the natural resources that belong to all of us—that are necessary for our health and well-being—for their own private benefit.

There are a number of concepts, regulations, and institutions corporations use to maintain this ability. These include the commerce and contracts clauses of the U.S. Constitution. The former prohibits the states from hindering the flow of goods, which favors bigger over local; the latter makes contracts a private matter protected from state interference, and gets used to invalidate labor legislation.

The overall project of Industrialism depends on the normalization of the idea that the natural world serves no other purpose than to contribute to the industrial goal of progress through increasing production and consumption. This progress is best served if the resources are held in private hands, and if the market is free from government interference. This leads to privatization, or what I think is more accurately referred to as piratization, which is the transfer of public goods and services, such as water delivery, health care, prisons, and education into private hands for private profits. This basically removes the public from having a voice in the allocation of public resources and services.

The institutions that have been created and empowered, exclusively by elite special interests, to carry this out include the World Bank, International Monetary Fund (IMF), and the Organization of Economic Cooperation and Development (OECD). These have been created by the major economic powers to ensure the continued dominance of global corporatization. To make it appear as if it's all legal and on the up and up, the World Trade Organization (WTO) was created to enforce rules agreed to under various free trade agreements by assuming the role of dispute resolution. What this means is that if environmental or labor regulations interfere with the pursuit of profit, the resolution is to wipe them away.

This gives us a list of institutions and policies that must be shut down and rescinded. The overall goal is to reassert people's rights and democratic control over corporations. This begins by realizing some fundamental truths. Corporations are not persons, they are a legal construct. The corporation is not private property, it is a publicly chartered institution. The corporation does not have rights; it has granted privileges which can be taken away.

The current movement to address some of these issues is the call for an amendment to the U.S. Constitution to declare that corporations aren't people, that money isn't speech, and to remove private money from political campaigns.

The impetus for this the Citizens United vs. Federal Elections Commission (CU vs. FEC) US Supreme Court decision in January of 2010. This decision

basically revolves around how corporations have come to dominate our lives in the name of profit and at the expense of people, planet and democracy itself.

First, we must realize that the "Citizens United" group is really a right-wing backed business lobby, commonly referred to as an Astroturf operation. It is not a "citizen's group" by any stretch of the imagination.

Because corporations have overwhelmingly so much more financial power relative to individual citizens, Congress has passed reasonable regulations on them. Over the decades the Courts have reaffirmed these regulations numerous times to keep the voice of actual citizens from being drowned out, regulations Justice Kennedy, writing for the majority, pretty much unilaterally overturns in CU.

There are a number of individual points of law that get raised to point out that the CU decision is a supreme act of judicial activism, and that opposition to this decision is not just liberal hand-wringing. Legal scholars from all points on the political spectrum are rightfully concerned about the very dangerous precedent this decision sets for our liberty, freedom, and most importantly, our democracy.

Bioregional Wisdom Consensus Councils

This draws from a couple of ideas that various people have been kicking around for decades for a "place based politics." As we saw in Chapter 10, a core aspect of bioregionalism is sense of place and an understanding that culture interpenetrates natural systems. This means that local ecology should guide and ultimately determine the political economy. This goes hand in glove with the concept of an Earth jurisprudence, which I'll cover later.

What are some of the core aspects of a system of participatory democracy that draws directly from natural systems principle? At a fundamental level, it would be grassroots based as opposed to centrally controlled, it would use natural boundaries based on bioregions and watersheds instead of arbitrary political boundaries, and use the principles of consensus decision making.

It would have some fundamental differences in its economic system from what passes for capitalism, socialism, or communism today. It would not be designed to maximize profit, greed, competition, nor to assume that natural resources are there for the taking or that they are worthless if not contributing directly to the economic good. It would not support the consolidation of wealth and power into the hands of a small elite. It would not use coercion, state or otherwise, to fulfill unmet demands. It would guard against injustice and inequity. Wealth redistribution is not the goal of an ecological economics. However, stopping the theft of the commons is.

A place based politics would be liberal in the sense of providing a foundation for progress and freedom, and support for innovation in balance with a living world. It would be conservative from the perspectives of fiscal responsibility and conservation of the natural world.

It would understand that health, well-being, and possibilities emerge from supportive networks that maximize potential. This means that societies based on participatory democracy provide a basic infrastructure and safety net of food, shelter, healthcare, and education. It is not equalitarian but egalitarian. As living creatures on a living planet we all have the right to participate in and benefit from the natural abundance supplied by our supportive ecosystems and the progress inherent in the accumulation of knowledge. I mean, if we're going to pretend to be civilized we should at least act like it. Thus it doesn't fall prey to the main drawback of communism where the state controls both production and distribution and everyone is equally subservient to a revolutionary leader. There is a fine line between simply distributing wealth and power equally, and ensuring that everyone has an equal opportunity to participate at the level they are most comfortable with and that can best express their passions in contributing to community quality of life.

How do we disempower the Republicrat elite? How do we take our democracy back from corporatism? What would the practice be based on? A big part of this will be in overcoming the myth of materialism. We must supply a viable alternative that will offer sustainable fulfillment that is not based on fear, greed and the myth of scarcity. This is one reason we must all take at least some part in the political process, and make it our process. The elites currently remain in control because we allow them to. We should not beg the elites to be able to play, we should inform the elites that they are no longer players. Refer back to the quote by George Orwell I used to open Chapter 4. And no, I am not advocating class warfare; I'm advocating that we put an end to our current system of class warfare which the masses are losing—quite badly.

A common critique of political systems is that they have been created by the elites and a good way to get rid of elite control is to get rid of political systems—that elites are the cause of politics. Elites do currently control politics, but systems of administration and regulation have been around since pre-dominator times. I agree that reform is merely modifying the existing system without getting rid of the status quo. Changing the rules of how the system is practiced is what needs to take place, but a political system, of some form, is necessary for people to peaceably co-exist in societies and for societies to harmoniously co-exist.

In *The Tao of Democracy* Tom Atlee talks about the concept of wisdom councils, which are a positive step in the right direction. I believe the concept must be merged with bioregionalism and non-hierarchical group dynamics to create bioregional citizens think tanks and wisdom councils, who, in addition to drafting policy, as part of their charge are responsible for hosting community forums for issue awareness and education, and for facilitating consensus based roundtable discussions on regulation and enforcement. These roundtables would be made up of representatives from coalitions of environmental and social justice groups, local elected officials, social service organizations, public works and planning departments, arts and recreation proponents, business and economic interests, all levels of educators, farmers and fishers, and health and wellness professionals. The wisdom consensus councils would then work together to provide policy input to an organization like the United Nations for global issues and to resolve bioregional disputes. This would give us a system of democratic government of, by, and for the people at all levels.

What I don't see working particularly well is a wisdom council or similar concept being comprised of citizens who are chosen at random. I base this on the underlying assumption that nature provides a functional model of sustainable processes for human development and creation.

One wouldn't expect an Oak tree to produce maple syrup, or a Maple tree to produce acorns. In fact, you wouldn't even think of asking them to. But you would expect them to know about the creatures that live in their respective branches, and which insects are particularly pesky for each one this year. You could also reasonably expect both the Oak and the Maple to inform you about their health in respect to a lack of water, or acid rain, or increasing temperatures that affect them both.

The parallel in human relations and systems is that some people will be particularly adept at articulating problems and suggesting solutions. Some people will have equivalent expertise in care-giving. Both will want clean water and non-contaminated food for their children. But you wouldn't expect them to assume the other's role if your expectation is a high quality outcome.

It's not that people can't think outside of their realm of expertise, but people have different interests, passions, and strengths. Some people can more naturally sense and work with the large systems view, some people are more attuned to local issues. We need people who can work at the level of the World Health Organization, and we need local caregivers. Some people's talents are with formulating policy that ensures the common good, some people's talents are with growing the best asparagus you've ever tasted. But the policy makers need the input from the

farmers, and as long as we are working with a common set of shared values, we can be assured that we are all heading in a direction that is in the best interests of all involved, and in the best interests of a life sustaining Earth.

A decentralized system of consensus governance, that is explicitly more interactive than merely writing your representative when you become so pissed off you can't stand it anymore, is one way to supplant the current political climate. What is needed is a shift in worldview, which means consciously using our consciousness differently. We need to start being the change we want to see in the world, which means playing our own game, and not the game of the elites.

Voting Your Conscience
(Third Parties, IRV, Independent Movement—Naturally Creative Earth Politics)

"I'd rather vote for something I want and not get it than vote for something I don't want, and get it."

EUGENE V. DEBS

"If voting changed anything, they'd make it illegal."

EMMA GOLDMAN

The political process in America today is hopelessly broken. Mere reform, however, is not sufficient because the system is based on faulty assumptions. One thing to be on guard for is if we make the voting system actually work for democracy without changing the underlying system, Goldman's prophecy might come to pass.

In America's current two-party system, a good case can be made that Democrats are probably more dangerous to life in general as they believe we can more equitably distribute an inherently unjust system. Republicans know better, and they just want to grab all they can while they can and then get while the getting is good. What they don't understand is that the time to escape safely out of town while no one's looking is long past.

The Democrats, as well as much of the left, continue to believe that we can feed, shelter, and provide iPods to 7 billion people with no harm to our one and only life support system. Unfortunately, second grade math shows differently. For a more complex analysis, there's the laws of thermodynamics. Democrats,

for the most part, are unwilling to rock a boat they are desperately trying to climb into, and don't want to deal with the fact the boat is already bouncing off the rocks and has a couple of gaping holes in the hull.

I don't want to redistribute wealth. A more equitable piece of an unjust and destructive system isn't really going to do the masses any good—it will just hurry along ecocide. I want to stop the theft. The first thing we must do is remove the legitimacy we grant the elites in stealing and hoarding more than their fair share, but this is quite distinct from redistribution. Upon hearing this, a common response is to ask for an example of where this has been successfully done. The fact that this hasn't been done before in Western history isn't the point. The point is that we know it's necessary and how to do it. It's not nirvana. It's the way life works, and has been working for billions of years. The fact that Western industrial culture doesn't work that way is why we're approaching numerous ecological and social tipping points.

It is also a fact that electoral politics can't do it all by itself—it is but one aspect of an interconnected and interdependent system. It simply has a larger sphere of influence in some realms than others, and due to our natural diversity, some will be more drawn to the political arena than others. There is no one right way to support life, but support life it must.

One way of expressing this is what Roy Morrison calls an "ecological democracy". He makes the obvious point that political democracy cannot exist without economic democracy.

I don't know if it comes from my systems science background, or my training and research in ecopsychology—probably both—but I have this tendency to dig for both root causes and fundamental principles. I really think the only true mandate of any government that adheres to any semblance of democratic principles is to protect the commons. From this emerges any tendency for a future focus, into which falls education and health care.

So, from this basic mandate to protect the commons, we see, for example, that the enclosure of the commons and privatization for personal profit are anathema to the basic mandate. But in a political system where the two dominant parties are controlled by the mandates of Industrialism, fear of the other is used to limit real choice and to keep people from voting their conscience when a candidate challenges the status quo.

Instant Runoff Voting (IRV) is a method that can be used to allow people to vote their conscience instead of their fear. IRV is used in a number of countries around the world, a handful of U.S. municipalities, and for the Hugo Awards and the Oscars. With both major political parties in the U.S. wholly owned

subsidiaries of corporations and advocates for Industrialism, the main choice in most political elections is which candidate might be a little less bad. Third-party and independent candidates are presented in the media as being unelectable, and the fear card of wasting one's vote is played here big time.

People are kept from voting for third-party candidates that more accurately represent their values by being told they will split the vote, and the major party candidate furthest from their values will then be the one to win the election. An example of how this might occur in a district that is heavily conservative (60% Republican and 40% Democrat) would be if a free-market Libertarian challenged a popular moderate Republican and received 22% of the vote. This would leave the Republican with 38%, and the Democrat would win the election with 40% of the vote.

In Instant Runoff Voting, also known as Ranked Choice or Preferential Voting, ballots are cast by voters who order the candidates by preference. In the example above, the Libertarians would vote their candidate as #1 and the Republican as #2. Democrats wouldn't rank anyone as #2. In the first round of vote counting, no candidate received a majority, so the candidate with the fewest votes is eliminated, those ballots are recounted using the second choice, and the Republican would win with a majority of the votes. IRV has the benefit of assuring the candidate preferred by the majority of voters is elected to office, while allowing third-party and independent candidates at least a chance to be heard.

IRV also increases the possibility of third-party and independent candidates actually getting elected. When people are given the opportunity to vote for someone who represents their values and isn't owned by special interests, they become more willing to participate in the voting process. In current U.S. federal elections, more than half of the eligible voters (not registered voters) don't even vote. In the 2000 election, neither major party candidate could get more than about 20% of possible voters excited or even interested enough to vote for them. Upon being selected by the Supremes (after actually losing the popular vote by about half a million) George W. Bush declared this gave him a "mandate" to carry out the rest of his neoconservative administration's policies. Well, sorry, but 20% is closer to a fringe than a mandate.

This provides a major impetus behind the growing call for an independent political movement. In 2003 I started working on a project I called Naturally Creative Earth Politics (NCEP). This was a combination of the Natural Systems Thinking Process, Cultural Creatives, Earth Charter, and the Green Party.

With some input from Paul Ray and Thom Hartmann, the idea was to build a movement that would bring environmentalists, political progressives, and

cultural creatives together over the shared values expressed in the Earth Charter to begin laying the foundation for a sustainable future. The only political party that it made any sense to me to get explicitly involved in this effort was the Green Party, as their Ten Key Values (Appendix D) are simply another way of expressing the Earth Charter values. The goal was to build a political movement with a large enough constituency the corporate media couldn't ignore or write off as fringe, and provide a systemic and realistic campaign platform for politicians willing to adopt it.

The first problem was that Paul and Thom thought the most effective avenue would be to use NCEP as a way to either reform or take over the Democratic Party. Their core thinking was similar to what I've heard from so many other progressive Democrats over the years. The Dem machinery has the size and funding to be effective, and they didn't want to be seen as being involved in splitting the vote in the manner that Ralph Nader gets erroneously blamed for.

Other common critiques from progressive Dems include their belief that third-parties simply can't compete effectively in the two-party system, and that our goal should be to return the Democratic Party to its roots. My answer to the first is IRV, and to the second is, What roots? Slavery and only allowing white male property owners to vote? The traditional party of Big Business?

The typical response to that is, "Oh no, the New Deal roots of FDR." While the concepts of the right to organize and Social Security are good ones, this response from Dems simply shows how unaware people are of the social milieu of the time, and how and why these were implemented. Capitalism at the time was in very real danger of being replaced by socialism, and local currencies were effectively replacing the U.S. dollar. The New Deal was the functional equivalent of throwing slightly larger scraps over the wall to the peasants to placate them enough to save and continue the Industrial Growth Society and the central banks it relies on.

When I tried to get the blessings and involvement of the Green Party, I ran into a different stumbling block. While a few people at the national level liked the overall concept, their basic response is that they were focused on party building, and didn't want to put any effort into building coalitions that could build the party. Yeah, I know, that response doesn't make any sense at all to me either.

The response to the relocalization platform I developed when running for office in 2005 as a Green and in 2010 as an independent—which has been adopted by a few local candidates—was similar. While people at the national level could see the value in having a comprehensive platform for sustainable change, congruent with the Ten Key Values that addressed issues of concern that

independent polling was showing the majority of people were in favor of, there wasn't enough explicit focus on party building.

This did, however, provide part of the foundation from which Coalitions of Mutual Endeavor eventually evolved, and could easily be dusted off and pressed into service by anyone interested in political activism. Here's how I was presenting it during the run-up to the 2004 elections.

For advocates of progressive values, a clear and consistent message needs to be advanced. A big part of this message needs to be that we are not alone, that there are literally tens of millions of other Americans who hunger for a just, fair, and sustainable society and future.

One such demographic is the subculture identified as Cultural Creatives. When I look at the 18 questions to determine if one might be a Cultural Creative (see appendix B) these ideals seem to be ones that we would want our elected representatives to also espouse and uphold.

There is a federally recognized political party that also expresses these ideals—the Green Party—as opposed to only paying them lip service as the Republicrats do. I use the term Republicrats because as has been painfully pointed out, over and over again in the progressive media since the 2002 mid-term elections, the current American political system is a one party system. There are basically two right wings of a Corporate War Party. The political left and life in general are bereft of political representation.

I find it more than a little troubling that the current Democratic Party can't find the backbone to stand up for what most folks say they are in favor of. A number of polls have shown that over two-thirds of the U.S. wants to protect the environment, stop global warming, and reign in the power of multi-national corporations that cheat the American people out of $70 billion per year by funneling what becomes tax free profits into off-shore tax havens.

If the Green Party were to actively try to pull in the people who share the identified values of the Cultural Creatives, they would have a voting block large enough to sweep an election. I believe they could also pull in a sizable chunk of moderate Republicans. For those who may still be under the mistaken assumption that the Green Party is only about the environment, a close examination of the Green Party's Ten Key Values shows that a number of them, such as decentralization, local economies, and personal responsibility resonate with traditional conservative values, as well as being congruent with what Cultural Creatives believe in and that progressive politics should stand for.

Some type of catalyst is needed to bring the Greens and the Cultural Creatives together into a unified voting block. Someone has to step up to be the

unifying voice and organization for the vast number of groups and individuals who believe in progressive goals such as environmental and social justice, peace and democracy, respect for diversity and the power of local communities . . . for putting the spirit back into democracy.

We need to develop the synergy needed and gather the resources to be an effective force against the organized right. To better understand how they are doing it, the following document, Right Thinking, Big Grants, and Long-term Strategy by Sally Covington in Covert Action Quarterly #63, provides a good synopsis. Another founding document in the shift to the right in American politics was the "Powell Memo" by Richmond, VA attorney Lewis F. Powell, Jr. before he became a Supreme Court Justice. An excellent write-up of this is in *The Powell Manifesto: How A Prominent Lawyer's Attack Memo Changed America* by Jerry M. Landay, published in 2002 by Mediatransparency.org. It seems to me that progressives need to do the same. We also need to spend the time to overcome the negative publicity and criticisms the Moderns and Traditionals direct toward Cultural Creatives, and that the Democrats direct toward the Greens.

We need a coalition that can unify, inspire, and galvanize people that share Culturally Creative values and ideas into supporting a recognized political party that also holds these ideals. This could become an effective catalyst for change.

A large part of what I've been thinking is to build a small core of existing groups, organizations, and documents instead of forming YetAnotherNetworkingGroup, to put forward a coalition that is cohesive in their values—if not their methodologies and goals—in advancing a progressive political agenda. This would be broadly focused on environmental and social justice, economic reform, community development, and sustainable and fulfilling lifestyles. The idea would be to take advantage of the name recognition and harness a deeper awareness of existing groups, organizations, and population sectors that aren't so deeply wedded to the existing political structure that the alimony of a divorce would bankrupt them.

The over-simplified vision is that the following four groups just publicly agree to support each other toward the common good in support of the Global Life Community, or Web of Life, or whatever they are most comfortable with calling it. In a combination of numbers, they would constitute a block of people about 75 million strong here in the US, which even the current corporate controlled media in the US couldn't afford to ignore. If they all showed up at the polls, it would sweep the Republicrats right out of the halls of Congress. This is the goal for all upcoming US federal elections.

1. The target demographic would be the Cultural Creatives.
2. The federally recognized political party would be the Green Party.
3. The foundational organizing document, principles, and guide to sustainable development would be the Earth Charter.
4. The process to use for the educational and healing shift in consciousness needed to bring it all to fruition would be the Natural Systems Thinking Process (NSTP).

The NSTP is highly supportive of all three of the above, because when people reconnect all of their senses with their natural origins, living in a way that is contrary to these expressed values and ideals simply becomes unconscionable. Even though as a society we seem to be pretty adept at living in denial, the main beneficiaries of that denial are the pharmaceutical companies and psychiatrists who try to make us feel sane about living in an insane world.

Consciously identifying with the subculture identified as Cultural Creatives is important because people do need something to believe in and to be a part of. It's one of our natural senses that we share with the web of life, our sense of community, of belonging, of being a part. I don't think people want to just say "I'm Green," the way they now say "I'm a Democrat, or a Republican, or a . . . " We are much more than just a political party, we are a lifestyle, a way of being in the world.

This political coalition shouldn't focus exclusively on activists. While we need and welcome their support, the majority of people don't fit the description of activists. But most people do support the concepts of social justice, democracy, human rights, the need for a healthy environment, alternative energy, and conservation. People are neither happy nor healthy in continuing to support business as usual when it simply furthers the rat race to over-consumption and exploitation; when it offers no real value to themselves or to future generations.

