

## Whole-Systems Thinking

As suggested by the prophecies of indigenous civilizations and elaborated upon by writers such as David Korten, Joanna Macy, and Jeremy Rifkin,<sup>1</sup> we are at the very beginning of an Earth-based awakening to what could be a near-magical integration into a much more intelligent, alive, and nurturing Cosmos than most of us have previously imagined. The process by which this is enacted is what Barbara Marx Hubbard terms “Conscious Evolution” and Tom Atlee calls “Evolutionary Activism.”<sup>2</sup>

The evolution of evolution is a transition from unconscious to conscious choice. This is the type of whole-systems thinking championed by the pioneering design scientist Buckminster Fuller and further developed by Russell Ackoff.<sup>3</sup>

### The Challenge of Complexity

“World Systems” or the “Whole Earth” is assuredly a complex system of systems, never mind the galaxy and the cosmos! For the Earth alone, we have the geosphere, the hydrosphere, the biosphere (from which some would separate out the anthrosphere or man), and the atmosphere,

all in an extraordinary balance necessary to retain oxygen on Earth and provide other conditions for life.

In order for us to live within this finely balanced constellation of complex systems, in order for the Earth to show resilience and last for centuries into the future as an environment for human life, we have to embody three things: a respect for Earth systems and their details in balance; a commitment to discovering and sharing the truth and only the truth at all times about all things; and a commitment to doing no harm.

We have failed on all three counts since abandoning the wiser ways of our indigenous forerunners and falling into the abyss of empire, domination, and separation.<sup>4</sup> I particularly admire the manner in which Thomas Homer-Dixon describes this in *The Ingenuity Gap: Facing the Economic, Environmental, and Other Challenges of an Increasingly Complex and Unpredictable Future*.<sup>5</sup> From that work, which is quite spectacular in acknowledging and integrating the research of others, I draw the following highlights, a tiny handful from the many that can be found in my full online review:

- Dangers increase as man creates complications and misdirects his energy and resources.
- “Hypercapitalism” (a concept credited to David Harvey) compresses time and space, over-produces waste, over-concentrates wealth.
- We know from Chaos Theory that nature will magnify every human perturbation, however miniscule.
- We are deluded in our belief that we can control com-

plexity and predict the outcome of perturbing large systems such as the climate.

- Our social systems are deeply out of synch with nature (less mature), while our economic and technical systems ignore the limits of the natural world.
- Washington, DC, bureaucrats, including senior CIA analysts, do not possess training in the type of whole-systems thought necessary to understand complex realities.
- While the pace of change accelerates, the depth of ignorance and the political resistance to doing the right thing continue to increase as well.
- Delays in policy understanding, decisions, action, and outcomes compound losses over time.
- Humanity has killed one quarter of the planet's diversity to date.
- This systemic imbalance is not sustainable and will soon lead to a devastating collapse without a redirection of human society toward a new relation with the Earth.
- Our ego and our inherited belief structures block us from utilizing our collective intelligence.
- Wealth gaps + migrations = poor global management.

Complex whole systems are almost impossible to address functionally in the absence of intelligence and integrity. An easy way to appreciate the importance of both is provided by Charles Perrow in *Normal Accidents: Living with High-Risk Technologies*,<sup>6</sup> where he discusses three levels of systems, how they fail, and how diagnosis and remediation become increasingly difficult:

1. Simple systems fail in simple ways that are easy to diagnose and correct.
2. Complex systems fail in complex interacting ways that are difficult to diagnose and virtually impossible to remediate from a single fixed point.
3. We are operating within a constellation of complex systems, and the ability to diagnose and remediate is now totally beyond the capacity of any “top-down” entities such as governments or corporations. We have reached our maximum level of incompetence.<sup>7</sup>

This means two things: First, that our industrial-era, top-down, “command and control” systems are not only ineffective, they make problems worse. Second, how we share information and maintain the integrity of the information that we access is vital if we are to be resilient in the face of complex failures and constant challenges.

To the above I add my own observation over decades that many if not most of our technical-support systems are built by the lowest bidder or highest briber (or by the quality-unconscious Chinese), while we fail to practice the precautionary principle (if there is a risk of harm, burden of proof that it is not harmful falls on those proposing the action) in our science and technology, leading to unforeseen hazards and negative feedback loops over time.

## Complex Threats to Humanity and the Earth

There are two points of reference helpful for quickly grasping, in a coherent manner, the largest elements of the complex environment that we are disrupting and poisoning.

The first, published in 2003, is a gift to humanity from Jean Francois Richard, at the time Vice President for Europe of the World Bank. He divides our challenges into three groups, listed in the endnote, and they all add up to manmade problems.<sup>8</sup>

The second—and this one with the cachet of having been issued by the United Nations High-Level Panel on Threats, Challenges, and Change—focuses only on high-level threats to humanity, prioritizing ten global threats to our survival—these also are listed in an endnote, and all are man-made problems.<sup>9</sup>

The reality is that all of these threats are created by a system of governance, Epoch-A governance, which relies on top-down, command and control, “rule by secrecy.” This structure of governance blatantly lies to the public—and to legislatures, the courts, and international bodies—about the concentration of private wealth. Government for the benefit of corporations externalizes the “true costs” of activities that are detrimental to humanity and the Earth. In the face of systemic deception and self-delusion, all claims to the possibility of sustainable progress are fiction. Tom Wessells makes this point compellingly in his book *The Myth of Progress: Toward a Sustainable Future*,<sup>10</sup> noting

that in complex systems, especially complex systems for which we have a very incomplete and imperfect understanding, “control” is a myth, just as “progress” is a myth if you are consuming your seed corn. He demonstrates the flaws of economic theories that are divorced from reality and the “true cost” of goods and services.

No amount of money is going to prevent catastrophe. Absent a commitment to creating a culture of attention and interoperability and information-sharing, we will create our own catastrophes each time we are challenged by what could have been nothing more than a localized disaster.

In *The Collapse of Complex Societies*,<sup>11</sup> Joseph Tainter concludes that if we are to achieve sustainability and resilience, we must nurture at all levels across all boundaries a culture that elevates “problem-solving” as well as the ability to think strategically—an understanding that everything is connected and that getting a grip on the facts of the matter across all boundaries is an essential first step toward conceptualizing workable solutions to complex challenges.

Truth—the combination of intelligence and integrity as well as transparency—is the foundation for both understanding and eradicating these threats, while moving as quickly as possible toward what should be the human mantra toward the Earth and all species, “First, Do No Harm.”

## Responding with Flexibility

Even with perfect truth there are natural as well as man-made causes that will inevitably present communities

with a complex emergency. As predictable as many such emergencies are, what turns disasters into catastrophes is a poor culture of planning and agile response. Conversely, resilience comes rooted in a culture of anticipation, of planning, and of truthful agile responsiveness that empowers all stakeholders, excluding no one. Resilience is the ability to absorb varying forms of shock, attack, disorder, and unanticipated setbacks, and to emerge more or less whole and able not just to carry on but to grow.

David Keys, author of *Catastrophe: An Investigation into the Origins of Modern Civilization*,<sup>12</sup> tells us that natural catastrophes are treated as remote and improbable until they actually occur. Only those civilizations that plan ahead and are well-organized can respond to disasters as they happen, thus reducing the severity of drought, famine, or other challenges. What he does not focus on, covered very ably by Ted Steinberg in *Acts of God: The Unnatural History of Natural Disaster in America*,<sup>13</sup> is how systemic corruption among the elites increases the damage caused by natural disasters, as little flexibility or resilience is built into systems designed to reward the few. People are persuaded or allowed to occupy floodplains and other areas prone to disaster; land speculation runs rampant with local government and insurance company complicity; intermediate measures such as levees are built at public expense. When it all comes crashing down, as with Katrina over New Orleans or the increasingly regular Mississippi River flooding, the rich walk away with their high risks having been amortized, while the poor and minority communities are ruined.