Political progressives must get the point across that political activity based on fear, which is what we saw in the 2002 mid-term elections—the blind and unthinking misplaced patriotism of and for the Bush regime—offers a solution that is illusory. Its real outcome only serves to accelerate the cycles of violence while diverting resources from more humane, productive and sustainable use.

We need to make a connection and build trust with other groups and organizations that have what today are taken to be progressive goals and ideals. We can't really expect them to come to us, but we can be there to offer support and guidance when they need it. We need to be able and willing to show ways that we can expand and further their goals and outreach. We need to be ready to explain the

whys and backgrounds of our terms, like Reconnecting with Nature and Cultural Creatives so they understand that we are united in common causes and that we hold similar and mutually supportive values. The Earth Charter itself goes a long way in accomplishing this goal.

Just as importantly, however, and perhaps even more important than targeting specific groups, is reaching out to everyone, and being as inclusive as possible to the working class, the undereducated, immigrants, the marginalized and impoverished—to all cultures, all races, and all religions. We need to make it transparently obvious that we are not an elitist cause simply trying to protect our own self-interests, but are here to serve life.

Earth Jurisprudence and Nature's Trust

I really had a hard time deciding which chapter to put this section in. An Earth Jurisprudence is as foundational for creating a truly sustainable future as reconnecting and relocalizing. The political advocacy and policy formulation skills necessary to shift our system of governance to one that both honors and is integrated with Earth's ecosystems are pretty specific, though. While it requires a critical mass of support, the skill set is unique.

Jurisprudence means philosophy of law. Thomas Berry has long held that we need a system of law that balances the needs of humans with the needs of the wider Earth community, instead of the current system that legalizes and encourages exploitation of resources for private gain. We must regard Earth as the primary source of law which sets human law in a context which is wider than humanity. This is an aspect of the systems view of life, where the good of the whole takes precedence over the good of the parts.

This concept has been expanded upon in *Wild Law: A Manifesto for Earth Justice* by Cormac Cullinan, a South African lawyer heavily influenced by Berry's work. Earth jurisprudence provides a foundation for ecological democracy; a foundation for an alternative to the Industrial Growth Society; and it provides a legal framework that can support steady-state economies in the human quest to become better instead of bigger. That's what progress should be about, and it requires protecting the commons from the occurrence of harm in the first place. As I've stated previously, this is really the only true mandate of democratic governments, as well as being the basis for the precautionary principle.

In articulating what an Earth jurisprudence is and will require, Cullinan realized "that I am not a detached observer but a participant in the system—a dancer in the great dance of the universe." I can't think of a better attitude to have

in approaching what Berry calls the "Great Work." Fundamental societal change requires engaging the whole self, because destruction of Earth both diminishes and impoverishes the self. This latter condition pretty much defines the shape industrial cultures find themselves in today.

One of the primary aspects of developing an Earth jurisprudence is putting aside the false philosophy that we are separate from Earth and can control natural processes. We must lay a foundation for regulating ourselves as an integral part of a wider community of life. This has wide ranging consequences for the concepts of land as property, ownership of the resources that quite literally make us who we are, and our adolescent petulance over limits to growth.

We have rejected Earth in the creation of a humans-only world and have lived there for so long it has become more real than reality. We believe this world of constructed myths, of the rest of nature existing only to serve at our whim for our pleasure and benefit, can be more fulfilling than what Earth and mutually supportive communities and relationships can provide. As evidence mounts to the contrary, supporters of the status quo are terrified of what lies outside of their constructed artificial reality. As Cullinan says, "What possible role is there for an ex-master in a community of former slaves?"

Our current systems of governance are based on disconnection and control and seek to regulate people to act accordingly. The results of this as it manifests in destruction and pathology are clear to anyone willing to look. Laws are based on the values a society holds, but our laws also determine which values are regarded as important. The shift to an Earth jurisprudence based on ecological values requires a shift in cosmology—our understanding of the universe and society—from a mechanistic way of thinking to one that is holistic.

An Earth jurisprudence will tend toward restorative justice rather than retributive justice. A system of law that sees crime as a breakdown of social bonds, and justice as the restoration of damaged relationships will seek ways to ensure wrongdoers make amends to injured parties. The inadequacy of retributive justice is clear in corporate behaviors that harm ecosystems and exploit workers. While fines may act as a limited deterrent, they don't repair the damages, and these harms tend to continue to accumulate as fines are accepted as just another cost of doing business.

While genocide is a crime against humanity that can be prosecuted anywhere, exterminating other living systems and organisms that make up our life support system is not considered to be a crime. Not only is ecocide not prohibited, but industrialized nations insist on their "right" to destroy the climate system, seek to have even inadequate environmental restrictions rescinded, all

simply to continue pursuing the holy grail of economic growth. One remedy to this would be realizing the goal of Polly Higgins and her group Eradicating Ecocide to make ecocide the fifth of the internationally recognized *Crimes Against Peace*.

An Earth jurisprudence recognizes the need for human laws to accept that they exist within the wider context of universal and natural laws. For example, international fishing quotas, regardless of treaty agreements, cannot exceed the replenishment rates of fish stocks without reducing fish populations to the point where commercial fishing is no longer viable, economically or otherwise. These natural laws cannot be repealed by even the most eloquent and well-connected lobbyist.

An Earth jurisprudence will be thoroughly grounded in natural systems principles. This means natural systems are the primary lawgiver and jurisprudence shifts beyond the ability of human control to determine right and wrong and the political power of assuming legitimacy. An Earth jurisprudence seeks re-admission to Earth's community, and "we must be conscious of the limits of what our legal theories and laws seek to regulate."

Ecologically based systems of governance will promote behavior that contributes to the well-being and integrity of society and Earth as a whole. This also means adherence to the natural systems principle of increasing diversity. Imposing uniformity is the goal of global corporatization which wants to eliminate cultural differences to make things easier to manage and control. Reducing complexity is necessary for the bulk decisions required by the World Bank and other enforcers of the Industrial Growth Society. The management mindset of industrialism believes that diversity or any deviance from the status quo will cause industrial society and its structures to collapse. Fortunately—for life on Earth—they're correct.

An Earth jurisprudence also, necessarily, expands the concepts of rights beyond humans. As Cullinan points out, most lawyers today tend to be scornful of the concept of animals or ecosystems having intrinsic rights because this concept lies outside the framework of law, and is thus "self evidently absurd." This is basically a reverse tautology, but the courts accept it without question.

To resolve this dilemma, Cullinan again turns to Thomas Berry. In 2001, Berry wrote *The Origin, Differentiation and Role of Rights*. What I believe to be the most important of these ten propositions, which succinctly encapsulates the core premise of the systems view of life, is number 3: "The universe is a communion of subjects, not a collection of objects. As subjects the component members of the universe are capable of having rights." These rights come into being when

individual existence originates. In essence, they are an inalienable gift from the universe—a physical and biological inheritance. Proposition 5 articulates what these rights consist of—the right to be, to habitat, and to fulfill their role in the web of life.

In legal parlance rights are taken to be interests that are protected and can be enforced by the courts. Berry puts rights in the wider context of the ability and freedom to fulfill one's responsibilities in accordance with one's nature. In an interconnected universe of subjects, we cannot accept human rights without conceding those rights to others—"there cannot be rights for some without there being rights for all." The question then becomes whether or not our legal system chooses to recognize these rights as being applicable to all. From an ecological perspective, Cullinan says that a system that can't recognize the rights of a river to flow "beggars belief."

The concept of rights are intrinsic to relationships, and from the natural systems perspective are an integral aspect of mutual support and reciprocity. According to American jurist Wesley Hohfeld rights are correlated with duties, and power is correlated with liabilities. The systems view of life shows that the well-being of any individual is dependent on the well-being of the web of life. Thus, the well-being of any individual member of the community of life cannot take precedence over the well-being of the whole. This is not a relationship between equals, but of a part to the whole. This means that while the rights of each part must be respected, they are subservient to the rights of the whole, which cannot be compromised if the whole and its parts are to survive, let alone fulfill their potential. Our obligation to Earth and our communities is to help maintain their integrity. "If we cease doing so we betray the Earth Community which sustains us, and ultimately, our species."

An implementation of an Earth jurisprudence, and any laws which are derived from it, must recognize that it exists within the wider context of universal laws and natural systems principles. This larger context determines how components of the system function, which are subordinate to the larger system. In legal philosophy this provides the source and legitimacy of laws. Because laws regulate the exercise of power, those laws and the powers granted by them must not be in conflict with the system from which they emerged, or they can be declared illegitimate and invalid.

If the fundamental rights of living systems is derived from a universal jurisprudence, then any human system of jurisprudence cannot abrogate those rights and be considered legitimate. The goal of an Earth jurisprudence is to develop the legal mechanisms to ensure the rights of all living systems are respected and protected.

The ethics underlying this can be simply expressed by Aldo Leopold's "Land Ethic": "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise." Life on Earth works by self-organizing into mutually supportive relationships. A system of governance based on an Earth jurisprudence will function best by nurturing those relationships among all members of the Earth community.

As we've seen in the systems view of life, our living world is a holistic integration of dynamic processes that exhibit the concept we call reciprocity. If we take from the soil to grow our food, we must replenish that soil in order for it to continue to meet our needs. Reciprocity is also central to the concept of justice. With rights come responsibilities. Cullinan says, "our vast taking from the Earth in the past will in future require a huge giving."

An Earth governance will be by the people and for Earth. Not only must we the people—and not our tools and constructs—rule in the true spirit of democracy, but our governance must recognize its subordinate role within the context of the larger system of natural law which provides the basic sustenance on which a people's democracy can be founded and supported. This includes the models and metaphors amply supplied by healthy ecosystems for the development of a sustainable future.

The concept of land, whether it can be owned, and how it should be controlled is fundamental to an Earth jurisprudence. As much as we might wish it so, property rights activists and land use lawyers are not going to simply go quietly into the night. As Cullinan quite obviously points out, "land is another name for Earth." As traditional Earth-centered cultures have known for millennia, what we do to Earth we do to ourselves. Different aspects and features of land have long been held to be sacred because the life force, quite literally, flows through it, into us, and we return to it. Land is part of the physical body of all living organisms and necessary for their well-being. Indigenous cultures and the systems view of life both point out that land, spirit, and self are inseparable. To sell a piece of land is like selling a piece of your soul. And it generally has the same disastrous results.

However, despite the fact that land was not originally manufactured for sale, the Industrial Growth Society treats land as a commodity, as an object that can be owned like any other piece of property. Our legal systems legitimize and encourage using and treating land in the same manner the Romans did with slaves. Ownership can be transferred, and use of the land rarely considers its continuing usefulness to future owners. Just about the only restriction on the use of land is when that use might negatively impact public health, and even then the economic dictum of risk assessment holds sway. Not only must the dead bodies start piling up to a point they cannot be easily ignored, but it must be conclusively

proven the land use is a direct cause, and that the economic costs of paying off the victim's families is more than the profits that can be realized.

Land ownership is also directly related to political power. Land owners were historically the only ones who could vote in political elections. The wealth in medieval feudal hierarchies was derived from land, and the enclosure of the commons determined who could control and benefit from land. Today, land use planning and zoning regulations determine who benefits and the value derived from any particular piece of land.

Cullinan points out another way of considering the relationship between humans and the land is as the relationship between a parent and a child, it is not a relationship between peers. It is a relationship, in order for it to be healthy, that must be based on respect. Humans, at best, are guardians of the land and our responsibility is to protect its integrity in order for it to be able to continue its life supportive functions for current and future generations. This is an integral function of an Earth jurisprudence, and requires people who "share the consciousness and feel the pain of wounded Earth." This is not within the capabilities of the artificial person, the legal fiction, known as a corporation. A primary shift toward an Earth jurisprudence will occur when we realize our responsibilities toward land take precedence over the rights we mistakenly believe we assert.

An Earth jurisprudence is also intimately bound to the concept of community. Strengthening local communities strengthens the wider Earth community. This is a basic principle of emergent systems. It also provides support for the concepts of bioregionalism and decentralization. Governance systems require structure, and communities can supply this structure in the same manner that ecosystems supply a defining structure for a bioregion. Communities are also networks, which is the basic organizing principle of life. If communities cannot maintain these mutually supportive relationships, they will fade away.

The jurisprudence of Western industrial culture heads in the opposite direction of all of the above. Individuals are placed above communities, and the common good is regarded as a quant and romantic notion. Cullinan points out that another artifact of the enclosure of the commons was to encourage competition instead of cooperation among community members for resources that were made artificially scarce.

The basis for an Earth jurisprudence will be the creation of mutually supportive relationships that function according to the principles of living systems. That is, these relationships will support life, and the governance of bioregional communities will support practices that adhere to the concept of strong sustainability. These concepts are inherently scalable, because they are based on the

same principles that scale from the subatomic, to the cellular, to the organism, up to ecosystems and beyond. We can see that the health of each of these layers is necessary to the health of emergent layers up to the health of the whole.

Implementing an Earth jurisprudence won't change things over night, of course. A story Cullinan relates is that the apartheid worldview in South Africa found expression in the laws that forbid people of different ethnic backgrounds living in the same area, going to school together, or having sexual relations. This made it next to impossible for those who believed in non-racialism to live in accordance with those beliefs. When democracy finally came to town and these laws were repealed, discrimination didn't disappear overnight. But the repeal of apartheid helped create the conditions under which a more just society became possible.

In summarizing the concepts presented in *Wild Law*, Cullinan, like so many others, says what we need is a process to bring about the reintegration of humans with Earth—"to discover or invent Earth centered practices that we can use to deepen our connection to Earth." The NSTP and Rational Spirituality both provide these. An Earth jurisprudence provides a foundation for a system of governance in balance, or holistic integration, with a living Earth, necessary for the health of the whole and all of its component parts. These are all mutually supportive endeavors that enhance the health of the Earth community.

But the question is still, How do we bring this into accepted practice? Relocalization provides a pragmatic process for its implementation. Cullinan also calls for networks of collaborators that share best practices. This is the impetus for creating coalitions of mutual endeavor. Finally, he reminds us that when we feel lost or confused, the best antidote is to reconnect with nature—to touch Earth with our bare feet, to share our breath with the trees "until we remember who we are and why this is important."

These practices and processes that we can participate in are the subject of this book. But I must caution against becoming overly reliant on regulation. This too easily devolves into coercion, even with the best of intentions. Human behavior is most conducive to life when it can freely express and be supported in life enhancing directions. An Earth jurisprudence must provide a foundation for governance and administrative law that people can work with to meet their needs and to further the project of progress in a truly sustainable manner.

Another approach to legal issues involving growth, environmental protection, and regulatory agencies is to protect the commons from the occurrence of harm in the first place. This is in direct opposition to the forlorn cry of land use and property rights activists where the standard tactic is to hinder or stop protection. More details on this aspect can be obtained from Mary Christina Wood, Philip

H. Knight Professor and Faculty Director, Environmental and Natural Resources Law Program, University of Oregon School of Law. Wood's work is being used by the iMatter campaign to sue the federal government for not upholding their trust to protect the future by doing nothing to address global warming.

Regulatory agencies today use a framework to permit, rather than prohibit, environmental destruction. Environmental statutes were passed to protect the air, water, wildlife and other resources. But, when the laws are carried out through a discretion frame, they are used as tools to openly legalize damage because the agencies claim they have the "discretion" to permit pollution. The discretion frame doesn't see natural resources as quantified property assets.

We can apply Supreme Court jurisprudence that has been around since the beginning of this country in characterizing all of the resources essential to human survival, including water, wildlife and air as being packaged together in a legal endowment called the Nature's Trust. With every trust there is a core duty of protection. The trustee must defend the trust against injury. Calling on government to safeguard our atmosphere invokes principles ingrained in government. Back in 1892, the US Supreme Court said: "The state can no more abdicate its trust over property in which the whole people are interested . . . than it can abdicate its police powers in the administration of government."

Pollution of the air becomes an infringement on American property. Government is obligated to defend that property. Indeed, I see the only true mandate of a democratic government as being to protect the commons, as that provides the foundation for all individual rights. The failure to mount a national climate defense then becomes as absurd a proposition as the idea of government sitting idle during an attack on American soil.

It must also be pointed out that the Nature's Trust frame is not anti-property rights. To the contrary, it affirms our collective property rights in assets, like the atmosphere, that support humanity. In securing our public property, the trust also anchors our entire system of private property rights. All private property depends on nature's infrastructure. When that infrastructure collapses, it causes natural disasters that make property boundaries irrelevant. Remember, private property deeds didn't account for anything in the aftermath of Hurricane Katrina.

Consumption and Waste

Consuming less and consuming greenly are two different things. Not entirely, but almost. The Industrial Growth Society depends on increasing levels of consumption. With a global population well into the overshoot range of planetary carrying

capacity, even if all of our consumption was of "green" products, the descent of our handbasket would only be slowed down a tiny bit.

We're consuming at a rate much faster than natural regeneration and recharge rates. The goal of the caretakers of the Industrial Growth Society is to use up fossil fuels and other precious dwindling non-renewable resources faster as they discover we're running out. This is pretty much the definition of fanaticism, which is to double your speed when you discover you're going the wrong way. The Industrial Growth Society is fanaticism on steroids.

The other side of the consumption coin is the waste stream. In living systems, one organism's waste is food for another. In the Industrial Growth Society, natural resources are turned into products with a fleetingly transient lifespan, and then head for the landfill where they aren't food for anything because they are either toxic or can't break down into their constituent parts for thousands of years. While it's hard to get accurate estimates, the packaging for all these products consume at least as much if not more landfill area, and very little of it is currently recyclable.

As the landfills become larger and more toxic, they remove large areas of land from any future productive use. It is estimated that if the entire global population consumed at the rate Americans do, it would require five planets the size of Earth—two to supply the resources, and three to hold the waste and garbage.

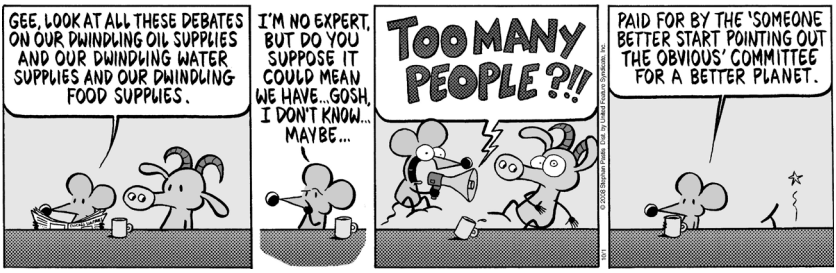
The alternatives to this should be obvious—and in fact they are. The problem is that none of them contribute to economic expansion, and some of the solutions negatively impact profitability.

While not an exhaustive list, here's a start on what we could do differently for the products that we do need, and even for some that simply make life more enjoyable and our lives more convenient—those things that fulfill technology's promise of more leisure time. Almost all of these would also decrease our energy needs, and many have already been touched on in previous chapters.

We need to share more and consume less. Packaging needs to be reduced or eliminated where ever possible. Products need to be built to last, be easily repairable, manufactured in clean, zero-waste facilities from non-toxic inputs. Very little of this requires any technological breakthroughs. The reason we don't is because it is more profitable not to. So, we're back to the need for a foundation that doesn't have growth and greed at its core.

The Elephant in the Living Room—Overpopulation

The population question is always a big one on people's minds—or not, in our culture of denial. People tend to have a knee-jerk reaction that if we admit to



being well into the overshoot range of planetary carrying capacity, our only choice is to kill off 2/3rds of the population. But this would only be true if we were an immortal species. It's instructive to look at the demographic studies done on birth rates in Europe and North America after Paul and Ann Ehrlich's book, The Population Bomb, came out in the late 1960s. It was found that it took about three years for birth rates to fall below replenishment levels in Europe and North America, and it was completely voluntary. No coercion or draconian measures were required, just a rare occurrence of good old fashioned rationality being pressed into service.

Some of the primary reasons this occurred is because family planning is not an entirely taboo subject in these countries. Women in Europe and North America are—for the most part—well educated, and are allowed—again, for the most part—the power to control reproductive choices. Pre- and post-natal care is also fairly widely available and is, relatively speaking, affordable.

If the U.S. quit tying foreign aid to abstinence only family planning, we could see global population levels decrease, especially if we coupled this with making prenatal health care and early childhood nutrition available. Were we to simultaneously quit robbing people in the developing world of their land and livelihoods to increase the profits of transnational corporations, we'd also see global immigration numbers fall drastically.

Of course, the main reason we don't do any of this is because we're in the grip of the Industrial Growth Society. This paradigm requires infinite growth to be considered healthy, which requires an ever expanding stock of producers and consumers. Technology is reducing the need for human producers, but consumers still play an integral role. Barring more consumers, about the only option left is to go blow things up, as then there's a need to rebuild and restock. This is the impetus for the American military-industrial complex. Along with prisons, they're the only growth industries America has left.