I focus on these negatives in order to emphasize that in combination, a full grasp of the truth—complete transparency for all stakeholders, not just the elite few—and sensible prior planning and community design can eliminate or vastly reduce loss of life and property from man-made or natural catastrophes. There will still be disasters, but they will be readily addressed and quickly remediated. Right now we are doing great harm to the Earth, to our homeland, and to the shared atmosphere. The lies that we continue to tolerate are preventing a sensible response to this mounting crisis.

Resilience begins with a demand for and a commitment to the rigorous application of intelligence that is not restricted or deformed and can take all factors into account. Such a commitment to public intelligence requires an environment of open-source transparency in order to propagate itself.

## History

History matters for at least three reasons:

1. It is a baseline for understanding what Stewart Brand and others call “the clock of the long now,”<sup>14</sup> a means of defining time and responsibility in a much longer manner, what our Native American antecedents called “seventh-generation thinking.”<sup>15</sup> For example, when we destroy aquifers—sources of pure clean water—by depleting them to the point that they ingest salt water and die for ten thousand years, we are leaving “dry holes” to future



generations. Along with a focus on spiritual and cosmic cycles, we need to be focused, like native peoples, on the practical—leveraging deep knowledge to nurture humanity's sustainability. This means applying the precautionary principle and putting the rights of nature ahead of the rights of exploitation maintained by corporations.

2. History is a baseline against which to measure the present in relation to the future. This is especially important in relation to environmental degradation and demographic setbacks. Understanding history can both reduce hysteria over major changes that are not atypical of the far past, while inspiring greater respect for the need to plan for such changes. If we are going to reconceive and re-engineer society to be resilient and adaptive, we not only have to overcome the fragmentation of knowledge, we must be able to integrate and apply various disciplines of scientific learning in real time. Transparency and truth are essential to this task, trust is the accelerator.

3. A multidisciplinary library of documented lessons from the past, drawn from all cultures, permits new generations to build on the hard-earned experience of our ancestors, minimizing expenditure of blood, treasure, or spirit. Vitality comes from embracing distinct points of view, and in many ways history is a means of achieving appreciation for diversity without feeling confronted. In the same vein, diversity today is a means of tapping centuries of cultural history that would otherwise not be available to an insular culture.

Implicit in each of the above is the expectation that the current generation wants to leverage history, will respect history, and seeks to be responsible in relation to future generations. That is in fact not the case, and therefore “lost history” becomes the norm for many impoverished societies. There exists both a vitality to history when learned and leveraged, and an often significant “opportunity cost” of failing to be responsible about understanding history.

There is no finer explication of these points than *The Lessons of History* by Will and Ariel Durant.<sup>16</sup> Two important points that they bring forward are that morality is strength, and that “the only lasting revolution is in the mind of man.” Both of these ideas are central to this manifesto. When a nation-state loses its moral compass, and its domestic and foreign policies are based on lies or insufficient investigation, not only do those policies prove unsuccessful and expensive, they also reduce the legitimacy of the nation-state in the eyes of all others. The era of empire is over for the United States of America—not because the USA has lost its military might but because the rest of the world now has the tools to independently evaluate the truthfulness and coherence of actions, both domestically and internationally. For example, the fact that poverty is on the rise in the U.S. is not lost on other nations.

The second point, that “the only lasting revolution is in the mind of man,” is one that our forefathers clearly appreciated. The only lasting revolution is achieved through education, and ideally universal education including women and all minorities. Education is not a privilege,

it is a *necessity*. I like to point out that the only inexhaustible resource we have on Earth is the human brain.

We cannot neglect history, yet we persist in doing so, in three ways.