Calculations that I and others have done come to the conclusion that global population could be down to two billion within 2-3 generations completely voluntarily. The main thing required is a different social infrastructure, and there's a couple of core points that must be addressed.

One of the factors contributing to high birth rates in developing countries is the high infant mortality rate. In many cultures children assume the responsibility of caring for aging parents. If pre-natal care were available, and simple medicines and sanitation provided so children could survive to adulthood, this would be a major help in reducing birthrates. If more people felt secure in their old age from a supportive community infrastructure, there would also be less pressure to have as many children. A social system that respected and honored elders instead of shuffling them off to die in nursing homes, and was such that elders didn't need to worry about being cast aside and having to fend for themselves in their later years would be a major help as well.

It's also instructive to note that the popular misconception is that you can't ask people not to reproduce. What is really being said is that you can't ask people not to have sex. Sex feels good. It's one of the true pleasures of life and a major contributor to quality of life. Being honest about this and working to remove social taboos, which many liberal religions are starting to do, would go a long way toward relieving sexual repression and the completely silly idea that sex is only for procreation.

Combined with frank and honest family planning, sex education, birth control, and giving women choice and power in reproductive decisions would also be a major help in lowering birth rates. While the biological urge to reproduce cannot be denied, rational decisions to reduce births can be supported, and should a couple decide to forego children or adopt, these decisions should not be met with social derision.

However, industrialism requires an ever expanding stock of producers and consumers to protect economic growth, and the military forces required to support this paradigm needs an ever expanding stock of cannon fodder. Thus, we have an official policy of foreign aid from the affluent North that won't supply aid to developing countries unless abstinence only birth control is taught. Anyone with an IQ above room temperature knows this doesn't work.

Foreign policy also figures in to the manner in which the affluent North ensures continuing poverty in developing countries in order to increase their own paper wealth. For example, instead of teaching African farmers how to plant drought tolerant crops, we force them to plant luxury foods for export, and require them to give the aid money they received back to transnational food

corporations to buy surplus grains that have been grown with taxpayer subsidies in order to meet their basic food needs. This ensures a continuing cycle of poverty, and no amount of industrial production will ever overcome this.

Systems science and basic ecology tells us that we must become sustainable as quickly as possible. If we remain unsustainable, we will end the human project and take a sizeable chunk of the rest of the living world down with us. Is it really that important to first decide if it will occur in ten years or in 50 years before we decide to change course? The best study I've seen on the planet's human carrying capacity—if true sustainability, which includes equity, is the goal—was authored by Charles Fowler and published in a peer-reviewed study by the Royal Society. The study looked at the nutritional requirements for a healthy average human, and some of the limiting parameters were the recharge and regeneration rates of water and soil. The final number is about 2 billion, depending on the standard of living desired. If typical American standards are used, it's a little over 1/4 of that.

We could be well on our way to a sustainable global population within about three generations as we simultaneously redirect our energies from industrialism into ecological restoration. The bottom line is that we don't have to kill anyone off to achieve a sustainable population level—except those who are immortal, of course.

This is not an argument to return to a mythological Garden of Eden or any other such nonsense as sometimes emerges from the extreme fringes of deep ecologists—whom I mostly agree with. Technology and sustainability can happily coexist. The core requirement is that we must abide by carrying capacity, and get waste, excess and greed out of the system.

Anthropocentric vs. Ecocentric, Industrialism vs. Civilization—The Partnership Way

These concepts are so intertwined it's next to impossible to untangle them. An anthropocentric view is human centered and in extreme forms presents a perspective that humans are the only species that counts, and everything is evaluated through a human lens. An ecocentric view is an ecological perspective that the health of any species depends on the health of all other species and their environments. Any evaluation of what we're doing and what we're doing it with starts with how well it supports the whole.

Industrialism has no extreme form, it is simply extreme. The only thing that matters is turning low-entropy resources into high-entropy wastes at ever

increasing rates. Efficiency is measured by how much faster this can be done with fewer resources, and how much more profit can be realized—usually by reducing the labor resource. Civilization is a controversial concept, but for present purpose of comparison, it regards all aspects of human progress and relationships as being important, and provides a network structure for their realization.

The possibility of an ecocentric civilization exists in the Partnership Way, which is the embodiment of the partnership paradigm mentioned in Chapter 1 as the alternative to the dominator paradigm. The core concepts of the partnership paradigm are also integral to Rational Spirituality. In my terminology, the partnership way is a manner of building attraction relationships of mutual support and reciprocity. These relationships are more just, sustainable, and joyfully fulfilling because they work with the self-organizing network principles of living systems.

Following the phenomenal success of *The Chalice and The Blade*, Riane Eisler and her partner, author David Loye, founded the Center for Partnership Studies, and in 1990 published *The Partnership Way* as a companion study guide for those wanting to further research and begin the implementation of partnership principles as a means of replacing and moving beyond dominator hierarchies and disconnection.

A basic premise of *The Partnership Way* is one that I take to heart: in order to heal, we must know what is causing our symptoms. When it comes to systemic social change, this understanding is a prerequisite. We must also realize that our current mode of social organization and how we develop relationships is destructive, inequitable and unsustainable; that an alternative is available; and that change is possible. I hope that I have adequately covered these basics in this book.

The Partnership Way goes into great depth on the differences between dominator and partnership ways of being and thinking in gender relations, violence, social structures, and language. Understanding these models helps us recognize when they are at play in our lives, and thus those areas where either change or strengthening is needed—less of that, more of this. The study guide was designed for facilitation and communication, schools, religious institutions, and recovery groups.

Facilitator is the word for leader in a partnership world. Rather than giving orders, they inspire others to bring forth their best, and work to elicit trust rather than fear. Collaborative or shared leadership is part of the non-hierarchical toolset, and intrinsic to the Acorn model. The partnership study guide presents a number of tips and techniques for developing these skills, the majority

of which—such as developing trust—have been covered in different contexts in Chapters 8 and 13.

Partnership communications is another term for non-hierarchical communications and conversations. The basics are taking turns and listening. It is also important in helping people feel safe in expressing their feelings to not criticize or judge for having those feelings. Open and honest communication is respectful communication. We don't have to agree with each other to be respectful.

In regard to religious partnership studies, Eisler and Loye point out that even though many religions have a number of partnership aspects, these have been distorted in practice by a dominator overlay. As pointed out in the chapters covering a systems view of life and Rational Spirituality, our spiritual connection to the natural world and to each other is necessary not only for our own health and well-being but for a sustainable future, and this connection is based on networks of mutuality.

An ethical and moral social framework cannot be based on the subjugation of all but the elites, regardless of their gender or color. Direct experience of the mystical qualities of life are a birthright, and not dependent on received dogma or religious hierarchies. Our spirituality also plays an important role in the development of an ecological society that is harmonious with life. A partnership spirituality explicitly returns the feminine to theology, religious leadership and imagery, and thus enriches traditional religious experience.

As I've covered in detail in a number of sections, clinging to addictive substitutes and developing codependent relationships is a mark of the Industrial Growth Society, which is itself dependent on dominator hierarchies. A partnership perspective can be quite useful in overcoming these patterns of an addictive society, many of which are maintained in dysfunctional families where emotional, physical, and sexual abuse are routine. Partnership principles are powerful in the recovery process, but take it a step further to renewal and growth. Networks of mutual support provide the power to change ourselves and society.

The partnership study guide also points out, without using these terms, that in order to learn and live in a more integrated way, we must use and strengthen all 53 of our senses. We must learn to connect the dots, to see patterns in the system "if we are to take appropriate action for change."

Right Livelihood—Work vs. Jobs

Let's start this section off with a handful of seemingly random facts, connect some dots, and see where they might lead.

California spends $216,000 annually per incarcerated youth, and just $8,000 on each student in Oakland's public schools. Of course, there's no profit to be made in *public* schools—well, except for corruption in building contracts, of course.

Business Insider online carries a story "This Manufacturer Can't Find 100 Unemployed Americans With Basic Math Skills to Hire."

The Pentagon recently stated that almost 75% of American youth are too overweight and out of shape to qualify for military service. (So, what are they possibly doing that's getting them incarcerated? Aren't fast enough to escape?)

In 1957, corporations in the United States provided 45 percent of local property tax revenues. By 1987 their share had dropped to about 16 percent.

Manufacturing employment in the U.S. computer industry was actually lower in 2010 than it was in 1975.

Median U.S. household income is down 5 percent from its peak of more than $52,000 in 1999.

Wages in America peaked in 1973, and in 2010 were $4000 lower on average.

Home ownership is down, personal bankruptcies are way up and there are not nearly enough jobs to go around. Meanwhile, the price of basics such as food and health care continue to skyrocket as do record bonuses on Wall Street (up 17%).

For the first time in U.S. history, banks own a greater share of residential housing net worth in the United States than all American households put together.

One out of every six Americans is now enrolled in at least one anti-poverty program run by the U.S. government. Enrollment levels continue to set records just about every month.

Only the top 5 percent of all U.S. households have earned enough additional income to match the rise in housing costs since 1975.

A recent Pew Research survey found that 55 percent of the U.S. labor force has experienced either unemployment, a pay decrease, a reduction in hours or an involuntary move to part-time work since the recession began.

The share of total income going to the top 1 percent of earners, which stood at 8.9 percent in 1976, rose to 23.5 percent by 2007, but during the same period, the average inflation-adjusted hourly

wage declined by more than 7 percent.

Here's an interesting *New York Times* headline, "Class of 2010 set to flood U.S. job market as '09 graduates wait tables."

Life expectancy ranking of the U.S.—1950, #5—1999, #24—2009, #49

In 2009, the World Economic Forum ranked 133 nations in terms of "soundness" of their banks, and the U.S. was ranked in 108th place, just behind Tanzania and just ahead of Venezuela.

But hey, we're #5 in number of executions (right up there with China, Iran, Iraq and Saudi Arabia), #1 in prison population and we are the global leader in arms sales. Put on that big foam finger and repeat after me: *We're Number 1! We're Number 1! We're Number 1!*

Work is but one thing we do to be responsibly contributing members of our communities. Work satisfies our need to create and participate in maintaining community quality of life. This is right livelihood. Jobs are what we're forced into in order to survive after the means of subsistence have been appropriated and locked away by elite special interests.

We don't need to create more jobs, we need to provide meaningful work that pays a living wage to more people. As I've already mentioned a few times, current production technologies make it possible to have full global employment with a working week that requires less than 20 hours with no reduction in global productive output. If we were to go back to the times when average CEO salaries were only 30 times the lowest paid worker, instead of 300 times as they are today, all of those workers could also receive a living wage. But, once again, refer back to the Orwell quote that starts Chapter 4 for the forces allied against these or any other sensible suggestion.

The above reasons are why I consider the calls to create more jobs as dangerous for the health of the planet. The majority of today's jobs simply aren't necessary. Organizations such as Van Jones's Green For All, while based in a wonderful concept, are fundamentally misguided and stuck in the progressive rut of slapping Band-Aids on symptoms.

The concept of work in a sustainable future will be in green or renewable technologies and products. Work and investment must shift from dirty energy to clean energy. Our educational system must shift from the industrial mindset and begin training tomorrow's workers and leaders to be able to adapt to rapidly changing conditions and build on a framework that can transition us to a sustainable future.

The concept of right livelihood must also be applied to housing and real estate. Some interrelated concepts here are that a home should not be regarded as a piggy-bank. If we're going to remain in a money based economy, it shouldn't require more than one quarter of a household income to pay off a home in ten years. Our expectations of a home must also change, however. While the size of the average family has decreased from about 3.5 down to about 2.5, the average square footage of a home has increased from 1200 to over 2000.

Ensuring the availability of a living wage job to everyone who desires one would go a long way to reducing crime, poverty, and the general angst so many have regarding their future. It would also reduce the financial burden on social service agencies—indeed, it would eliminate many of them. Current calls by free-market ideologues from the political right to reduce unemployment benefits only proves they don't even understand the basics of the system they idealize and advocate. Any economics 101 textbook points out that under capitalism, an unemployment rate of 3-5% is considered necessary for the overall system to be considered healthy. This means the unemployed should be rewarded for doing their part to keep the system healthy, instead of the constant denigration they suffer.

Quality of Life vs. Standard of Living

Return your attention to the miscellaneous factoids in the previous section, and perhaps review the section on body burden as well. Dollars per capita is an interesting measure of standard of living. It's like the old joke—Bill Gates walks into a bar. The average income of all the patrons rises by $1 billion.

Quality of life is measured by how well it meets our needs, and how much we enjoy it. Standard of living is measured by how much stuff we have and how much energy we expend to acquire it. As pointed out in the section on ecopsychology, more stuff doesn't make us happier, and beyond a certain point actually makes us less happy.

Quality of life does depend on a certain basic standard of living, which itself is dependent on various cultural values and norms. Everyone should have enough food to eat, and shelter that keeps the bugs and rain out. Beyond that, the quest for more stuff is the result of a propaganda campaign carried out by Industrialism, coupled with the withholding and denigration of natural means of fulfillment.

There is no rational reason to continue this. Earth supplies an abundance as long as we remain within ecosystem carrying capacity limitations. Cornucopiast claims of limitless resources must be seen as the childish fantasies that they are.

Health and Wellness—The Wounds of Empire, Addictive Substitutes

"The art of medicine consists in amusing the patient while nature cures the disease."

VOLTAIRE

When we consider the subject of addictions, there is no doubt that people "think" they are being attracted to various addictive substitutes for natural fulfillment, because these addictions do indeed fill a void of one type or another. However, the defining characteristic of a healthy natural attraction is that it supports the life of the individual as well as the rest of the Web of Life. An addiction should not be mistaken for or equated to a natural attraction; it is a doppelganger, a substitute. It has distinct vectors, and they are not life supportive in the same way that even the attraction relationship we call pain is—because pain as it informs us there is something wrong we should immediately act on to remediate.

In addictions the actual attractions are being somehow shunted aside or made unavailable, or access to them is being controlled, but no one is "attracted" to negative behaviors in a manner that is anything other than pathological—thus they are, almost by definition, NOT attractions. Negative behaviors are the result of unmet natural expectations—i.e., we need for our natural attractions to find expressions of fulfillment because our very health depends upon this entire web of relationships working together to maximize one's energy as that is what contributes most to the sustainability and progress of the web of life itself. Addictions are distinct from habits or other behavior patterns that support life and provide meaning and purpose. Healing our healthy sensory relationships so they can provide healthy fulfillment is therefore an important step in addiction recovery.

Our challenge is that the wounds of empire are myriad and deep. Empire in support of industrialism has created a toxic world that is physically and psychologically stressful. Industrial agriculture has us eating toxins and refined simple carbohydrates as a normal part of our daily diets. High fructose corn syrup from GMO corn is now the foundation of the food chart. In some cases we eat petroleum directly with a bit of food coloring, as in the case of Velveeta "cheese." Yumm, processed "foodstuff" on white Wonder Bread. And we can't understand why we've fallen from 5th to 49th in life expectancy among the industrialized nations, or why obesity is epidemic.

Since Allison is always saying that I need to include more personal stories, here's one.

In the late spring of 2008 I was diagnosed with colon cancer, to become the latest in a long line of victims of industrialism. I've long known I was psychologically allergic to industrialism and its attendant stressors, and it seems I'm physically allergic to it as well. In fact, my current thinking, based on my long held belief that cancer is chiefly an industrial disease, is that the increase in cancers and other widely spreading diseases are allergic reactions to industrialism. Modern medicine then focuses on dealing with these symptoms, while doing little to nothing to advocate for the cessation of their root causes.

Before I go any further here, let me clarify what I mean by cancer today being an industrial disease. It's true that cancer has been around far longer than industrialism has. In fact, every person has cancer cells in their body. Well, this is a bit of a misnomer. They're actually pre-cancerous, or have a higher potential to turn cancerous. As part of the normal cell process of producing energy from oxygen, free-radicals are produced which can cause damage to a cell which may then turn cancerous. Other factors are then involved in whether that cell continues to live, infect other cells, and spread. In a healthy organism, processes exist to neutralize free-radicals and kill cancer cells, and remove them as waste.

Although one's lifestyle can create a situation conducive to cancer cells taking hold and spreading, in the toxic world industrialism has created, those situations have been magnified by a few orders of magnitude. Let's look at just a few of the industrial and industrial lifestyle factors.

Poor oxygenation can lead normal cells to turn cancerous. When cells can't get enough oxygen, they turn to fermenting sugars for their energy, and this is the prime difference between a healthy cell and a cancerous cell. Factors that cause poor oxygenation are buildup of toxins and lack of exercise. A lack of the essential fatty acids needed in cell walls also blocks oxygen exchange. As cancer cells ferment energy they produce excess lactic acid which is toxic, and tends to prevent the transport of oxygen into neighboring normal cells. So the cancer spreads if not destroyed by the immune system. The treatments of choice today, chemo and radiation therapy, do kill cancer cells. However, they also damage respiratory enzymes in healthy cells and overload them with toxins—increasing the chances they become cancerous.

In light of the above, let's just think for a moment about industrial farming and food processing, which not only don't provide the nutrients necessary for good health, but also puts more toxins into the body, and/or contribute large amounts of what cancer cells love and thrive on most—refined white sugar. Let's think about the foods we eat that aren't even food, but GMOs and petrochemicals. Let's think about sedentary industrial lifestyles of affluence. Let's think about

the air and water that industrialism has turned toxic, and the toxic materials in the buildings where we live and work. And then there's plastics . . .

There are tens of thousands of man-made chemicals floating, flowing, and buried within the thin sliver of biosphere that humans and the other species that make up the web of life can exist within. 20,000 of them are known carcinogens. These chemicals can't exist naturally, and living organisms haven't developed defenses against them. These chemicals tend to be bio-accumulative, are environmentally persistent (their half-lives are ten to fifty thousand years), and are lipophilic (they travel rapidly up the food chain). The vast majority of these chemicals are toxins, neurotoxins, mutagens, endocrine disruptors, or carcinogens whose toxicity and effects are studied in isolation, not in the combinations that actually occur in our bodies and the environment.

Properly fed, exercised, and enveloped in a healthy environment of mutually supportive relationships, the human immune system can handle most things nature can throw at it, but not those of man. I hope I also don't have to explain why I'm sticking to using the male gender in this context.

After emergency room surgery, I met with an oncologist, and like all good cancer docs, he explained the situation, added up the scientifically measurable parameters, and said the only recommended treatment is chemotherapy. If adding up the "markers" had produced a smaller number chemo wouldn't have been called for. A larger number, or if other existing tumors had been seen in the CT scans, and radiation therapy would be added. No other variables are considered, nor thought to be warranted for consideration, such as diet changes, other cancer fighting, immune boosting or detoxifying agents that are not manufactured by BigPharma, or doing a Body Burden test to see if there might be a link to industrialism that has bioaccumulated in the body and might need to be dealt with.

There's no accurate test to see if there's actually any cancer left in the body after surgical tumor removal. The theory is that there might be some cancer cells floating through the bloodstream that are just looking for a place to attach and grow into a mass large enough to detect, which could take up to 5 years. But, that's basically the case for everyone, whether they've had a tumor detected or not.

The statistics for my type and severity of colon cancer are that 60% will have another tumor in 3-5 years if no course of treatment is followed, and that drops to 34-40% (depending on which combination of toxic drugs and side-effects you're willing to tolerate) with chemo. There seems to be a remarkable absence of information (from allopathic medicine) on the 40% who don't experience tumor recurrence within 5 years.

Further muddying the waters is the difference allopathic medicine tries to make between "complementary" and "alternative" treatments. In fact, we were warned by a social worker at the UMC Cancer Center to use the former term rather than the latter when we met with the oncologist—if we didn't want a negative reaction from him. Complementary to them seems to means the status quo—chemo—remains the treatment modality of choice, and they're willing to hear about you tacking on a few extras, like vitamins. However, they just can't accept that you just might be looking for something that really is a true alternative—meaning giving yourself an option to heal without making yourself sicker. The healthy immune system that is so necessary to health and healing is taken to the point of not functioning at all by chemo/radiation therapy in the hope that since the cancer cells are weaker, they'll die before the healthy cells do, and that you don't come down with something else fatal while your immune system has been intentionally compromised. Only a disease care model of medicine could come up with this one.

But the fact of the matter is that certain natural substances support the body's natural defense system, and have certain properties that help fight cancer cells, provide support to the immune system, and clear the body of toxins. Pharmaceutical drugs merely attempt to copy these processes, but because they're not natural, they have a number of unpleasant and/or potentially fatal side effects.

Let's take the "nutritional supplement" coenzyme Q10 (a compound that is made naturally in the body known as ubiquinone, which decreases as we age), which is sold as CoQ10, and compare it to the cancer drug fluorouracil, called 5-FU. They both kill cancer cells by triggering apoptosis, or cell death. This natural cell mechanism gets turned off in cancer cells.

However, because CoQ 10 isn't a toxic synthetic, it won't hurt healthy cells or cause major reactions in the body. Also, it's sold over the counter, isn't based on fossil fuels, or subject to corporate patent and profit. This latter point is extremely important to keep in mind. We're getting more and more doctors who have gone to med school on drug company scholarships, and BigPharma's influence, due to their affluence, on medical research is well known. Industrial Pharma has spent and continues to spend billions on lobbyists and legislators to ensure the status quo remains near impossible to change and that no challengers can arise.

It might be pertinent here to realize that the average cost of cancer treatment in the U.S. is $50,000 for the 1-1.6 million new cancer cases diagnosed every year. This means the cancer industry is contributing $50-83 billion to GDP.

The one commonality I keep running across as I research all these things, though, is that whether the treatment regimen decided upon is allopathic

or natural, the largest determinant in treatment success is attitude. And, you know, it just seems to make more sense to me that keeping a good attitude is going to be one whole helluva lot easier if I don't put more of industrialism's toxic products into my body while it's busy getting healthy again with natural supplements, supported by the loving energy of so many others and the natural world itself.

I don't want to be accused of dispensing medical advice without a license, so work with your health care practitioner of choice to ensure that at least the following factors are addressed. The main thing you want to do is return to and stay in balance. Industrialism has created an extremely toxic world, and depends on lifestyles that are so stressful that you don't have the time to do what's good for you. You want to kill the cancer cells that are in your body, not create an environment that allows them to grow (refined sugars, simple carbohydrates, overly processed food with unpronounceable ingredients), detoxify your system from the body burden we all carry, and support healthy cells and the immune system so they can resist infection and damage and do their job.

As I mentioned earlier, another extremely important factor in healing (some say the most important factor) is emotional and spiritual health—a healthy and positive attitude. In the same manner as nature has provided the body with means to repair damaged or injured cells, it also provides the means to repair and heal damaged psyches and souls. I'm a big believer in regular reconnecting with nature activities, which is more powerful than meditation alone. Nature can inform you of what you need to know once you remember how to listen.

The above is a description of my approach to keeping the cells that comprise my body healthy and cancer-resistant. I have also been blessed with alternative healers that have so generously shared their gifts we me, including forms of energy healing, massage, reflexology, etc.

The real work, however, begins after the body heals: taking down industrialism. But, that's another article. Actually, it's an excellent two-volume set by Derrick Jensen, *Endgame,* Vols. 1 & 2.

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Refined carbohydrates, often used to fill the void of cutting all the good fats out of our diets, are responsible for mood swings, chronic disease and weight gain. Saturated fat is necessary for hormone synthesis, and Omega-3 fatty acids—which make up 20% of the brains grey-matter—show why fatty-acid deficiencies are a common factor in depression, mood swings and compromised

brain function. Much of this information can be found in the American Journal of Clinical Nutrition.

However, the big pharmaceutical companies, who spend billions on research in order to develop products to make their shareholders more money, can't realize those profits if people start spending time outdoors with friends and change their diets away from cheap processed foods.

Plus, we live in a culture that breeds depression, anxiety and stress, and has become so fast-paced that we don't have the time for anything other than toxin laced processed fast foods and whatever combination of pills the doctors prescribe to keep us going. So, my conclusion is that the irresponsible party, at least in this case, are the pharmaceutical companies and the doctors who push their products on an unsuspecting and trusting public.

PTSD, depression, anxiety, and low self-esteem have all been successfully treated through applied ecopsychology and changes in eating habits. Of course it's not a 100% cure-all, and we still have the remainder of toxic industrialism to deal with in our air, water, and soil, and for the most part we refuse to study what those combined effects are. So, it's a complex situation, but it is easier to give a pill than to do the work.

Permaculture, Ecocities, and Bioregional Governance

I didn't list organic agriculture as a separate strategy because I believe it must be approached within the principles of permaculture. Numerous studies have shown that the techniques of organic agriculture, while more labor intensive, can improve crop yields and deliver food that is more nutritious than the mechanized petrochemical methods of industrial agriculture, or BigAg. Combining permaculture's integration of animals and perennial plants with organic and biointensive agricultural techniques can yield some amazing results. Long term studies in sustainable agriculture techniques show increased efficiency in water use, greater carbon sequestration, and declines in pesticide use. One study by Jules Pretty at the University of Essex examined 286 permaculture based, farm projects in 57 countries and showed that over three-quarters decreased pesticide application by 71%, and had increased crop yields of 42%. These are results that don't make BigAg happy.

Permaculture is a whole-systems method of design that organizes ideas, strategies, and techniques from agriculture, appropriate technology, natural building, economics, and other disciplines into a pattern of mutually supportive relationships. By using principles from nature to thoughtfully integrate land,

water, plants, people, animals, shelter, technologies, and community, permaculture lets us design sustainable places to live.

The concept of permaculture was pioneered by Bill Mollison, a naturalist and schoolteacher, and David Holmgren, one of his students, in Australia during the 1970s. The term itself is a contraction of both permanent culture and permanent agriculture. While the design methodology uses plants, animals, buildings, and people, it focuses on the relationships and not the individuals in order to create a sustainable whole. Guided by a set of ethical principles—care for Earth, care for people, share the surplus—permaculture aims to create human communities that are ecologically sound and economically prosperous.

We were introduced to permaculture in the Spring of 2004 when the Bellingham Permaculture Club adopted our fledgling urban intentional community, known as the Ecointegrity Center, as one of their spring projects. We had two 100 year old houses, one large, one small, on 2.5 lots along an urban trail just north of the downtown area. We tore down the fence dividing the lots, sheet-mulched the entire area and let things emerge from there. We hosted an urban oriented Permaculture Design Course that summer, and I launched the Holistic Living Network as a vehicle for a 6 week curriculum I developed called Holistic Systems Design (HSD). This was equally divided into applied ecopsychology, urban permaculture, and progressive social activism.

But, back to permaculture. There are some extremely valuable concepts in the design philosophy of permaculture, besides using the lessons provided by nature for whole systems thinking. One of them is the concept of guilds, often plants which have beneficial associations. Sometimes known as companion plants, they work together in pest management, assist in maintaining each other's health, and as buffers against adverse environmental effects. Plant guilds can be seen as interdependent coalitions of species that cluster around a central element and act in different ways to benefit that central element.

Another important permaculture concept is Zones. This concept is used in overall landscape design. Zone 1 is the area closest to the house where the most time is spent, and is the area where the highest intensity maintenance is. This is the area where herb and salad gardens would be, as well as design considerations for the home itself for energy efficiency and food. For example, a properly sited greenhouse room can both grow food and help heat a home, and root cellars for dry storage and worm bins can combine passive heat pumps for summer cooling.

Expanding outward from the home, and rarely in anything resembling concentric circles, Zone 2 is for medium to high care elements such as small animals,

ponds, compost, and vegetable gardens. Zone 3 is for lower maintenance grains, berries, cover crops, and fruit and nut trees. Barns and water bins for livestock. Zone 4 would contain areas for rough mulching, pasture, and a woodlot. Zone 5 is wilderness.

One of my first reactions to being introduced to zones was, what about the people in the house, and the personal development to embody these practices and values? So I added Zone 0 for the home's occupants and its non-food and energy elements, and Zone 00 for the emotional and spiritual development necessary to fully implement and benefit from permaculture practices. Integral to Zones 0 and 00 are the relationships that are built and maintained to neighbors, community, and Earth. Connecting all of these dots across zones is integral to the HSD curriculum.

Other permaculture design principles include site analysis, which is conscious design through observation to utilize and incorporate what already exists, and sector analysis to fully utilize the energy flows in wind, sun, water, and views throughout the yearly seasonal cycles of a particular property. Stacking functions, where an element serves multiple purposes in different contexts, is a useful concept in any type of sustainable design.

There's much more as well. I highly recommend attending at least a weekend permaculture design course even if you don't ever intend on doing more than repotting a house plant. If you're on the board of a neighborhood association, for example, and you're concerned about sustainable development, applying site and sector analysis to the overall neighborhood can help inform intelligent decisions on land use and permitting.

The need for better land use practices is shown by World Health Organization (WHO) studies that 60% of the benefits derived from healthy natural resources, such as clean water, air, and a relatively stable climate are being lost because of unsustainable land practices. David Pimentel, professor of ecology and agriculture sciences at Cornell University, says that about 10 million hectares of cropland are abandoned every year because of soil erosion.

These findings show, yet again, that stopping the use of fossil fuels is just one factor in mitigating global warming. And none of this can be divorced from overpopulation. Yeah, I know, all these damn dots.

When it comes to the human built environment, Leadership in Energy and Environmental Design (LEED) has become the de facto standard in building architecture and construction for green development. Considering how far into the planetary overshoot range we are, I think a core requirement for even considering LEED certification for any new building is that it replace an existing

building, and reuse as much material as possible. I don't care how "green" it pretends to be, if it's breaking new ground, it's not sustainable. Points should also be subtracted if it's not on a transit line instead of adding points if it is.

Which leads to the concept of ecocities. For the past 100 years we've been building cities and the urban form for the convenience of cars, and not to be people-friendly. Public transportation has taken a far distant second place to more cars for more people on more and wider roads. Urban sprawl and the spread of town boundaries is totally dependent on cars, roads and ready access to increasing supplies of cheap fossil fuels. As James Howard Kunstler says, we've invested everything we've got into a way of living that has no future. What makes even less sense to me is that we seem afraid to do things differently, even as we admit—or can no longer deny—that what we're doing now is a singularly bad idea. We're back to the definition of fanaticism.

Especially when there is such a wonderful alternative. Richard Register, in *Ecocities: Rebuilding Cities in Balance with Nature*, presents one of my favorite visions of a future that doesn't require donning hair-shirts or reverting to small tribal groups—although small villages and what would be the functional equivalent of tribal bands (cleverly disguised as neighborhoods) will probably be an integral part of a truly sustainable future.

For years I've been saying that the story of Minoan Crete presented by Riane Eisler provides evidence that cities, at least up to a certain size, can exist in balance with their environments and be based on partnership principles. Knossos, one of the major cities on the island of Crete, had a population of about 100,000 and was connected to the southern ports by the first paved highway in Europe. Archaeological evidence points to even the peasants of 2000 B.C.E. on Crete having what would today be considered a very comfortable middle class lifestyle, and the upper class wasn't all that much more upper. In what could probably be best understood as a bioregional form of governance that was not autocratic, widely distributed public works were paid for by the various palace administrations, which appear to have been run—or at least constrained—by councils comprised of representatives from all sectors of society. More importantly, the worship of nature was integral to everything, including the design of houses. Richard Register provides a realistic framework and blueprint for rebuilding our own cities based on similar ecological principles.

Just as our jurisprudence is based on and limits what we value, what we build places similar boundaries on how we live. Register points out that many of the problems of Western industrial civilization, especially its environmental impacts, are the results of its physical foundation. In a car centered culture that spends

increasing hours consuming passive entertainment in front of TV and computer screens, our fatter SUVs and the spreading girth of our cities mirror our physical form—and vice versa. Unlike the chicken and the egg, though, there's little doubt about which came first.

Primary to rethinking new forms of cities and urban design is the restoration and regeneration of wilderness, bringing wilderness closer in as city footprints shrink, and even having wilderness run through cities at some level such as riparian habitats. That I should agree wholeheartedly with Register on this point will probably come as no surprise. In a city that wasn't dependent on an increasing number of cars spending an increasing amount of time on increasingly wider roads, city parks could actually become safe places for wildlife habitat and preserving biodiversity.

Streams would be daylighted instead of channelized, paths would follow natural contours instead of being rigidly straightened, and city centers would be mixed use and denser in some ways but with more overall green space. Neighborhood centers and surrounding villages will be connected by rail or other forms of public transit. City and town size will be determined by both ecological carrying capacity and economic carrying capacity.

Register goes into a lot of detail about how this might look, including his wonderful line drawings and sketches, and ways it could be built, along with possible transition steps. Urban planners and policy makers are encouraged to sit down with a copy of Ecocities, as well as anyone else who wants to examine these possibilities and begin advocating their implementation. Register's vision for cities is fully congruent with the systems view of life, and is cognizant of the need to develop networks of mutual support at all levels. It is a piece of the puzzle, albeit a very large one.

Bioregional governance has already been pretty well covered, but I mention it here again because permaculture and ecocities are two main aspects of relocalization which will depend on bioregional governance. They function as a whole, and will become integral in the long-term success of relocalization, a subset of which is known as the Transition Movement.

The Transition Response

The Transition Handbook: From Oil Dependency to Local Resilience pretty well summarizes the Transition movement in its title. Written by permaculture teacher Rob Hopkins, the core theme of Transition Towns is rebuilding resilience on the local level, an activity which is being necessitated by the end of cheap fossil

energy, the mounting effects of global warming, and the fact that globalization is an economic dead-end.

Resilience is the ability to survive change, usually change that is imposed by outside forces. Resiliency is one of the core features of sustainable ecosystems, along with being healthy and vibrant. Climax ecosystems are a network of mutually supportive relationships and have a high degree of diversity. This allows an ecosystem to sustain damage to a part, or loose a species to disease without causing collapse of the entire ecosystem.

I believe that resiliency is but one aspect of sustainability—an emergent attribute as shown by natural systems principles. Hopkins says that resiliency goes beyond sustainability, but this is one of the problems that arises from not accurately defining sustainability in a robust manner in the first place. Resiliency itself, however, is an important concept that can motivate action. The inevitability of energy descent and the ubiquity of fossil fuels in all aspects of our lives shows that if we're not prepared collapse and suffering will be a logical result.

Sustainable communities that exhibit resiliency are not self-sufficient, but are self-reliant in being able to meet basic needs. The development of local living economies is an important aspect of this. As Hopkins points out, relocalization is not a rejection of commerce, but putting a priority on local development instead of being thoroughly dependent on import/export economies.

Resilient systems increase the number and strength of network connections, and this also allows feedback to rapidly propagate through the system. Globalization, which is dependent on centralization, moves in the opposite direction. The examples Hopkins uses to make this point bear repeating. The results of our actions are quickly seen in the local system. We don't want polluters dumping toxics in our own backyards, but find it easier to ignore dumping when it happens far away. The same is true with slave wages and inhumane working conditions. It takes a while for the negative impacts to affect us within a globalized system with long and weak feedback loops. People or communities who live off-grid are much more careful in their energy use because they are close to where it is produced.

Another fundamental aspect of the Transition movement is that it rejects the guilt and blame that is too typical in the environmental movement, and strives to "inspire, enthuse, and focus on possibilities." Transition Initiatives, as these beginning efforts at relocalization are called, are a way of engaging communities and using a positive vision for rebuilding many of the relationships that have been destroyed by the Industrial Growth Society. Transition Initiatives tend to focus on food and energy security, the development of local currencies, and the general concepts of community building based around the fact that oil supplies

are going to continue decreasing and getting more expensive, and that we must reduce our carbon footprint. As such, they present a number of non-threatening ways to introduce communities to the systemic framework for change presented in this book.

Hopkins developed the concept of Transition as part of a community visioning process that emerged from his two-year permaculture course at Further Education College in Kinsale, Ireland. At the beginning of the 2004 Fall semester his students watched the Peak Oil documentary *End of Suburbia,* which has a way of shocking people into awakening. Hopkins and his second-year permaculture students decided to undertake a project to see how Kinsale might transition to an energy constrained future as a community response to Peak Oil. The main result of that project was the Energy Descent Action Plan (EDAP).

At that same time, Allison and I were hosting community screenings of End of Suburbia as a way of validating our work of facilitating cultural shift toward Natural Systems Living using applied ecopsychology, to help convey the urgent necessity of doing so quickly, and as an alternative to the Industrial Growth Society. To help raise awareness of the documentary's themes, the Post Carbon Institute was supporting a fledgling relocalization movement through a loose network of local peak oil and global warming activist groups which were known as Post-Carbon Outposts.

We started one of the first Outposts, which we called Campaign for Our Lives, and it eventually became Sustainable Bellingham. We were asked by the founder of the Post Carbon Institute, Julian Darley and his wife Celine Rich to contribute a section summarizing our work for a book they were working on. While the book wasn't completed, Daniel Lerch of the Post Carbon Institute picked up the basic idea and wrote Post Carbon Cities, which is another excellent resource for communities desiring to move in this direction.

By the time the Transition movement came to the U.S. in 2009 there were 104 Transition Initiatives in the UK, 13 in Australia, and 13 in other countries around the globe. In August, 2013, there were 1130 worldwide, with 140 in the U.S. The Post Carbon Institute wanted to focus their work on research and policy, so they joined forces with Transition US by transferring the resources of what was by then called the Relocalization Network, and provided start up funding and two board members. We were in Tucson by then and had started an Outpost as part of our sustainability work and social activism based in natural systems principles. We renamed our relocalization project to Transition Pima, two of our board members became Transition Trainers, and we became the 14th official Transition Initiative in the US, functioning as a regional hub for the Southwest desert.

As James Howard Kunstler points out in The Long Emergency, change is going to happen whether we like it or not, and we're going to be conducting our daily lives on a smaller scale. Thus, "the only intelligent course of action is to prepare for it."

The Occupy Movement

I've been peripherally involved and supportive of Occupy Tucson, as well as the Occupy movement in general. While in Washington, DC in November, 2011 for the Association for the Study of Peak Oil's annual conference—Truth in Energy (and that's something we're sorely lacking in)—I was asked to lead a teach-in on building coalitions by Margaret Flowers and Kevin Zeese, two of the organizers of the October2011.org occupation of Freedom Plaza.

Talking with people before the General Assembly in DC, and spending time in the Occupy Tucson encampment, leads me to two basic conclusions: Occupiers are passionate about the dire and urgent need for change; and they are adrift, ungrounded, and searching for a foundation that could anchor that change. They don't understand how things got to this point—the root cause—which leads to a lot of flailing against symptoms. Nor do they have a sense of what it would take to turn things around—or at the very least head in a different direction. And please be aware that I'm speaking in generalities here. There are individuals within the occupy movement who are very aware of major aspects of this. They are, however, still without a supportive framework and systemic alternative.

While disaster capitalism, the pollution economy, or economic cannibalism (the latter being my preferred term) directly leads to the most visible symptom of the 99%'s displeasure—an arrogant and narcissistic elite leisure class—there's a noticeable absence of awareness of what this economic paradigm springs from. A lack of awareness of a cultural acceptance of dominator hierarchies as natural. Of separation from the natural world. Of a pathological sense of the other. Of the inherent unsustainability of the Industrial Growth Society, and the inherent friction between capitalism and democracy. Closing down the Federal Reserve, necessary as that single action might be, isn't going to change the latter.

There is also a perception, echoed by much of the left/liberal media (the right/mainstream media is so far off-base in all of this they don't even factor into the discussion), that the core issue is Wall Street greed and corporate power in the financial and political arenas. That if we can just "green" and distribute the economy more equitably, and get money out of politics, everything will be fine. Well, I'm still waiting for someone to explain exactly how we're going to circumvent

the laws of thermodynamics and not only increase the number of slices of our finite planetary pie, but allow them all to grow infinitely larger.

But that's another conversation, although it must take place sooner rather than later. As environmental lawyer and former dean of the Yale School of Forestry and Environmental Studies Gus Speth says, "Our challenges require moving beyond incremental reform to systemic change that addresses the root causes of our current distress."

When the problem is systemic, the best place to start is everywhere at once. Since that is impossible (or at the very least presents logistical difficulties), Wall Street is as good an initial target as any. But, as I keep pointing out, there will be no economy on a dead planet. What too many seem concerned with regarding our financial system—on the political right and left—is loss of personal affluence and convenience; with the need to change their lifestyles, which they believe are suiting them just fine, thank you very much, if the greedy 1% would just share a bit more. This may be the main reason the 99% have yet to actually join the Occupiers.

Global warming—which makes today's Robber Barons look like pikers—brings sustaining life itself into question, and we place it on the back-burner to our ultimate peril. Peak Oil and other dwindling natural resources (forests, copper, freshwater, topsoil, fisheries) are intimately intertwined with both financial collapse and climate catastrophe. There are a number of interrelated issues that must be addressed. The slave-wage system of mandated "work" that keeps us in servitude to growth. Abolishing corporate personhood. Removing money from political campaigns. Requiring that 15 hours per week on the job provide a living wage. Creating a regulatory framework based on steady-state economic principles which would overturn the legal "mandate" corporations use to rationalize their single-minded focus on profit.