The first is to be oblivious. This has been the case for at least two centuries in the U.S. (much longer elsewhere) with respect to the indigenous knowledge of our forebears, which is particularly relevant to how humans should respect and co-exist with Mother Earth and other species. Other forms of oblivion include government censor (rewriting or concealing facts, often by classifying details as secret—in other words history known to a few but not broadly understood), and also the oblivion regarding critical information about the natural world that is simply not observed or reported.<sup>17</sup>

A second manner of neglecting history is to be arrogant and disdainful of “others.” Refusing to consider or respect the history of oppressed peoples, minorities, what some call “lost voices,” is to be intellectually and morally impoverished. This is also the case with respect to women and their potential. There is a nuanced feminine instinct for compassion versus the male inclination to focus on black-and-white “justice” as (generally) defined by white males to the detriment of everyone else.<sup>18</sup>

Third is the failure of scholarship, which leaves history chopped up and virtually inaccessible. When combined with the West’s disdain for Eastern knowledge and a general reluctance to see the vital urgency of integrating faith and humanities with science, we end up creating “denied

areas” where the incomprehension is of our own making.<sup>19</sup> We impoverish ourselves many times over.

Put in another way, it is not possible to divine, discuss, or share the truth of the present without an appreciation for the truth of the past. Not only do we need to delve deeply into the truth of the past, we must extend ourselves to embrace multiple truths from the past—multicultural truths and multi-class truths.<sup>20</sup>

## The Fragmentation of Knowledge

Figure 5 in Chapter 1 illustrated the complete fragmentation of knowledge among the scientific and humanities disciplines and sub-disciplines. In Figure 13 I illuminate

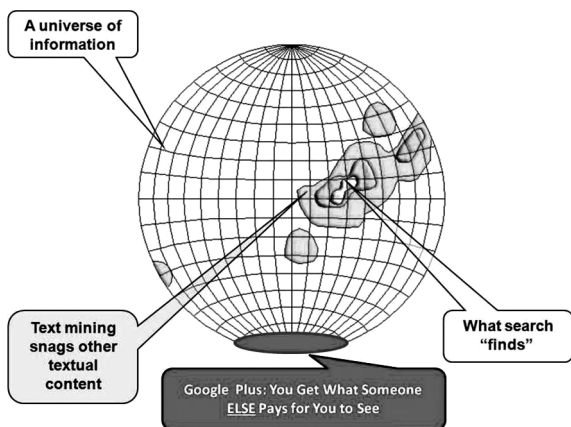


Figure 13: Concept for Achieving a Unity of Knowledge<sup>21</sup>

how the collective intelligence and cognitive science communities might address this fragmentation in the effort to realize a shared goal of creating a World Brain and Global Game.

Even before the digital information explosion, the rapid expansion of scientific, social scientific, and humanities knowledge led to the fragmentation of academic disciplines, and then increasing fragmentation as sub-disciplines developed. Figure 14 depicts how little of the knowledge that exists can be accessed via online search, the default option for all too many people. Add 183 languages in which knowledge is created, and the Babel factor is a multiple order of magnitude worse than a quarter century ago.<sup>22</sup>

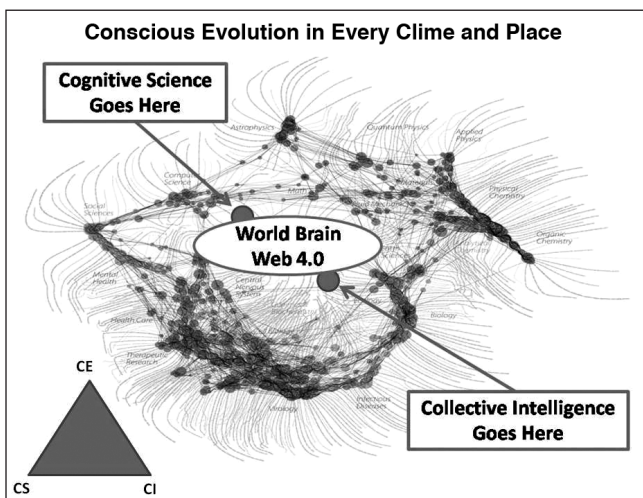


Figure 14: Missing (and Misdirected) Information

There is one other fragmentation that must be addressed. I call them “the eight communities of intelligence” that do not share information with one another in any coherent manner, illustrated in Figure 15. I use a figure, having listed these communities briefly above, because I want to illuminate two points: that they all share a “green” information commons; and that there are outer rings of yellow, orange, and red “restricted” information that demand security and privacy.