Any shift away from the growth mandate would start mitigating global warming, peak oil, poverty, loss of democracy, lack of freshwater, resource wars, decreasing personal health, and general injustice and inequity while securing and anchoring basic rights, freedoms, liberty, and happiness on an interconnected world.

My caution here is that the Occupy Movement may be focusing its energy on the wrong initial target, and this is another important conversation we should delve into honestly and resolve quickly. However, as long as we're connecting the dots towards a clear common goal, it may not make much difference where we start. All of it must be dealt with. However, clarifying that common goal is going to become even more important as the occupation wears on. It's the first step in building coalitions that can create the critical mass necessary for systemic change.

The occupiers deeply, and rightly, sense that things are not going well, and it's not just because orthodox economic growth indicators are in the toilet and getting ready to disappear forever down the sewer. It's because the 99% are being personally affected by unemployment, increasing debt, decreased purchasing power of what little money they do have, loss of so many of the natural places they enjoyed in their youth (or even last week), increasing toxicity of body and ecosystems, and a decreased connection to community relationships that have been paved over by advancing urban sprawl and an industrial mindset that requires longer hours of servitude for fewer material rewards—and absolutely zero emotional or spiritual ones.

So, it's really no great mystery that occupiers should be feeling adrift and ungrounded. They are part of a culture that has lost its mooring and its way; that has forgotten what makes life meaningful and enjoyable; a culture that can only offer addictive substitutes for these losses. This is a culture that has forgotten that money can't buy happiness; it can only contribute to the GDP by buying anti-depressants. In record quantities. For an ever growing segment of the population.

Matt Taibbi in *Rolling Stone* is wondering what the future of Occupy Wall Street could be or move toward. Michael Rectenwald of Citizens for Legitimate Government says we have a flawed praxis due to lack of a coherent theory. Dave Lindorff of *This Can't Be Happening* writes, in regard to developing a response to global warming, that he simply doesn't know what to do. I believe there is a path—and a rather practical one at that—and I believe it meets the requirements expressed by Naomi Klein, writing in *The Nation* (and so many others making this same point such as Chris Hedges), to present a coherent narrative and a systemic, practical alternative that is congruent with the natural systems all else emerges from.

The above needs and concerns are why Allison and I spent so much time refining our past decade's worth of research and activism into developing Coalitions of Mutual Endeavor. It's all about connecting the dots in order to build an alternative that is congruent with a nurturing, living world.

It is necessary to both criticize and stop systems that concentrate wealth and power; systems that are ultimately destroying our one and only life support system—popularly referred to as planet Earth. We must understand how these systems are setup and held in place. However, it is even more necessary to develop and implement an alternative system that is not based on exploitation, inequality and fear. If the goal is to create a sustainable future that has justice, equity, and democracy as integral aspects of its foundation, then it must work with, rather than against, the creative nurturing force of life itself.

The fundamental self-organizing principles of the Occupy movement (even though they may not yet widely recognize them as such) work to facilitate collective action. This adheres rather closely to the manner in which life itself tends to work. The next step would be to begin practicing and refining non-hierarchical methods of organizing, communicating, sharing leadership, and inclusive group decision making, and then start applying these tools and concepts to improving the quality of life of the 99%—which necessarily includes providing opportunities for all to be responsibly contributing members of their community. The latter often tends to be referred to as work, although I prefer the term—and its deeper meaning—right-livelihood. But it's definitely more than simply creating more "jobs."

It's not enough to fight for an equitable share of an exploitive and unjust system. Ultimately, that is counterproductive. This is why Occupy must guard against being co-opted into a movement to "restore" the American Dream. The only "demand" the occupiers should be making is to have the freedom and support to begin creating a new system based on ecological integrity, social justice, economic equity, and participatory democracy.

The tools to do this are available. If we apply them together, we can succeed.

15
WHAT IT MIGHT LOOK LIKE

Well, I didn't say it was going to be easy, I just said it was going to be the truth.

MORPHEUS—THE MATRIX

Let me start this chapter off by tackling some of the assumptions and biases of a number of good friends and social critics who very broadly fall into the category of Doomsters and Collapsarians. Their thinking can be boiled down to we're doomed because humans are inherently flawed, people won't wake up until after collapse has occurred anyway, and the system has too much inertia to do anything but proceed to inevitable collapse. A number of the individual points they make about the basic unsustainability and destructive tendencies, of the intellectual and moral bankruptcy of Industrial Culture or Western Civilization I whole-heartedly agree with. And I also agree that if we don't change direction their scenarios have the highest probability of occurring.

The doomsters have much in common with some radical deep ecologists who insist that humans can't be trusted to behave as if they're the Earth's living children, should be rightfully regarded as a cancer, and the sooner we eradicate ourselves the better off the planet and the rest of Her species will be. One of the things I find both amusing and ultimately ironic about some of their prognostications are that they believe—they accept as gospel—the underlying dominator assumptions from which the consensus trance emerges, even as they attempt to awaken people from it. The way we act under the dominator paradigm and the way we would act under Rational Spirituality are two entirely different sets of behaviors.

I find it much more inspiring (and realistic) to think about and plan for the creation of an alternative to dominator control hierarchies, rather than how we're going to react to collapse as if it's inevitable—while we must, of course, be prepared for that possibility. Building resiliency to inevitable change is a rational

activity. It would be idiotic to believe we can predict the direction of any bifurcation point while we are this far into the overshoot range of planetary carrying capacity.

That the status quo is going to die of its own unsustainable weight is a given. As I've said elsewhere, the economic law of perfect substitutability doesn't apply to the laws of thermodynamics. One of our duties as change agents is to help the end of the Industrial Growth Society occur as soon as possible. By any means necessary, as Derrick Jensen says, but also to cradle it compassionately in our arms and offer it hospice as it draws its last dying gasps. We must also remember, though, that humans are remarkably resilient and innovative once they know what the facts are. People who insist that change won't occur until collapse becomes reality are abdicating their responsibility to make new choices.

While the possibility exists that mass neurosis could lead things in the direction of Mad Max, we would have to totally abandon, on a global basis, what it is to be human for this scenario to come to fruition.

The fact remains that humans do not desire to consume to Western industrial standards. This is an outcome of a direct and overt psychic assault by a controlling Machiavellian elite who believe in both the Divine Right of Kings and in human separation from the natural world. Consumption and other addictions are the body's response to find balance amongst unmet expectations for fulfillment which a living, evolving universe provides in abundance—as long as they are not captured and hoarded by a pathological few with no ethical restraints on violence. But in most cases I believe this is an indication of their own past trauma and unmet needs—except for those few true sociopaths.

I think our time is much better spent deciding what will be necessary for the creation of a cooperative future based on ecological wisdom and social justice; a future that works with the creative and life-affirming direction of living systems.

As Carolyn Baker said in a book review of James Howard Kunstler's *World Made By Hand*, there is a need for "emotional and spiritual preparation", and a remembering and relearning how to "compassionately speak our truth and listen deeply to each other." This will help open the space for "transforming the interpersonal land mines all of us have incorporated from living in the soul-murdering milieu of industrial civilization." Our sense of purpose partly comes from our innate desire to participate, responsibly and joyfully, in our ability to sustain and enhance the web of life. As living organisms, this is what we naturally do best.

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As more community forums are being assembled around the country to deal with the question of our sustainable future, perhaps the most important core question to ask local leaders is what is their contingency plan? What set of facts are being used to inform this plan? Is Peak Oil, global warming, or financial catastrophe factored in? What baseline is being used to assess the local assets available to build resiliency from? How many acres of arable land are available, what is the current rate of topsoil loss, how many feet per year is the local aquifer dropping, how much compost can be generated and distributed, and thus how many people can be realistically fed?

The U.S. Energy Information Agency reports that global oil production of conventional liquid fuels peaked in May, 2005. Saudi Arabian oil production has been declining at about 1 million barrels per day for almost two years. A more interesting and even more unreported fact is that world oil production per capita peaked in 1979, yet we continue to count population growth as an economic positive. How long will our local economy as presently constructed survive a cutoff of conventional fuel supplies and products such as plastic and fertilizer derived from fossil fuels? Supporters of protecting the status quo like to point to the increase in "non-conventional" liquid fuels (which are barely able to keep up with the current 3% depletion rate of conventionals), but want to conveniently ignore the negative energy return on these fuels, and the manner in which they contribute to undermining the economy by increasing environmental degradation.

A medical analogy is appropriate here. Toxic tar sands, oil and gas shale, and agrofuels are like the extreme measures used in the intensive care unit to keep a patient's heart beating until the family can get to the hospital to say their final goodbye to their loved one.

How many more people will we knowingly subject to hardship and deprivation when the Central Arizona Project water canal is shut down due to lack of supply from the Colorado River as we continue to entice people to move to the Southwest desert by approving more housing subdivisions and—the ultimate manifestation of insanity—new water parks and golf courses?

The Ogallala Aquifer, the water source for America's "bread-basket," is being drawn down at a rate 150% beyond recharge. How long will existing local food supplies that come from this area (and the rest of the globe) last? To turn to the Arizona desert again, how much is being grown that can't be consumed locally, such as alfalfa for California cattle or cotton for foreign sweatshops? What plans are in place to address price hikes in basic commodities or to secure people's right to stay in their homes as global financial markets finish their meltdown? If local officials don't have a contingency plan, or are unwilling to make current

discussions public, we should ask—no, we should demand—that they step down and get a job they can manage. Then they'd wish they'd increased the minimum wage to a living wage when they had the chance.

This might sound harsh, but the scientific consensus is quickly shifting to realizing that we really only have about a two year window left to lay the foundation for an alternative public infrastructure that drastically reduces greenhouse gas emissions 90% below 1990 levels by 2020 and begin reversing all aspects of biospheric deterioration. People are remarkably resilient and innovative when they have the full facts at their disposal. More people are becoming aware of the bigger picture and the interdependencies amongst these issues. More people are expressing a desire to regain that which has been lost as we've isolated ourselves in our cars and on our couches—a fulfilling sense of community. More people are calling for a shift to sustainability as they become aware of the permanent nature of the unfolding global crises and their root causes in centralized dominator control hierarchies and the Industrial Growth Society.

The only systemic response that calls for the best in human capabilities and potential I see on the horizon are the processes of reconnecting and relocalizing. Building a local economy that is healthy, vibrant, and resilient, that protects and enhances our local culture, must draw on the same principles that keep an ecosystem sustainable, and reconnecting is the most direct way to begin embodying these. We must start measuring progress and defining prosperity in a new way—a way that isn't dependent on merely increasing in size or material accumulation, but on becoming qualitatively better for all members of the community.

The technology and knowledge is available today to do so. Can we develop the will to do so in time?

The Argument For and Against Civilization

Derrick Jensen and I have had regular conversations over the years on the difference, if any, between civilization and industrial civilization. And let me say right up front that I think Derrick is one of the foremost social critics writing today, and one of the handful who actually understands what's going on. His writing has deeply influenced and informed my own thinking over the past decade. But, since this is my book, I get to define the argument.

In Jensen's early work his position was that civilization itself is the root problem; the basis for our exploitive, abusive, and destructive relationships with life, and must be done away with. My position is that force-based ranking hierarchies of domination that rule by fear and from which emerges a pathological sense of

the other is the true root of the problem. This is the initial disconnection, the untenable trauma behind our cultural PTSD on which the construct of Western industrial civilization has been built.

The core philosophical mistake is in thinking that dominator culture is equivalent to civilization. It isn't. Dominator culture may refer to itself as civilization, but it isn't civilized. Civilization was started by partnership societies that lived in harmony with nature and each other. To argue otherwise is to setup a straw man argument which can then be too easily refuted by the adherents to the dominator paradigm, and it also takes options off the table.

How we define civilization has bearing on this argument, as well as whatever words we decide to use to define a human social structure congruent with the systems view of life. This means relationships built on mutual support and reciprocity with Earth, other species, and other cultures. This social structure must also not erect a brick wall against evolutionary progress. Our compassion and creativity can evolve in balance with a living world that provides the foundation for our social structures. People must be able to believe that there is hope for a more fulfilling future; that their potential as living organisms has the possibility of progress toward fulfillment. Humans are inherently inquisitive and innovative creatures. We don't need to go back to some previous mythical state of perfection, but we must become willing to correct our mistakes.

Jensen quotes anthropologist Stanley Diamond, who wrote, "Civilization originates in conquest abroad and repression at home." My response is that this is a definition of the dominator paradigm; it is the basis of empire. It is not "civilized" behavior.

Derrick, quite correctly, points out that looking forward to the end of our current way of life is not the same as being a cheerleader for catastrophe. Some of his critics try to make this point, but if you've read this far in this book, you should be aware that catastrophe is what we have now. Jensen says, "There is nothing more catastrophic for this planet than the continuation of industrial civilization, and anyone who attempts to help it continue is, if we're really honest, abetting catastrophe."

Industrial civilization—yes indeed. But even this I think would be more accurately understood as the project of industrialism, and its particularly destructive manifestation in the Industrial Growth Society. But civilization itself need not rest on the necessity of industrialism's existence and excesses.

I think we need to either come up with a new word, or clearly define what it is we're talking about when we casually toss into a conversation the term civilization, and especially a rejection of it as the root of all evil. This is too similar to

the arguments that because American government has been taken over by Corporatism that the concept of governance should be abolished—democracy has been usurped, so let's do away with democracy. This is George Bush reasoning—terrorists hate us for our freedoms, therefore we'll just do away with all those pesky rights and freedoms. Many feminists make a similar mistake in thinking the solution to patriarchy is matriarchy. But this is black and white, dualistic thinking that admits no middle ground or alternative that transcends simplistic opposing forces. Domination and ranking hierarchies are bad no matter who is on top. The solution is partnership—an entirely different way of developing relationships. We cannot allow ourselves to become mollified by swapping a benevolent dictator for the current malevolent one.

As a bit of a side-track, we run across this same problem when we think it to be a good idea to rid ourselves of terms such as sustainability or systems theory because their use has been co-opted or misapplied, as in the case of substituting climate change for global warming. In another conversation Jensen says that systems theory shouldn't be used, as systems are a mechanistic way of looking at the world. For example, John A. Livingston "stopped talking about ecosystems: they're not systems," he said (and I agree), "they are communities: there's a difference."

Using community instead of system or even network because they can be used to describe linear processes is to confuse contexts. It is also a basic misunderstanding of the terms themselves. These terms have precise meanings and explanatory efficacy. The contexts in which they are used help clarify which paradigm they are emerging from and being used to support. To advocate using community in Livingston's sense seems to be an attempt to throw out rationality, which is just as problematic as an exclusive focus on rationality. Living systems cannot be linear—they are dynamic processes in far from equilibrium environments. In fact, it is the attempt to make these systems linear under the paradigm of scientific reductionism and industrialism that cause the spectacular failures we are unwitting spectators of today.

The misuse of terms that are powerful agents for change is a common tactic from defenders of the status quo, and we should not fall prey to it. When we are clear in our meaning attempts at marginalization by our adversaries is more difficult and less effective. As agents of change we must reclaim our terms, and not be afraid to state exactly what we're talking about, and the contexts in which they are relevant.

To return to the topic of civilization, let me clarify that this isn't the actual argument that Derrick is making, although some of his supporters, who don't

appear to understand his subtleties, seem to be unthinkingly eager to jump to this conclusion. And because of its long historical use, perhaps the term is beyond redemption. Civilization's literal etymological sense is to make citified. Dictionary definitions converge around civilization being an advanced state of society or cultural development, with an implicit contrast to cave dwelling barbarians or other such nonsense. In common parlance the concept of civilization also triggers frames that embody social graces and manners; concepts that I find nothing wrong with as long as the graces aren't pompous and the manners are used as a way of honoring and respecting other unique lives and ways of being that work together to support the web of life.

It is true that in the definitions we're taught in the industrialized system of Western public education, civilization and cities are tightly interlinked. In Endgame, Jensen quite clearly defines his use of this relationship as civilization being "a culture that is a complex of stories, institutions, and artifacts that both leads to and emerges from the growth of cities (civilization, see civil: from civis, meaning citizen, from Latin civitatis, meaning city-state), with cities being defined so as to distinguish them from camps, villages, and so on as people living more or less permanently in one place in densities high enough to require the routine importation of food and other necessities of life."

The latter is an aspect of Jensen's argument that I am in total agreement with. The requirement of today's cities for importing food and other resources is unsustainable and inherently violent. It means they are beyond ecological carrying capacity, and more to the point, this importation values resources over life. The previous users of those resources must either be co-opted or eliminated.

There are other factors to consider, however, in the violence of cities today. A major factor is that violence stems from the dominator paradigm and the inability of the majority of our senses to meet their natural expectations for fulfillment. Cities are somewhat peripheral to this. People who are being well fed and getting their other basic needs met, who can develop supportive relationships, and have their senses of belonging and acceptance fulfilled on a regular basis don't tend to be very violent.

Another factor in social violence today is the fine line between overcrowding and sustainable density. Due to their often flawed design, many cities around the world force too many people into too small a space with no chance to engage with the natural world. This factor in urban design must be kept in mind in the call for in-fill development as an alternative to sprawl.

How we define the importation of resources must also be considered. If you're living in a small sustainable tribe, and you have to walk half a day to shoot

a deer with your bow and arrow, and then drag it back to camp to share with your tribesmates, aren't you importing resources? The difference with a properly designed ecocity is one of degree, not of kind.

As has been pointed out, civilization in cities was doing just fine until the dominator detour of social evolution occurred. Force, fear, and a separation from nature—including from our own and others inner nature—lead to the eventual worship of autonomy from nature and accumulation of capital to make up for the loss of natural fulfillment and unmet community needs. Forgetting that we're an intimate part of an interconnected system, as well as a denial of the need to adhere to today's scientific knowledge of what it takes to stay within the carrying capacity of a bioregion is indeed pathological, but the blame for this cannot by lain at the door of civilization.

For a city, or even a village or tribe, to be considered sustainable they cannot require the importation of resources, at least any farther away than bioregional boundaries. As Richard Register points out in *Ecocities*, doing so isn't necessary. I think the maximum size of a sustainable city would be about 100,000, perhaps 200,000 if completely based on ecocity principles, but this would depend on the bioregion, and the size and number of other villages in the surrounding countryside.

Further compounding the problem is the move to city-states and then nations for governance. As Murray Bookchin and others have pointed out, this was not a historical necessity, and moves in the opposite direction of a decentralized partnership, or a system of bioregionally autonomous but interdependent governments.

I think it's also important in this discussion to distinguish between thinking that technology can save us, and realizing that technology can be used sustainably in ways that benefit humans and society and don't detract or damage the planetary resources life depends on. When I use the word sustainable, I'm using it from a very broad based systems view, and inherent in all of my arguments is the need to reduce global population levels by about two-thirds and not introduce unnatural substances for which there is no evolutionary defense mechanism except death.

I can't see any of it working any other way.

Aspects of the term civilization I think must go away include it's supposed reliance on organizing principles based on hierarchies to maintain a sense of order, and its strict adherence to being citified—which leads to the derogatory use of the perceived opposite of civilization which is to exist in a primitive or savage state—without honestly admitting that modern industrial "civilized" man

is really little more than a cannibal with a fork. Or to use the term from the comic strip "Sherman's Lagoon," "hairless beach apes."

A particular aspect of the term that I've never liked or agreed with is the dichotomy it injects on humanity's relationship with the world, and of the perceived moral, ethical, and intellectual superiority it bestows on someone who prefers Formica over natural wood, or using a water closet over shitting in the woods. As Jensen points out, a particularly damaging characteristic of Western industrial civilization, especially from the systems understanding that increasing diversity is necessary for the continuation of life and the possibility of fulfilling our potential as a species, is the deeply held belief "that there is really only one way to live, and that we are the one-and-only possessors of that way. It becomes our job then to propagate this way, by force when necessary, until there are no other ways to be."

Finally, there is an aspect of civilization that conveys the evolution of social systems. I think if we can better refine our arguments, we'll also be better able to gain more support from a wider base of people who don't see returning to caves as moving forward. There is absolutely nothing wrong with this type of lifestyle for people who are attracted to it, and we all need to spend much more time both playing in the dirt and playing with our own inner wilderness. The fact that we're kept from doing either of these is a central problem with the Industrial Growth Society and the Enlightenment thinking it is based upon.

In fact, this is one area where a very good argument can be made that Western civilization, industrialized or not, is less civilized than the peoples it has overrun and subjugated. This point is very well articulated by Thomas Berry in *The Dream of the Earth*, and addresses a problem Jensen has with the dictionary definition of civilization as being an advanced state of society when he says, "define advanced."