Each of these communities has vital original data, information, and analytical insights on any given issue. They are not trained, equipped, organized, nor culturally disposed to share the information they have, not even within their own community.

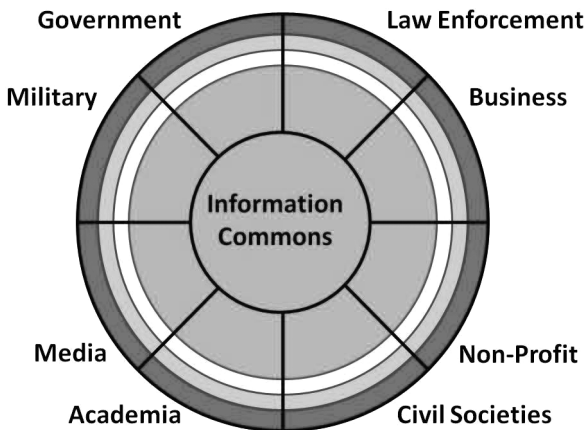


Figure 15: Eight Communities Not Sharing Information

Take poverty, for example, the number-one high-level threat to humanity because the five billion poor create more disease and more environmental degradation than all the corporations combined.<sup>23</sup> Imagine how much more effective we might be if all known information about poverty could be integrated, harvested, distilled, and used to harmonize—voluntarily harmonize through shared data—not just the efforts of all organizations, but the inspired efforts of individuals who could be moved to contribute a specific amount for a specific need for a specific impoverished family.

Or take fresh drinkable water. Each of these communities studies water in a different context, for different purposes, with different outcomes sought. It is virtually

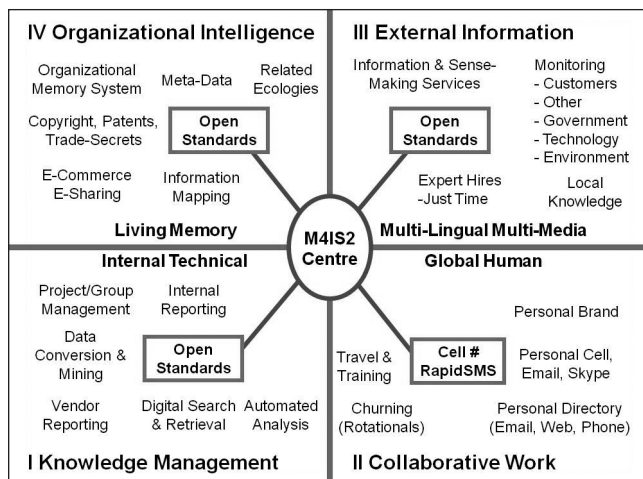


Figure 16: Data in Context

impossible to arrive at a full and honest appreciation of the “true cost” of water for every product, service, or use, because that information is almost impossible to extract even if everyone wanted to.

Each of these communities records their findings and speculations in a different manner. Most importantly, each of these communities fails to record as much as eighty percent of what they know. This is unpublished knowledge that can only be accessed through direct contact and conversation, with the degree of truth that can be exchanged dependent upon transparency and trust in an evolving cycle.