Berry points out that if we hope to survive the destructiveness of industrialism one of our core goals must be to rekindle our intimate bonds to a living Earth. The native peoples of South, Central, and North America developed a nature mysticism "that belongs among the great spiritual traditions of mankind." They were aware of the numinous presence of the entire cosmic order and established a civilization based on "one of the most integral forms of spirituality known."

This civilization had an advanced form of mathematics that discovered zero before it was discovered in India. While not as many animals were domesticated, more plants were domesticated than in Eurasia, and Indian derived plants now feed about half the world. The Iroquois Confederacy was a model for the U.S. Constitution.

Yes, the Mayans outstripped their resource base. This seems to be a problem common to humans, and must be guarded against. We no longer have the excuse that we don't know better. But the civilizational achievements of the native peoples of the Western hemisphere were equivalent in their human qualities to anything developed in Eurasia. Berry points out one of the reasons Indians were feared by arriving Europeans was because they were seen as "a rival who had reached a similar level of human achievement and certainly on occasion a higher moral and spiritual level." Emphasis added. That's my understanding of advanced. And there's not a smartphone app for that.

It behooves us all to find ways to better articulate that sustainability does not entail austerity; that "being more" is a more advanced and civilized state than "having more."

Many other people like to engage in this conversation as well, and a rather large subset of them insist that reverting to tribalistic hunter-gatherer societies is the only path that makes sense if we hope to create a sustainable future.

I think the first thing that must occur is to agree to what we mean by sustainability in the context of taking down and replacing what passes for business as usual. This is not a meaningless distraction in this conversation. Extremely pertinent here is that an ecologically strong and legally defensible definition of sustainability necessarily carries within it the concept of carrying capacity.

Now, I know this may just sound pedantic, but let's think, deeply, about what this means and allows. The first, and it's the biggy, is population. We're well into the overshoot range of biospheric carrying capacity. William Catton says we entered into overshoot with the then available technology during the American Civil War, when global population was about 1 billion. There's good evidence that with current technology we might be able to sustain 2 billion, but there's some very important qualifiers with that figure, and they mainly revolve around consumption and waste assimilation.

The first important qualifier is the damage to the planet and the health of all species that industrialism and economic cannibalism has already caused in the past 200 plus years. We may have to get down to 1 billion while massive effort is put into helping Earth heal over the next few centuries. We could rationally and compassionately get down to 2 billion over the next three or so generations with open and honest education on family planning and reproductive rights. As I've already shown, Europe and America have demonstrated this can be done in relatively short order.

So, we could get started lowering global population in this decade, instead of resigning ourselves to the supposed "fact" that global population is going to

continue climbing to 12 billion before it "levels off" at 9 billion. That's just crazy-talk. It's nothing more than a projection based on the continuation of the Industrial Growth Society. Earth can't actually sustain the human population it has now. It's one of the reasons we're facing resource depletion in so many different areas—the waste inherent in consumerism merely exacerbates it.

As phenomenally inequitable as resource allocation is, it's not the fundamental cause of around 30,000 people—mainly children under five—dying daily from malnutrition and easily treatable disease. That's ten million per year as we rather belatedly discover topsoil, fisheries, and clean water are depleted by half or better on a global basis. Peak Oil, on the other hand, merely spells the death of industrial growth and financial markets.

The manner in which we order our relationships with a living world is paramount. We must rationally decide the standard of living for the quality of life we wish to sustain within known natural resource limitations. This would actually be civilized. And we can't continue to let ourselves be fooled into thinking the way of economic growth through industrialism is the one and only right way. There is an alternative.

We cannot simply swap out a globalized market of exploitive destruction for its "green" cousin that uses squiggly light bulbs and drives hybrid global warmers.

With that said, I realize that tribalism has a certain romantic appeal—and beyond that it's actually a perfectly valid, respectful, potentially fulfilling way of living and creating mutually supportive community. It can be one of many ways of sustainable living—which also means it will be ecologically wise in supporting equity, justice, and democracy among all cultural frameworks on the planet.

Industrial civilization is destroying the planet whether we participate, or not, willingly or otherwise. I've already mentioned Roy Morrison's admonition that we cannot hope to create little eco-islands of sustainability—whether these are urban intentional communities or tribalist communes out in the wilderness—surrounded by the toxins of industrial society.

When it comes to creating a sustainable society or civilization there are a couple of things to keep in mind, such as what will be considered a clean, renewable fuel source in a sustainable society will depend on how many use how much at what interval from what source. We must also become cognizant of the fact that not only are we passing on a financial debt to future generations, we're passing on an even harder to pay off ecological debt. That, in and of itself, is not just selfish, it is simply uncivilized if any aspect of the definition contains the concept of bringing to a more advanced or developed state. We are diminishing the possibilities of that occurring.

The problem with industrial civilization I think can be summed up by more accurately naming it: the Industrial Growth Society and its sidekick the Doomsday Economy. But these are a perfectly logical outcome of domination, individualism, and belief in an inferior other. Resources can be used sustainably, and they don't need to be taken by force from someone else. To argue otherwise is to be as dogmatic as any religious fundamentalist.

Putting all of our rapidly converging crises off on civilization leaves out the underlying psychology of disconnection, domination, and otherness. Western civilization could blow away tomorrow, but if those underlying aspects, which all preceded, or were the foundation for, Western civilization, were still deeply embedded in the psyche neither we nor the planet would be any better off. Well, in the short run we would be. As Jensen replied to this point, this would be like kicking the gun out of the hands of a psychopath. We'd still be faced with dealing with a psychopath, but at least he wouldn't be armed. Total collapse might be postponed for a while, but we're not going to be able to lay the foundation for the sustainable, and thus just, equitable and peaceful world we all seem to want if we don't fundamentally alter our manner of being in relationship with life itself.

I continue to believe that it is extremely important for us to be very clear in exactly what it is we're proposing an alternative to, and why. While saying that civilization today is killing both the planet and the human spirit is certainly true, in my experience it leaves most people without a sense of clarity on the details. The overall concept remains a bit fuzzy in most people's minds. It seems to be human nature to only look at the good things (an outcome of dissociation), so when people think about civilization they think about opera, libraries, and flush toilets.

Empire, industrialism, and that aspect of what we call civilization that is based on hubris (as in, "We're civilized so you're not") when comparing to other cultures or lifestyles are major aspects of the OldStory that we must offer hospice to. They're part of the same mindset that sees the wilderness as an evil other that must be subjugated and controlled, just as our inner wilderness must be subjugated and firmly controlled in order for one to be considered "civilized." So, this aspect of being civilized in the Western sense is functionally equivalent to being neutered—physically, emotionally, and spiritually. This is why today's American political system is occupied by petulant two-year olds.

Many people are offering prescriptions for a more just and equitable future, but I've yet to find anything as systemic from the personal, social, and environmental perspectives as reconnecting and relocalizing. All of the other alternatives either leave out our intimate interconnection and interdependence with the web

of life, or they don't deal with dominator hierarchies—or worse yet, assume they are natural and merely try to find a way to make them a little more equitable.

Of course, and I've mentioned this before but it tends to get buried, one extremely valid option that can't be forgotten is fighting back. A doomsday culture must be stopped. How much of this can or must occur while it's being replaced is yet to be determined.

The Growth Battle

"Growth for the sake of growth is the ideology of the cancer cell."

EDWARD ABBEY

"True growth is the ability of a society to transfer increasing amounts of energy and attention from the material side of life to the nonmaterial side and thereby to advance its culture, capacity for compassion, sense of community, and strength of democracy."

ARNOLD TOYNBEE

As we consider what a sustainable future might look like, we must also honestly tackle the growth issue, which is one of the primary issues keeping us from becoming sustainable. We must recognize what growth is, and learn to recognize the difference between growth—to get quantitatively bigger—and development—which is to become qualitatively better or bring to a more advanced state.

Growth and development. Today, most people tend to regard these terms as being synonymous. However, this tends to cause much grief, on both personal and social levels.

Personal growth, as addressed by much therapy and most of the self-help movement, tends to take a problem-focused stance, and is mainly about working with yourself. However, in an interconnected world, this actually turns out to be one of the problems. By turning inward, away from the world, we loose sight of the fact that we evolved to play a supportive role in the web of life, and that we are actually perfectly suited for doing so, pretty much just as we are.

When we can't live up to a romantic, New Age fantasy of a more actualized and ever-expanding self, we tend to see this situation as a problem. We fear that our ordinary self is not good enough; we have to fix it, or improve it, before we can do or create what we truly want. We think we have to become something else, or meet someone else's expectations, before we can become effective, or even good enough.

There's an aspect of personal development that is about coming into our true selves and not about focusing on past problems, that doesn't entail endless growth, where we admit that enough is enough. Some researchers point out that the word grow is more appropriate to children, and concentrating on constant personal growth is an idealization that sets us up to fail.

The idea of endless growth puts us in a constant state of failure because we can never reach the end state. We constantly compare our self to some idealized state on a growth scale of different colors, or numbered levels, or higher energy chakras. We forget or ignore that the only thing that grows without restraint are cancer cells, which grow until the host dies.

If we don't grow, if we don't consume more today than we did yesterday, we think of ourselves as failures. If the economy doesn't continue to grow on some type of unrealistic exponential scale in an inherently non-linear world, we think there's something wrong, that our economic system is a failure requiring artificial manipulation by the Federal Reserve.

And so, this is the pattern economic and social development follows. Growth "management" in the current political climate does not set an upper limit to growth. We grow until everything is consumed. We now try to rationalize it by calling it smart growth, but as Colorado University Professor Albert Bartlett points out, we don't want to recognize that smart growth gets us to the same place as dumb growth, we just get there a bit slower and via first class. We've even started to use the term sustainable growth. However, this is an oxymoron, and thus, the manner in which we currently approach growth management is doomed to ultimate failure. Sustainable development, though, is a distinct possibility in the personal, social, and economic realms.

We often hear from the advocates of growth in the urban development and business sectors that growth is not only good—it's actually necessary for prosperity. Questioning this primary assumption is not allowed. Alternatives to growth are not permitted to be planned for, and even exploring the possibility there might be a need for an alternative to growth is simply banned from the debate; it's taken off the table. We're told that growth is inevitable, and our only choice in the matter is how we'd like to best accommodate it. If this line of reasoning sounds familiar to some of you, it's basically the same advice that used to be given to women in regard to rape.

The problem with this 'growth is positive' mindset is that the true costs of growth are simply not calculated in current growth management plans. As community planning consultant Eben Fodor shows in *Better NOT Bigger*, growth proponents ignore the studies showing that increasing the tax base actually increases

the net tax burden to communities. For example, farmland and open spaces require $.53 in public services for every tax dollar they contribute, while developed urban land requires $1.14 in public services for every tax dollar generated. The bigger cities get, the further in the red their budgets get.

Fodor's book has been one of the foundational resources for my own community sustainability work in going up against the growth lobby. It is short, sweet, and to the point. In less than 150 pages, he provides the missing information on the real impacts of unrestrained growth on communities and the policy options available for getting growth under control. Combined with Michael Shuman's work in sustainable community economics, *Going Local: Creating Self-Reliant Communities in a Global Age*, and guided by the overall framework provided here, a community would have many of the practical aspects necessary to begin laying a viable foundation for the alternative path to a sustainable future.

The overall message in *Better NOT Bigger* is one of optimism and empowerment; of building stable communities that will be great places to live well into the future. But Fodor poses a number of questions that must be answered by the community in order for this to occur. And the background for these questions is the realization that growth demands irreversible commitments of natural resources—land, energy, and water—which are costs to the community, and these costs are not covered by the growth lobby even in the rare cases impact fees are charged for development. Plus in the latter case, policy loopholes and outright subsidies often offset them anyway.

These questions include how much higher do you want your taxes to go, how much more traffic congestion are you willing to tolerate, and are big cities so much better that we're willing to convert all the smaller cities into them? If there is an optimum size of cities, and if size is related to quality of life, how do we know when we've reached that point, and how do we stop growing when we have?

There are some benefits to urban growth, mainly the income provided to realtors, bankers, lawyers, and contractors—the growth lobby. As in all natural systems, up to the point of maturity, growth can also benefit the public by increasing diversity in services and talents. But at what cost, both economic and environmental, and are these costs we're willing to pay?

The growth machine serves a set of common economic interests that "perpetuate growth and divert local resources to accommodate growth." It is a powerful force in local politics which funds candidates, opposes citizen ballot measures, and creates public relation campaigns for public policies that benefit private interests which often take the form of growth subsidies and incentives. A first step in crafting a rational response is to divorce the growth machine from

local politics, and enact democratic reforms that put the public interest above special interests.

Growth costs real money, and it is money that comes out of current taxpayers' pockets, it's not paid by developers or the people enticed into moving to growing areas. A report produced by Fodor in 1996 summarized the literature, and found that the cost in public facilities for a single new home is $24,500. Anyone know of a city council with the courage to use that figure as the basis for impact fees—and demand it payable in advance? The increasing tax base and jobs argument is standard for growth proponents, but the drain on municipal coffers is more than what's taken in, and the resultant population growth is always more than the jobs created, which increases the number of unemployed. That's not rhetoric, that's historical evidence. Whether you choose to believe it depends on whether you know how to count.

Alternatives to growth begin by recognizing the negative impacts of growth, and what we stand to gain by getting it under control. Sustainable communities can improve quality of life for their citizens and environment without raising taxes, protect agricultural land and historic heritage, and increase employment levels. It should also come as no surprise that figuring out a community's optimum population size and working to get there will be easier and less expensive if started sooner rather than later.

If you're involved in growth battles in your community, here's something you can take to heart: The "conventional wisdom" offered up by the growth lobby generally has zero supporting evidence. Just because it is endlessly repeated doesn't make it suddenly become true. Concessions and sacrifices do not need to be made to the growth lobby in order to improve a community's quality of life or economic prosperity. Challenging the growth myths and rhetoric starts by having good information. Fodor clearly explains all of this and provides supporting evidence, so I'm just going to provide the highlights here to get you started.

The direct and indirect costs of growth tends to raise tax rates and divert money from public services. Bigger cities tend to have higher per capita tax rates. Job creation tends to increase unemployment—we cannot grow our way out of growth problems. Local Chambers of Commerce and real estate professionals in particular are famous for hammering at city councils to be business friendly so they're not seen as not caring about people who need work. The fact is that the fastest growing cities in the U.S. have the highest numbers of unemployed workers. Subsidizing business growth doesn't help any of this. In fact, states ranked as having the "worst" business climate had about $600-$1200 more per capita

income gains after five years than states with "good" business rankings, and the disparity was even greater after ten years.

Limiting growth can result in a better distribution of affordable housing than market driven approaches. The pressures of rapid growth are a main driver in increased housing prices. Environmental protection also contributes to economic prosperity and does not hinder development. States with strong environmental regulations consistently outperform states with weak protections on economic measures. Environmental concerns are also widely supported. Many studies have shown that about 75% of citizens favor strong environmental protections. The "grow or die" argument is also bogus. As Herman Daly points out, growth in the U.S. is actually making us poorer as costs outstrip benefits.

Finally, the environment is not a special interest; it is a public interest—it is life. The special interest is the growth lobby that wants to pretend it is operating on free-market principles, and ignore that it can only function when heavily subsidized and incentivized at the expense of the public interest.

There is a basic law in evolutionary biology that species expand to fill an ecological niche. Growth based development is a forced and unnatural expansion of a niche, and causes the population to expand to fill it. As long as we keep building, more people will keep coming. If the niche doesn't exist or isn't created, people won't expand to fill it. Studies show that, historically, increases in material production and agricultural output drive population growth, not the other way around. If we plan for growth, that's exactly what we'll get.

We can, however, create avenues for people to find meaning and purpose in life, instead of supporting the myth that constant growth and accumulation is our ultimate goal. We can do this by helping people develop their senses of community and place. As people begin to understand that materialism isn't the road to happiness, we can begin to create living wage jobs that require fewer hours, which would allow people the time to enjoy what really matters. This would also help decrease rates of unemployment, which is actually more important from both an economic perspective and community well-being than simply creating more jobs.

Some growth proponents are willing to admit that growth rates of 5% to 9%, or even higher in the case of some developing economies today, are unsustainable and damaging even in the short term. But they'll argue that a 1% growth rate can be managed and keep the economy healthy. Well, this just means they don't understand exponential growth and doubling periods. As P. C. Putnam calculated, a growth rate of 1% is still disastrous. Were we to start at the beginning of agriculture, about 10,000 years ago with one breeding pair of humans and

allow the population to grow 1% yearly, today the flesh of humanity would cover Earth with a size larger than the solar system, and be expanding outward at a rate greater than the speed of light.

There are many ways we can develop as individuals and as a community, such as developing our creativity, compassion, our respect for diversity, and learning how to fully appreciate and enjoy ourselves, each other, and the natural world. Because human desire is truly infinite, as well as our capacity for love, it's physically impossible for a finite universe to provide fulfillment through material means alone. Sustainable development must come from directions that don't further decrease dwindling natural resources, or consume them at rates greater than they can be naturally renewed.

There are other questions we must ask ourselves. Can humans become the first species to use their vaunted intelligence to reverse direction when they discover they have taken the wrong fork in the road? Can we learn to accept that we do not have to be anyone other than who we are to create what we want to create? The reality is that our ordinary selves, and what is naturally available, are quite good enough.

Economic growth in particular is totally disconnected from the laws of nature. Growth occurs in nature until it reaches maturity and then a dynamic steady-state is reached. The Western concept of a growth economy, however, depends on bankers loaning more money than they have on deposit, on the assumption that tomorrow's growth will pay today's interest on yesterday's debt. Growth in the industrial economy is entirely dependent on ready access to cheap and abundant fossil fuels—which are no longer either—to power our factories, move us around, grow our food, produce our plastic trinkets, and create our increasing number of medicines—which are increasingly necessary to overcome the ill-effects of all of the above.

Infinite growth and the mathematics of compound interest must also ignore the physical laws of thermodynamics as irrelevant or inconsequential. It's past time to admit that infinite growth and free-market economics are intellectually bankrupt, scientifically dishonest, and based on a flawed and outmoded 18th Century understanding of human nature.

This points to a related issue we must recognize in regard to the current slate of proposed legislation to "solve" global warming: None of it proposes any changes that don't first pass the test of economic viability, and this viability is measured in how well it protects economic growth. We pray for a return to normal and deny that normal is what got us into our current state of crises. The current mainstream response is exclusively focused on the assumption that the

health of the economy is more important than the health of people or the planet; that the project of increasing profits and economic throughput through production, consumption, sprawl, and the accumulation of material and financial wealth meets the economic principle of perfect substitutability in providing physical, psychological and spiritual health and well-being.

However, increasing mounds of sociological, psychological, and physical health data point to the opposite conclusion. I've already presented much of the evidence for this, and I think all of us are aware that quality of life, as opposed to standard of living, is decreasing as fast as our buying power is. No options are seriously presented in developing a sustainable response to global warming or dwindling energy supplies that involve real conservation, powering down, building things to last and to be easily repaired instead of throwing them away, or anything that addresses or presents an alternative to the growth machine. The commons we depend on for our sustenance and subsistence is being plundered and squandered instead of being protected and nurtured.

The captains of industry and their sycophants are spending an inordinate amount of time and energy coming up with innumerable elaborate rationalizations to continue the Industrial Growth Society and its hierarchies of domination and control. Simultaneously, they are falling to their knees sobbing hysterically every night, praying for the Gods of Technology to perform a miracle to deliver them from the wrath of Natural Systems.

Capitalism is inherently at odds with sustainability. But stating this obvious fact should not be taken as a clarion call to institute its political opposite—which seems to be the favorite means of misguided property rights advocates and free-market economists in particular—to try to discredit sustainability adherents. As John Kenneth Galbraith famously pointed out, "Under capitalism, man exploits man. Under communism, it's just the opposite."

So, let's now examine some ways to address legislative and policy change that can have a major impact on reducing greenhouse gas emissions, improving energy security, and improving quality of life in a manner that meets the full definition of sustainability.

The first step a community could take is to place a moratorium on any further growth, and undertake a study to establish growth threshold standards—sometimes called optimum population size studies—based on natural ecological and economic limits that would preserve—or better yet improve—the existing quality of life in our communities, both urban and rural. While this may sound like a rather radical first step, other communities have successfully done so. And,

it's nowhere near as radical as continuing to make things worse when we know better.

Documented natural ecological limits, or growth threshold standards, are extremely important, because courts will insist on justifiable rationales for stopping growth. When properly done studies show a growth cap is warranted to protect public health, safety, and general welfare, growth moratoriums have been upheld by the courts. When the day comes, as it must, that the natural world is recognized to have an intrinsic right to exist, there will be another factor to limit or stop growth.

In the absence of a moratorium, land developers will be able to impose considerable additional growth by vesting their right to develop under existing lax land-use regulations that embody tremendous potential for growth. Courts have allowed moratoria to block development during the time required to complete growth studies and amend plans or regulations, when ongoing development would defeat the stated intent of revising these public documents to ensure environmental and public health and to improve quality of life.

When the studies have been completed, comprehensive land-use plans can be changed to reflect the studies justifying a cap on growth. Then regulatory actions, such as downzoning and plat vacations that eliminate existing subdivisions of land, can be legally undertaken to curb land development. Once comprehensive plans have been changed to reflect a no-growth end, a community can legally change the zoning and subdivision ordinances that currently ensure ongoing growth.

This can be done in a manner to still permit economically viable uses of private land. However, it must be stated that there is no legal obligation on the part of municipalities to guarantee the most profitable use of any particular property. Land speculation is called that for a reason, and is afforded no known constitutional protections.

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The above avenues can be seen as leading a shift toward what Roy Morrison calls an "ecological democracy" in the book by the same title. This is conservative from the perspective of requiring a revitalization of democratic fundamentals and a return to fiscal responsibility. It is radical from the perspective that it seeks to transform the industrial imperatives of production and consumption, profit and power.

An Ecological Democracy challenges economic determinism. It shifts the focus to community and democracy, and away from the power of markets and centralized government plans. A political democracy cannot exist without economic democracy. The human needs of the majority cannot be subservient, they cannot play second fiddle, to the narrow and selfish economic desires of the minority. Community values and the manner in which we protect and equitably share the benefits of the commons in a sustainable manner are central aspects of an Ecological Democracy.

Another important aspect of an Ecological Democracy that is congruent with the Nature's Trust frame is that it encourages personal and community property rights, not the concentration of private or corporate ownership in the hands of the rich or public ownership in the hands of a centralized state.

As we examine alternatives to growth and consumption, we must also be careful not to throw the baby out with the bath water as we build a replacement for the Industrial Growth Society and its dependence on economic cannibalism. There are positive aspects that tend to be associated with capitalism, such as the entrepreneurial spirit, innovation, even its somewhat limited ability to spread the wealth around. These aspects must continue to be nurtured and developed, but in balance with the healthy environment our personal, community and economic health depend on.

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Every day more people are awakening from the consensus trance, and oftentimes it doesn't require very much. Before Allison retired from public school teaching a few years ago, she told me of a conversation with a parent of one of her elementary school students, which will take a quick bit of background to understand.

The Tucson water district has a great program they present to schools. The children play parts in the water cycle, are introduced to all the water users, including agriculture, livestock, mining, and industry, and are shown how for every three gallons taken out of the local water tables, less than one gallon is put back by rain, and less than one gallon is added by the idiocy known as the Central Arizona Project which pipes in water from the Colorado River, and which won't actually be delivering any water to Tucson because as the Colorado River dries up, Arizona is the junior state in the allocation rankings. The water table in Tucson has fallen from 20 feet below the surface to 300 feet, and neither of the rivers here flow year round anymore. Quite a bit of the water goes to growing alfalfa

for California cattle (and for other water intensive crops that have no place in a desert), and for keeping the Tucson area's 38 golf courses green—although much of that is now reclaimed water.

Anyway, the parent was wondering how this has come to be, and Allison quite simply laid out the pattern of suburban sprawl, car sales and road expansion, real estate speculation, how absentee ownership is looting local economies, and why local taxpayers are paying for the infrastructure that will be needed for people who aren't even here yet. She pointed out that building more big-box stores and cheap housing subdivisions ten miles outside the already grotesquely swollen city limits for the low-wage no benefit service sector jobs was the only hope this area has to continue growing the economy.

The parent thought about all of this for a minute or two, and her simple conclusion was, "Well, that means we just have to put an end to more growth."

This is just one more example that as soon as someone is given the information on the underlying causes, they can very quickly connect the dots. But information on what growth really is and the mythology behind it isn't allowed to be spoken in polite company. It's not good for business to make people aware of the disastrous consequences of capitalism, or to point out that our national religion, and its enforcement from the pulpit of government, is mammonism—the deification of greed.

What might a community that wasn't focused on growth look like? For one, people's attitudes would be different. A survey done by the Seattle Times showed that contrary to what growth advocates like to insist—that people move to new areas to seek increased opportunities—the majority of people said they moved to the Puget Sound area to escape places that had been destroyed by too much growth.

Fodor points out that putting the brakes on growth is a necessary step in creating the sustainable future that we want and our children require. In the Industrial Growth Society we don't have the time to relax, socialize, or enjoy the natural world—and even if we did we don't have the fresh air, clean water or safe neighborhoods to make these pursuits enjoyable.

We can make our communities the great places we'd like to be instead of using our energy planning where we're going to escape to. If we don't recognize and accept ecological limits and sustainability principles, our communities will perish. We need a shift in values, and those values can ground discovery, fulfillment and actually let us experience democracy in our own lifetimes. As I've said, we don't need to engage in long drawn-out processes to discover those values. They are presented in the Earth Charter, and just waiting for us to make use of

them. Instead of the mindless growth that is causing the problems we're seeking solutions to, we can choose to make our communities better places to live.

However, since I know that people like to have lists of things to do, here's Fodor's list of twelve practical steps that can be taken to create a sustainable community. Fodor says they can all be done within the current political and regulatory framework, although some could occur more quickly, or not be necessary, were communities to first adopt the definition of sustainability, or if our system of governance were to embrace an Earth jurisprudence. All of these have been covered at some point in this roadmap, mainly in the sections on sustainability and relocalization, but here they are, condensed and all together.

Using broad community input, build a positive vision that allows groups to work together to achieve common goals.

Increase citizen involvement in public planning and policy making to improve the democratic process.

Without compromising the environment, meet the economic needs of the community in an equitable manner.

Minimize the urban footprint through wise land use decisions as an integral part of long-range planning.

Assemble and disseminate good information on natural resource inventories, development impacts, policy and economic analysis to ensure good decisions.

Develop and use indicators to monitor status and progress toward sustainability goals.

The full environmental, social, and economic costs of development must be accounted for, used in policy decisions, and subsidies must be eliminated.

Community planning must be long-range. Think 50–100 years instead of 10–20.

Set resource efficiency goals for all sectors, and use incentives and regulations for consumption, waste and recycling.

Redesign neighborhoods (and I add city centers) to be people friendly instead of car friendly.

Preserve the unique features of an area as well as its resources to pass on to future generations.

Recognize that Earth is finite. Carrying capacity can be determined, and our communities must be in balance with life's basic support systems.

Just getting your community to begin discussing all of these steps as an integrated whole would be a good first step.

Examples: Built to Last; Reclaiming Choice in Population and Sex; Time to Become, Not Acquire

When I first developed the outline for this roadmap, I thought this would be a rather long section, but I think I've already said about all I have to say on these concepts, so I'll just wrap them up.

We could turn off industrialism today without immediately disintegrating into collapse and chaos. If we factor in the fact that the planned obsolescence lifespan of the majority of our industrially produced stuff is five to ten years at most, we could continue hobbling along while we retooled to produce—in a less energy intensive fashion—stuff that was more energy efficient, built to last and be easily repairable, and evolve beyond the idea that to do so is too expensive. Jobs could be provided, and food, shelter and energy can be made available as part of the social contract of a civilized society. We could press into service the most abundant natural resource we have available today, which is human labor. As Richard Heinberg has said, what America needs today is 50 million more farmers.

Simplistic? Perhaps. But it's only unthinkable as long as we insist on clinging to the unwarranted and unsupportable assumptions of the dominant paradigm—primarily that profit is necessary to ensure progress.

Of course, to move toward the goal of sustainability, we must also get population under control, a major aspect of doing so I've already covered. But we must also become comfortable with the fact that we are sexual creatures, and that sexual relations are a wonderful way to fulfill many of our natural senses. In a culture that has part of its foundation built on suppression, repression, and outright oppression of all things sexual, not only is this not easy to do, but most people aren't even comfortable thinking about any of this, let alone discussing it in public.

But we must. The abuse that occurs due to the repression of our natural senses—and the diversity of ways in which they can be healthily expressed—cannot remain a feature of a culture that wants to have justice and equity as part of its foundation. The human condition is not to atone for original sin, and the ills that arise from this dominator mode of disconnected thinking are completely unnecessary. At a bare minimum, we must become honest about the difference between love and lust, the time and place when they can be appropriately

expressed, and the level of maturity—of all consenting participants—required for this to occur. Simply removing the cultural stigma over masturbation would be a major evolutionary step forward in social mores. All this would also contribute to removing the violence and exploitation that people rightfully complain about in pornography, and allow it to shift toward a healthy, sensual erotica.

As we give up work that can only be defined as drudgery so we can assume more debt for stuff that is an addictive substitute for natural fulfillment, abandon furtive sexual pursuits that create guilt, angst and pain, and contribute to healing the world that grounds our potential, we will discover who we were meant to be. We'll have the time and resources—expressed through the natural abundance of mutually supportive attraction relationships—to become our potential instead of settling for merely acquiring someone else's servitude.

An Example for the Peace Movement

Let's use the peace movement as an example of how natural systems principles and a common rallying cry for sustainability can be brought into play to more effectively reach the movement's goals by addressing the root causes of war.

My core assumptions are that a culture of peace, ecological integrity, and social and economic justice must be founded on basic democratic principles. Sustainable human societies, in order to embody these ideals, must model themselves on the only truly functional example of sustainability that exists—healthy, vibrant, and resilient ecosystems.

War is anathema to peace. Wars are fought to protect lifestyles, usually those of the ruling elite. Sometimes to spread a religious view of the one proper way to live according to a unique conception of god, sometimes to gather more resources to support and expand a certain way of living and its control structure, but usually some combination of these two. As the days of cheap and abundant fossil fuels that provide the energy and other feedstocks for seemingly infinite material and economic growth come to an end, the next resource wars, thanks in large part to catastrophic climate destabilization brought on by burning up all the fossil fuels at our disposal, will likely be over water and arable land for food crops.

Western lifestyles are based on using materialism as a substitute for psychological and spiritual health. Materialism requires infinite growth and popular acceptance of the myth that purpose and meaning in life is to be found through having more instead of being more, and that autonomy from a cruel and heartless nature plus increasing mounds of personal possessions are necessary for security and happiness.

A culture of peace, on the other hand, would be based on the core principles of natural systems. It would speak truth to power and help people recover the ability to connect the dots among what is oppressing them, destroying their health, making them financially poorer, and leaving a mountain of waste, debt and fewer resources to future generations.

The Industrial Growth Society and its doomsday economy leads in the opposite direction of peace. Fortunately, there is an alternative. This alternative would be the creation of a culture of partnership that works with the life-affirming and nurturing self-organizing principles of all living systems to create mutually supportive relationships. Remembering how to think and act the way nature works would lay the cornerstone for the path to a peaceful and sustainable future. So, stopping our war against nature would be step one for the peace movement.

Another issue that must be dealt with is the single issue focus of many progressive activist groups. In regard to peace, it seems that individual wars are what people tend to get upset about (Vietnam and Iraq), but not about the underlying mission of empire and hegemony. What peace groups must do is help people connect the dots between cheap beef, cheap gas, cheap clothes, plastic bags, sprawl, and the use of our sons and daughters as cannon fodder to protect corporate profit. It's not just opposing the neocons, but the 200 years of U.S. foreign policy that props up tin-pot dictators who allow multinational corporations to rape their country's natural resources, so the corporations can pay their debts to the central bankers, who use the resulting obscene profits to underwrite the national militaries who enforce these policies, which puts nation-states further into debt to bankers and makes them even more dependent on the multinational corporations and arms manufacturers to keep war economies chugging along.

A concrete example of this is the requirement that African nations, in order to qualify for U.S. foreign aid, must spend the vast majority of the aid money on U.S. products and services. So, instead of helping these nations grow drought resistant crops and move toward self-sufficiency, the money must be spent purchasing U.S. grains that were grown with taxpayer subsidies. This is then spun to the public as the best way to combat hunger and poverty. Hmm . . . into whose pocket is the money actually going?

Even when it comes to dealing with single issues, it would behoove us to take the time to discover what the real issue is. For example in Iraq and Afghanistan, is the issue to be debated whether we should stay or go, or is the issue that these wars for empire are not sanctioned by international law? Which should also lead us to ask whether war can be sustainable in a world heading for ecological and economic meltdown. Are the lost lives of our loved ones worth not having to

change our excessively wasteful lifestyles that aren't living up to their promises of fulfillment anyway? The obvious conclusion should be that it is past time to quickly think of something completely different.

At this point you may be thinking, ok, this all makes sense, but how to we actually get to a peaceable and sustainable future? What is the process that we can actually embrace in our daily lives and interactions? What would the daily activities consist of? How will my life be made better?

A start would be agreeing on a common goal of a sustainable future based on a shared set of values and aspirations held by the majority of people around the world. One obvious outcome of this would be the creation of the most diverse and most united voting block and positive force for progressive social change the world has ever seen.

The nexus of sustainability and the peace movement connects the dots amongst the greatest set of converging crises facing industrial civilization and perhaps life on earth as we've become comfortable with it—the Triumvirate of Collapse. However, we can't ignore economic growth, material accumulation outrun only by waste accumulation, empire and hegemony, an ever widening wealth gap, environmental toxicity, biodiversity loss, and the paradigm underlying them all—force-based ranking hierarchies of domination and control that depend on fear and a pathological sense of the other, whether that other is the natural world, a different culture, or a different name for god.

And there is something that we, together, can do about it all of this—a readily available, viable, systemic alternative. One that doesn't make us put on hair shirts, return to the cave, and start carrying water; that improves people's quality of life and starts giving ecosystems the opportunity to begin their own healing.

Our modern times are waiting for the terms and expressions to emerge necessary to describe them. Apocalypse is forecast, but never arrives. We have front-row seats to a planet in steady decline, but a catastrophe in slow motion doesn't tend to impinge on our screen of consciousness. Unprecedented systemic changes are taking place, and the blue-light specials are still available at K-Mart. From an ecological perspective, apocalypse may well have occurred already. We really have no fucking idea how to even really begin to measure it. And it's started to take on a feeling of normalcy, as it unfalteringly unwinds itself on a daily basis. We've come to expect it, and that in and of itself is probably the greatest violence that's being done to our sense of self and nullifying our potential as a species.

Whatever shall we do? Do we really want to institute change, or have we become resigned to an eventuality? Do you find yourself thinking that this is just the natural state of things, the only way it could have happened; that it's our

human nature and couldn't be changed even if we really, really did desire to? Perhaps you're among the group that's silently praying that some genius will invent something to allow us to go on livin' large, while simultaneously praying that a Predator drone didn't just drop a bomb on his wedding party.

I'll tell you one thing. If we have any hope of pulling our collective ass out of this one, it's going to take more than the cosmetic and superficial changes of swapping out squiggly light bulbs and buying Priuses. In fact, the latter just has to cease post haste. We have to quit wasting our collective dwindling resources and money on making the world more convenient for, and continuing our dependency on, the automobile. We also can't waste our time hoping or working for things to return to normal, because normal is what got us into our current sorry state.

But we can change, and do so rather quickly should we decide to. I base this assertion on evidence, research, experience, and historical precedence. There is a viable, pragmatic alternative available. Whether or not we can do it in time is an open question. But, there is no inherent reason, no natural law or principle putting roadblocks in our path, only cultural ones—which means it is nothing more than blind adherence to a story that is holding us back.

When activists get together and talk about creating coalitions or hub organizations of some type, they often come to the conclusion that we must organize around our commonalities. I submit that our core commonality is that we all come from the earth, and in an interconnected and interdependent universe, that is fundamentally friendly to life and its evolution, what we do to the earth we do to ourselves. Thus, the one goal that can support all of our individual passions and life's work as change agents is the goal of creating a sustainable future.

To do this we must first realize that sustainability is not a meaningless buzz phrase. It can be defined in a way that is legally defensible, ecologically sound, and objectively measurable. We must also quit allowing the other side to define our terms and then tell is that it's not possible.

Relocalization—a process to create a sustainable future—can provide the framework for a "big tent" type of effort. More than just food and energy security, though, relocalization requires all the puzzle pieces, including the one labeled "fun," to be in place. We don't get partial credit if any of the people who contribute to quality of life are missing—ecstatic dancers, farmers, caregivers, bookkeepers, cops. Relocalization is not slapping Band-Aids on the wounds of empire; it is both anathema and antidote to corporate globalization. It's not single issue branch clipping; it's pulling the diseased root of domination and empire all the way out and planting and nurturing something completely different.

At a fundamental level, sustainability is a term that connotes any living system's ability to adhere to the natural systems principles that allow an ecosystem to become and remain healthy, vibrant, and resilient. This also means adherence to ecological carrying capacity, which is the point at which most Westerners tend to run screaming in the opposite direction. Sustainability spells the end of the culture of narcissism. It sounds the death knell for dominator hierarchies, centralized control, and economic growth. It forces us to face the addictive substitutes we've come to rely on for the natural fulfillments that are withheld, through various means from schooling to advertising, within a paradigm that focuses almost exclusively on consumption, accumulation, aggressive competition, and hyper-individualism.

Sustainability is not a special interest—it is life. It isn't my way, it is our way if we truly wish to leave a habitable planet to future generations; if we want to learn how to holistically co-exist with the other millions of species that make up the web of life and the food chain on which we depend for our basic sustenance—as well as all higher levels of fulfillment.

Sustainability is foundational to the peace movement. A truly sustainable world will be a world at peace, but the reverse is not necessarily true. We could quite peacefully and "greenly" consume ourselves into extinction. Peace on Earth requires peace with Earth. The exploitation of all of nature must cease. This explicitly means that we must quit providing the legitimacy for the stories, religious and otherwise, that exploit, abuse, and stifle our own inner nature.

According to the thousands of scientists who study catastrophic anthropogenic climate destabilization, we're quickly running out of time. According to geophysicists and biologists, we're running out of natural resources and the biodiversity needed to keep the food chain from collapsing. No food chain, no food. It doesn't get much simpler than that. We have to quit being afraid to say this is exactly what's happening just because it might alarm or upset or challenge deeply cherished worldviews.

I mean, since America ranked next to last out of 150 countries on the UN's happiness scale one year, when 50% of the American population requires at least one prescription drug per day, when our lifespans, our incomes and our sovereignty are steadily decreasing, what have we got to lose by being honest with people—with forthright truth telling? We actually are capable of handling it. The myth that insists otherwise does nothing but support the status quo, so be very wary of those who repeat it—their motivations are suspect.

Relocalization presents an alternative way of doing things based on natural systems principles and the values—expressed by the Earth Charter—we share

that emerge from these principles. The Earth Charter has already undergone a decade long vetting process. We don't have to reinvent any wheels, nor are we alone here. In fact, we're actually the majority.

And the thing is, reconnecting and relocalizing, undertaking this Great Work for the Great Turning, this shift in consciousness, can't do any actual harm to anything except a story. Well, and to bankers and insurance companies. But it doesn't require anyone to sacrifice themselves . . . or their pet goat. Instead of burning energy, renewable or otherwise, for continuous industrial growth, let's shift our focus and priorities toward the development of our human potential and start measuring wealth by the quality and quantity of the mutually supportive relationships one can develop and maintain. Let's fully engage in the relocalization process. Let's rebuild community through safe and healthy neighborhoods that are energy efficient and ecologically benign. Let's create local steady-state living economies that are vibrant and resilient. Let's start to think and act the way nature works. Let's embody peace.

When one truly understands sustainability and all it entails—the interconnectedness of all beings—it makes one more afraid of hating than of dying. And I can't think of a better foundation for an effective and lasting peace movement than that.

• • •

To close out this roadmap, let me say that it's time to overcome the limited vision that constrains the options we believe to be possible, and embrace some true alternatives. As a final example of what I mean, Mark Lynas, author of *Six Degrees: Our Future on a Hotter Planet*, met in 2008 with a group of specialists in climate, economics and policy at the Stockholm Network to model future scenarios of how international policy might evolve. A core understanding of this group was that when dealing with something as potentially dangerous as global warming, "there is no room for dogma when considering the future habitability of our planet."

They considered three possible scenarios which the Met Office Hadley Centre ran through a computer model to give each a projected temperature rise. The first scenario they called "agree and ignore." This is the current intergovernmental process as demonstrated by the Copenhagen and Durbin climate talks—non-binding commitments are made but not complied with. This one gives a temperature rise of 4.9C by 2100. The second scenario was called "Kyoto Plus." This was the best outcome under the current process of binding agreements

known to be wholly inadequate, which keeps emissions rising until 2030 with temperatures 3.3C higher by 2100. As a quick refresher, the best scientific thinking today says we can't afford to let the global average temperature get much more than 1.5C higher, with most governments generally agreeing it would be wise to try to keep them under 2C, and the collapse we're currently witnessing is occurring at 1C above preindustrial levels.