The fragmentation of knowledge is much worse than this. When you look at data in context—what we should be able to do with all information in all languages all the time—we immediately see many more divisions in terms of time, space, discipline, and domain.<sup>24</sup>

	<b>RELIGION IS A SET OF BELIEFS</b>	<b>RELIGION IS A PROCESS</b>
<b>SCIENCE IS A SET OF BELIEFS</b>	Potentially Conflicting	Reinforcing
<b>SCIENCE IS A PROCESS</b>	Conflicting	Potentially Co-Existing

Figure 17: Science versus Religion

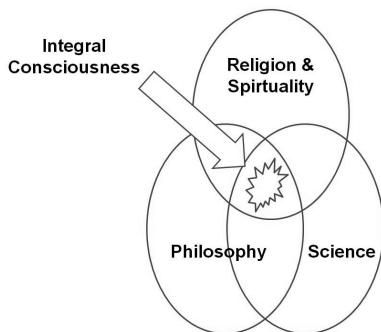


## Science and Religion

It is helpful at this point to look briefly at both the old relationship between science and religion, which prevented integrity or integral consciousness, and the new relationship favoring unification.<sup>25</sup>

Now contrast that with the visualization in Figure 18, in which science, religion, and philosophy all come together as one.<sup>26</sup>

In the context of humanity on Earth, there can be little doubt that religion and spirituality are forces that likely did not exist until ten thousand years ago yet are now integral parts of the totality of human consciousness; that science is still maturing as a framework for theoretical and applied knowledge of reality; and that philosophy, which has lost much of its appeal to many because of external distractions, remains a vital foundation for addressing the core needs of humanity.



**Figure 18: Unification of Religion, Science, and Philosophy**

Before I go more deeply into the emergent convergence of science and religion and philosophy—the absolute heart or, in code terms, “root” for operating Spaceship Earth and restoring the consciousness of humanity—I want to focus very briefly on the human mind, heart, and soul (the scientific, the philosophical, and the spiritual), but in an agnostic sense.

Regardless of what religion we each may or may not embrace, regardless of our level of sophistication in science or philosophy, we all share the blessings of being human, of being able to seek, sense, and share.<sup>27</sup>

Transparency and truth, and their multiplicand, trust, are what allow the above human inclinations to yield enormous returns on investment of time and energy. It is the human mind, the human heart, the human soul that are

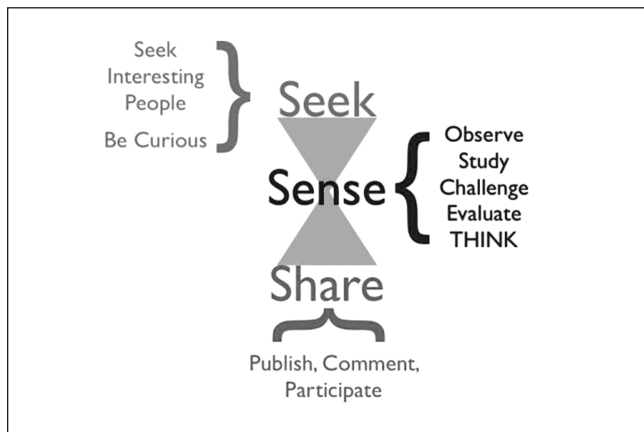


Figure 19: Seek, Sense, and Share

at the root of all that we might call progressive (as well as all that we might call evil). This *Open-Source Everything Manifesto* seeks to shift the power away from the one percent that exploit and diminish the ninety-nine percent, and back to that ninety-nine percent who are capable of creating a world that works for all.

This manifesto concludes with a model for public intelligence in the public interest and a model for informed participatory democracy, within which I will introduce both a strategic analytic model helpful to whole-systems or whole-Earth reflections and a concept for panarchic self-governance in which all citizens have access to the truth—all of the information critical to any subject, translated into any language, available all of the time. It is apparent that truth—the combination of intelligence and integrity as well as transparency—is the foundation for both understanding and eradicating these threats, while moving as quickly as possible in the direction of what should be the human mantra toward the Earth and all species including our own: “First, Do No Harm.”