The third scenario was called "step change." This is the one mainstream environmental groups are shooting for. This scenario uses the massive climate disruptions and subsequent disasters that we're already seeing to create a wake-up call, governments suddenly come to their senses, abandon agreements and simply go after industry to cap emissions and use tradable permits, and let the market work its magic. Consumer demand falls due to price increases, and "auctioning of permits raises trillions of dollars to be spent smoothing the transition to a low-carbon economy." Yeah, right. That's plausible. If you believe that, you'll buy this watch. Anyway, temperatures still rise by 2.9C by 2100 even given the possibility of emissions peaking by 2017.

The basis for the thinking behind the "optimism" of the third scenario is that a firm price on carbon provides the necessary incentives to invest in renewable energy and cleaner production processes, and keep the Industrial Growth Society merrily humming along.

Why is everybody afraid to talk about a fourth scenario to the ones offered here? This alternative would start with the assumption that an intelligent species would understand that financial incentives weren't necessary to deal with catastrophic anthropogenic climate destabilization. The only incentive necessary is the need to save a livable planet.

The fourth scenario is powering down, and also starts by injecting a very large dose of some much needed honesty into the debate. Profit is not more important than either people or planet. The overall project of economic growth and industrialism in general isn't even really improving people's quality of life—only a very superficial standard of living—while it actually increases global poverty as the wealth gap widens and the biosphere follows us in our handbasket.

Lynas states that since the three options they considered are the only possible ones, we must focus on adaptation strategies. Well, sorry Mark, but adapting to the projected politically feasible scenarios of climate catastrophe is not an option. The web of life will be torn asunder, and while it will eventually recover, humans won't be around to see it.

Our option, the only realistic alternative that throws political feasibility out the window, is to embrace who we are and press our capabilities into service. The

values of compassion, nurturance, and social altruism associated with a partnership culture are part of an ideology that stresses creation rather than destruction. From the Neolithic era to England's Elizabethan age, social eras that tend toward more partnership styles also tend toward greater cultural creativity. The partnership definition of power is enabling; it is the power to give and create; it encompasses the responsibility to help develop talents and abilities in everyone.

It is vitally important to realize that there is an alternative to the competitive, aggressive, destructive social structures of the world today. This alternative is a fundamental and natural part of who we are; it is a biological inheritance. We're not exclusively hard-wired to be dominators or to pleasure ourselves to death. We have a choice to work with, instead of against, the life-affirming, creative principles of the universe that are an intimate aspect of who we are.

So, let's bundle up and embody all the sayings that are starting to become clichés. In order to save ourselves and our world, we must learn to see and feel the connections between the personal and the planetary. We must discover that our individual work has a collective significance. Only by doing what makes us come alive can we find natural fulfillment in what really matters. What we truly love is what we will fight to save.

Of course, as mentioned in Chapter 3, we must also do all the things Al Gore says we should do in the documentary An Inconvenient Truth. But here's a final thought I'd like to leave you with. Personal changes take us about 23% of the way toward achieving our carbon reduction goals and saving our life support system. If we continue to allow, by continuing to hold our collective nose and voting for the lesser of two evils, even one with a slightly green sheen, profit to trump planet, we will turn a dead planet over to our children. Industrialism must be stopped. If the candidate you're supporting is offering nothing more than throwing a slightly larger crumb over the wall by pandering to a narrow special interest, remove your support. Remember—we the people are more powerful than we dare to believe.

We don't have to reinvent any wheels. We have all the spokes. What we must do is lace them in a cohesive, comprehensive, and coherent manner that keeps the wheel balanced and true.

While the problem of ecocide is highly irrational, the manner in which it occurred is highly rational—just disconnected and illogical when viewed with 20/20 hindsight. Shifting from an industrial growth society of exploitation and domination to a just, equitable, and sustainable culture based on attraction relationships constitutes the intellectual and spiritual challenge of our time. An effective way to meet this challenge is by building coalitions based on mutual support that explicitly connect the dots within a natural systems framework.

By finding the inspiration—by remembering our natural ability to actively participate in cocreation—we become aware that it is more than just possible to be successful in developing a sustainable future. It is actually the natural order. After all, we have the life-giving creative energy of the universe working with us to reverse our current handbasket to hell.

APPENDIX A

Triumvirate Matrix

This is a complex web of dynamic interactions which represents what we have and the systemic alternative for what we can create—a completely different complex web based on new assumptions using new tools.

The Dots

Dominator Hierarchies Disconnection from Nature Pathological Sense of the Other	How we got here
Mind Body Dualism Enclosure of the Commons Debt for Imperialism	Enlightenment Support
Hierarchy Progress Technique	Industrialism
Industrialism Economic Cannibalism Corporatism	Industrial Growth Society
Peak Oil, resource depletion Global Warming, biospheric toxicity Industrialism/Corporatism, loss of democracy	How it manifests

The Reversal

Reconnecting With Nature Relocalizing Our Communities Building Coalitions of Mutual Endeavor	What we can do differently
Systems Science Applied Ecopsychology Rational Spirituality	Alternative support
Steady State Economics Earth Jurisprudence Bioregional Governance	Alternative systems
Common Goal—Sustainable future Shared Values—Earth Charter Congruent Issues—Integrity, justice, equity, democracy	Coalition Basics
Holistic Integration—Earth and Society Future Focus—moral Carrying Capacity—scientific	Aspects of sustainability
Organizing—sharing leadership Communicating Group Decisions	Non-hierarchical methods
Enriched versus Impoverished Environments Cultural Creatives Failures of Radical Behaviorism	Support for rapid change

True justice is not possible without sustainability,
and without justice, there will be no peace.

APPENDIX B

Are you a **Cultural Creative**? This list can give you an idea. Choose the statements that you agree with.
You are likely to be a Cultural Creative if you . . .

1 ____ love Nature and are deeply concerned about its destruction
2 ____ are strongly aware of the problems of the whole planet (global warming, destruction of rainforests, overpopulation, lack of ecological sustainability, exploitation of people in poorer countries) and want to see more action on them, such as limiting economic growth
3 ____ would pay more taxes or pay more for consumer goods if you could know the money would go to clean up the environment and to stop global warming
4 ____ place a great deal of importance on developing and maintaining your relationships
5 ____ place a lot of value on helping other people and bringing out their unique gifts
6 ____ do volunteering for one or more good causes
7 ____ care intensely about both psychological and spiritual development
8 ____ see spirituality or religion as important in your life, but are concerned about the role of the Religious Right in politics
9 ____ want more equality for women at work, and more women leaders in business and politics

10 ___ are concerned about violence and abuse of women and children around the world
11 ___ want our politics and government spending to put more emphasis on children's education and well-being, on rebuilding our neighborhoods and communities, and on creating an ecologically sustainable future
12 ___ are unhappy with both the Left and the Right in politics, and want a to find a new way that is not in the mushy middle
13 ___ tend to be somewhat optimistic about our future, and distrust the cynical and pessimistic view that is given by the media
14 ___ want to be involved in creating a new and better way of life in our country
15 ___ are concerned about what the big corporations are doing in the name of making more profits: downsizing, creating environmental problems, and exploiting poorer countries
16 ___ have your finances and spending under control, and are not concerned about overspending
17 ___ dislike all the emphasis in modern culture on success and "making it," on getting and spending, on wealth and luxury goods
18 ___ like people and places that are exotic and foreign, and like experiencing and learning about other ways of life.

If you agreed with 10 or more, you probably are a Cultural Creative.

APPENDIX C

The 53 Senses and Sensitivities

Compiled by Michael J. Cohen, Ed.D.

The Radiation Senses

1. Sense of light and sight, including polarized light.
2. Sense of seeing without eyes such as heliotropism or the sun sense of plants.
3. Sense of color.
4. Sense of moods and identities attached to colors.
5. Sense of awareness of one's own visibility or invisibility and consequent camouflaging.
6. Sensitivity to radiation other than visible light including radio waves, X rays, etc.
7. Sense of temperature and temperature change.
8. Sense of season including ability to insulate, hibernate and winter sleep.
9. Electromagnetic sense and polarity which includes the ability to generate current (as in the nervous system and brain waves) or other energies.

The Feeling Senses

10. Hearing including resonance, vibrations, sonar and ultrasonic frequencies.
11. Awareness of pressure, particularly underground, underwater, and to wind and air.
12. Sensitivity to gravity.

13. The sense of excretion for waste elimination and protection from enemies.
14. Feel, particularly touch on the skin.
15. Sense of weight, balance.
16. Space or proximity sense.
17. Coriolus sense or awareness of effects of the rotation of the Earth.
18. Sense of motion. Body movement sensations and sense of mobility.

The Chemical Senses

19. Smell with and beyond the nose.
20. Taste with and beyond the tongue.
21. Appetite or hunger for food, water and air.
22. Hunting, killing or food obtaining urges.
23. Humidity sense including thirst, evaporation control, and the acumen to find water or evade a flood.
24. Hormonal sense, as to pheromones and other chemical stimuli.

The Mental Senses

25. Pain, external and internal.
26. Mental or spiritual distress.
27. Sense of fear, dread of injury, death or attack.
28. Procreative urges including sex awareness, courting, love, mating, paternity and raising young.
29. Sense of play, sport, humor, pleasure and laughter.
30. Sense of physical place, navigation senses including detailed awareness of land and seascapes, of the positions of the sun, moon and stars.
31. Sense of time.
32. Sense of electromagnetic fields.
33. Sense of weather changes.
34. Sense of emotional place, of community, belonging, support, trust and thankfulness.
35. Sense of self including friendship, companionship, and power.
36. Domineering and territorial sense.
37. Colonizing sense including compassion and receptive awareness of one's fellow creatures, sometimes to the degree of being absorbed into a superorganism.

38. Horticultural sense and the ability to cultivate crops, as is done by ants that grow fungus, by fungus who farm algae, or birds that leave food to attract their prey.
39. Language and articulation sense, used to express feelings and convey information in every medium from the bees' dance to human literature.
40. Sense of humility, appreciation, ethics.
41. Senses of form and design.
42. Sense of reason, including memory and the capacity for logic and science.
43. Sense of mind and consciousness.
44. Intuition or subconscious deduction.
45. Aesthetic sense, including creativity and appreciation of beauty, music, literature, form, design and drama.
46. Psychic capacity such as foreknowledge, clairvoyance, clairaudience, psychokinesis, astral projection and possibly certain animal instincts and plant sensitivities.
47. Sense of biological and astral time, awareness of past, present and future events.
48. The capacity to hypnotize other creatures.
49. Relaxation and sleep including dreaming, meditation, brain wave awareness.
50. Sense of pupation including cocoon building and metamorphosis.
51. Sense of excessive stress and capitulation.
52. Sense of survival by joining a more established organism.
53. Spiritual sense, including conscience, capacity for sublime love, ecstasy, a sense of sin, profound sorrow and sacrifice.

APPENDIX D

The 10 Key Values of the Green Party

1. GRASSROOTS DEMOCRACY Every human being deserves a say in the decisions that affect their lives and not be subject to the will of another.

2. SOCIAL JUSTICE AND EQUAL OPPORTUNITY All persons should have the rights and opportunity to benefit equally from the resources afforded us by society and the environment.

3. ECOLOGICAL WISDOM Human societies must operate with the understanding that we are part of nature, not separate from nature.

4. NON-VIOLENCE It is essential that we develop effective alternatives to society's current patterns of violence.

5. DECENTRALIZATION Centralization of wealth and power contributes to social and economic injustice, environmental destruction, and militarization.

6. COMMUNITY-BASED ECONOMICS AND ECONOMIC JUSTICE We recognize it is essential to create a vibrant and sustainable economic system, one that can create jobs and provide a decent standard of living for all people while maintaining a healthy ecological balance.

7. GENDER EQUITY We have inherited a social system based on male domination of politics and economics. We call for the replacement of the cultural ethics of domination and control with more cooperative ways of interacting that respect differences of opinion and gender.

8. RESPECT FOR DIVERSITY We believe it is important to value cultural, ethnic, racial, sexual, religious and spiritual diversity, and to promote the development of respectful relationships across these lines.

9. PERSONAL AND GLOBAL RESPONSIBILITY We encourage individuals to act to improve their personal well-being and, at the same time, to enhance ecological balance and social harmony.

10. FUTURE FOCUS AND SUSTAINABILITY Our actions and policies should be motivated by long-term goals. We seek to protect valuable natural resources, safely disposing of or "unmaking" all waste we create, while developing a sustainable economics that does not depend on continual expansion for survival.

APPENDIX E

Adopting a Definition of Sustainability

Example of Resolution to Governing Bodies in Pima County, AZ

For the adoption of a legally defensible and ecologically sound definition of sustainability as a necessary condition for economic development, planning, zoning, and land use and for protection of our surrounding ecosystems and watersheds.

The proposed three clause definition of Sustainability is:

1) The integration of human social and economic lives into the environment in ways that tend to enhance or maintain rather than degrade or destroy the environment; 2) A moral imperative to pass on our natural inheritance, not necessarily unchanged, but *undiminished* in its ability to meet the needs of future generations; 3) Determining, and staying within, the balance point amongst population, consumption, and waste assimilation so that bioregions, watersheds and ecosystems maintain their ability to recharge, replenish, and regenerate.

Whereas: We live in rapidly changing times brought on by the convergence of crises known as global warming, peak oil, and the breakdown of the economic system of infinite growth from which the first two crises emerge;

Whereas: From the definition of sustainability it can be shown that sustainability is not simply an environmental issue, it is a community issue, and that you cannot consider yourself sustainable at the expense of another community or region;

Whereas: Mayor and Council of the City of Tucson has formally established a Framework for Advancing Sustainability, has adopted the Mayors' Climate Protection Agreement, and the Pima County Board of Supervisors unanimously adopted the Sustainable Action Plan for County Operations we need an evaluation tool to ensure deeds are congruent with desires;

Whereas: There is growing awareness of the urgent need to become sustainable which necessarily includes quickly powering down from fossil fuel dependence and overcoming dependence on infinite growth in production and consumption on a planet that has both finite resources and finite waste sinks;

Whereas: To live in balance with our desert environment the definition of sustainability carries within it a requirement to adhere to carrying capacity, therefore we must first determine what our regional environmental and economic carrying capacity is;

Whereas: Quality of life and standard of living are fundamentally different; to develop means to become qualitatively better, not quantitatively bigger; and vibrant, resilient local steady-state economies can deliver a better quality of life;

Whereas: Progress is a direction, not an absolute size. Consideration of a growth moratorium may need to be taken (to keep things from getting progressively worse) as we have most probably already broken too much ground and must concentrate on rebuilding our current infrastructure in a sustainable manner, i.e. one that remains within our ecological and economic carrying capacity restraints and limitations.

NOW, THEREFORE, BE IT RESOLVED by this duly elected body:

Section 1. That we adopt the above definition of sustainability to serve as a legal foundation for sustainable development;

Section 2. That this definition will also serve as a yardstick to measure progress toward the goal of a sustainable future;

Section 3. That projects and decisions concerning economic development, planning, zoning, and land use be evaluated from the perspective of adherence to sustainability to safeguard against growth for the sake of growth that is uneconomic, environmentally destructive, and anathema to public health and safety;

Section 4. To help facilitate the community conversation over the quality of life we wish to sustain as automobiles, planned obsolescence, and Colorado River water become faded memories.

We, the undersigned, do petition our elected representatives to adopt this resolution, as we work together to bring atmospheric concentrations of greenhouse gases and other effects of biotoxicity from the paradigm of infinite industrial growth back down to pre-industrial levels with technologies currently available but unused because they interfere with increased profit or are deemed politically infeasible.

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The editors wish to thank those on this list upon whose shoulders Dave stood while performing his comprehensive synthesis of our systemic problems and potential solutions.

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David Charles Ewoldt
12/31/53–12/4/18

Systems researcher and ecopsychology therapist Dave Ewoldt started his diverse career as a U.S. Navy electronics technician specializing in microwave and satellite communications equipment and held a Top Secret security clearance to work on cryptographic communications equipment. After completing his service in the Navy, he spent one year at the Stanford Linear Accelerator Center where he was engaged in high-energy particle physics research and computer controlled process automation. The following three years in the Manufacturing Systems Engineering graduate department at UT Austin working in robotics and artificial intelligence resulted in him being listed in the Who's Who in Artificial Intelligence in 1985.

Dave's degrees include software engineering and psychology. While at Eastern Washington University he was an elected officer in Psi Chi, the national honor society in psychology. He was completing a doctoral program in Applied Ecopsychology when he passed away.

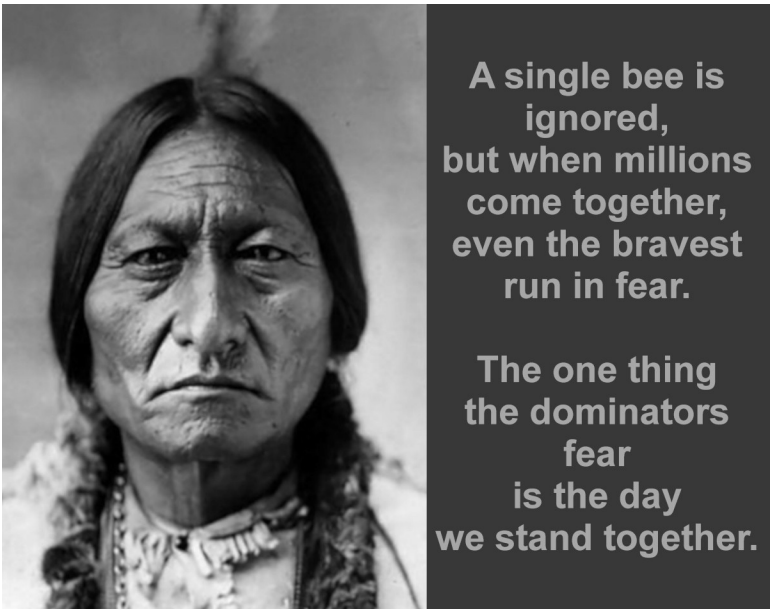
Dave was co-founder and Sr. Analyst for the non-profits Attraction Retreat ("catalyzing personal empowerment, societal transformation, and environmental sustainability") and Coalitions of Mutual Endeavor, and he was a practitioner and researcher in the field of ecopsychology—helping people remember how to think and act the way that nature works. He called himself a paradigm shift coach.

He and his wife Allison co-founded The EcoIntegrity Center of Bellingham, WA (EcoBell), a branch of Attraction Retreat that served as a community hub for kindred spirits and a sustainable urban intentional community.

Dave was a member of a national speakers' bureau on global warming and also spoke regularly and ran political campaigns based on the relationships among Peak Oil, global warming, corporatism, industrialism, the theft of the commons, dominator hierarchies and how the alternative of relocalization (the process of powering down and reconnecting with nature while utilizing steady-state economies and an Earth jurisprudence) will provide a practical, affordable process to create a sustainable future based on ecological integrity, social justice, economic equity, and participatory democracy.

His articles and essays have appeared in *New Earth Rising, Culture Change, Rachel's Democracy and Health News, Energy Bulletin, Shan Newspaper, OpEd News* as well as regional and local publications. His academic papers have appeared in the proceedings of the International Society for Chaos Theory in Psychology (1992), the International Society for the Systems Sciences (2006) and the Arizona Hydrological Society (2007).

Connecting the Dots: A Roadmap for Critical Systemic Change was Dave's last work—a powerful legacy for the people and planet he loved.



REVERSING OUR HANDBASKET TO HELL

In *Connecting the Dots*, systems researcher and ecopsychologist Dave Ewoldt uses his wide breadth of knowledge to examine the underlying causes of our current destructive status-quo, explain how and why a shift is possible, and provide us with numerous non-hierarchical tools that will help facilitate positive, powerful systemic change. This unique and comprehensive framework for coalition building is based on the way natural systems function—because after billions of years of remaining in balance, Nature is the ultimate resource to support and guide our efforts toward a sustainable, life-supportive paradigm.

"Dave Ewoldt had a passion for tracing connections—and that´s what leads to insight and understanding. The book he left us is full of insights about how and why we humans drove ourselves into history´s darkest cul de sac, and how we can reverse our way out. Even if you think you already know what´s happening and what needs to be done, you´ll come away from *Connecting the Dots* feeling more curious, more aware, and better equipped to act on behalf of Earth and future generations."

RICHARD HEINBERG
Senior Fellow, Post Carbon Institute

"I can't overstate the importance—even necessity—of this wonderful book. *Connecting the Dots* is a profoundly sane book, a refuge and inspiration in this difficult and destructive time, and a guide for how to co-create a sustainable future."

DERRICK JENSEN
author of *End Game*

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TUCSON, ARIZONA 85711