

Creating and Managing Sustainable Organizationsⁱ

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We are in the midst of a great transition. Our economy, our social, and our natural environment are in a period of fundamental change. This transition is at least as great as the industrial revolution and possibly as important as the enlightenment – the beginning of science. Contrary to popular belief, this is not a technological revolution, although new electronic and biological technologies are certainly relevant to our future. The great transition is a philosophical revolution, a revolution in thinking about the nature of reality, about how the world works and our place within it. Ways of thinking that seemed adequate in the past are incapable of meeting the challenges of the future. We must rethink virtually every aspect of our lives.

The age of scientific reasoning brought tremendous advancements in our understanding of the world around us, and none of us would choose to return to a medieval world. The age of industrialization brought many material benefits to humanity, and none of us would choose to return to a pre-industrial agrarian society. But the science of the past is inherently incapable of addressing the most important ecological and social questions of today. The development paradigm of industrialization is inherently incapable of meeting the challenge of *sustainable* economic development. New technologies will simply accelerate the generation of problems that we cannot solve and the exploitation of resources that we cannot replace, unless the technologies are used in ways that reflect a new understanding of the world and our place within it.

The questions of sustainability addressed at this conference have arisen from a growing recognition that the dominant economies and societies of today quite simply are not sustainable. The things we are doing to address our challenges and opportunities aren't working today, and are not going to work in the future. Our business organizations are not sustainable because our economy and our society are not sustainable. This lack of sustainability is inherent in our neoclassical economic model of industrial development, which is rooted in our mechanistic paradigm of science. This is not a matter of personal opinion; it is rooted in the most fundamental laws of science.

Sustainability ultimately is a matter of energy. Everything that is of use to humanity – our houses, clothes, food – requires energy to make, energy to use, and in fact, is made of energy. All useful human activities – working, thinking, managing – require energy. And societies use their collective social energy to produce productive people. We have used science to create an economy that is very efficient in using and reusing energy but that does nothing to offset the inevitable loss of energy, including human energy, to *entropy*. According to the most basic laws of physics, the laws of thermodynamics, energy inevitably changes form when it is used to do anything useful, called *work* by physicists. Although energy is never created or destroyed, each

ⁱ Prepared for presentation at the 2007 Annual Meeting of Eastern Academy of Management, New Brunswick, NJ, May 16-19, 2007.

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time it is used and reused, some of its usefulness is lost. This is the law of entropy. The only source of energy available to offset the loss of energy to entropy is the daily inflow of solar energy. The fundamental problem with our neoclassical capitalist economy is that it provides strong economic incentives to use and reuse energy but provides no incentives to use solar energy to offset the energy inevitably lost to entropy.

Economic value is inherently individualistic in nature; it accrues to individuals, and thus, must be expected to accrue during an individual's lifetime. It makes no economic sense to invest anything for the sole benefit of someone else, certainly not some unknown someone of a future generation. Thus an economy driven by economic self-interest, as is increasingly the case in all modern capitalist economies, quite simply is not sustainable. This is not only a matter of scientific reasoning and logic; it's a matter of common sense. If we keep on taking out without putting back, eventually we are going to run out.

During times of great transitions, people have always had to rely on their common sense. Old ways of thinking are obsolete and new ways of thinking have yet to be fully developed. But thoughtful people of all times have always shared a common sense of the most fundamental principles – a shared sense of what's true, what's right, and what's good. Accepted ways of thinking, including those of today's science, are always built upon foundations of first principles. First principles cannot be proven but require no proof, because all thoughtful people accept them as true. They are common sense. Such basic assumptions or axioms underlie all scientific reasoning. In the midst of great transitions, we must return to our common sense.

Nowhere is the great transition more apparent than in the challenges confronting managers of 21st-century organizations. As early as the 1980s, futurists began to write about the transition from industrial to post-industrial organizations. Peter Drucker wrote of the “post-business” society in *The New Realities*.¹ He considered the shift from an industrial to a knowledge-based society to be the most significant development of his lifetime. Industrial work, he wrote, is a mechanical process whereas knowledge work is fundamentally biological. Drucker distinguishes between managers, who affect the *efficiency* of an organization, and executives, who affect the *capacity* of an organization.² He suggested that post-industrial organizations need both.

Peter Senge, in *The Fifth Discipline*, wrote about the necessity for systems thinking in managing 21st-century organizations.³ He believed organizations of the future will embody enormous complexity with simultaneous and dynamic linkages among a multitude of interrelated dimensions. Humans, he wrote, can deal with only relatively few different things simultaneously using their *conscious* minds, but can perform enormously complex tasks quite easily by using well-developed *subconscious* minds. Our subconscious minds solve problems without our consciously thinking about them. Senge believes that people, not supercomputers, will be the key to managing 21st-century organizations.

In his book *Power Shift*, Alvin Toffler proclaimed that the industrial model of economic development is becoming increasingly obsolete, meaning industrial measures of efficiency and productivity are no longer sufficient.⁴ He suggested that customized goods and services, targeted to niche markets, continuous innovation, and value-added products were the trends of the future.

The most important productive resource for the 21st century, he wrote, is not labor, natural resources, capital, or management expertise, but instead is basic human knowledge.

While a lot has been written about managing post-industrial, knowledge-based organizations, most of today's corporate managers show little evidence of having transformed their management philosophy. Dee Hock, founder and first CEO of Visa Corporation, wrote in 1999, "The Industrial Age, hierarchical, command-and-control structures... that have grown to dominate our commercial, political, and social lives are increasingly irrelevant. They are failing not only in the sense of collapse, but in the more common and pernicious form – organizations increasingly unable to achieve the purpose for which they were created, yet continuing to expand as they devour resources, decimate the earth, and demean humanity."⁵ Such organizations quite clearly are not sustainable.

Rather than face the necessity for organizational change, many of today's CEOs have accelerated the rate of exploitation and have shifted their focus to damage control. They have mounted public relations campaigns to convince the investing and consuming public that their unsustainable organizations are environmentally sensitive and socially responsible. They want to be seen as "socially responsible" companies, but not at the expense of profits and growth.

Other managers have been more genuine in their response to growing public concerns. "Triple Bottom Line" management, for example, came to widespread attention in the late 1990s and has since gained in popularity among a variety of businesses.⁶ This approach stresses the importance of ecological and social performance, as well as economic performance, in ensuring the long run sustainability of organizations.⁷ "The Natural Step" was initiated in Europe in the late 1980s and seems to be gaining in popularity in the United States and Canada with growing public awareness of issues such as "peak oil" and global climate change.⁸ This approach emphasizes the diminishing alternatives for sustainability as resource productivity declines and human resource demands increase, and focuses management on protecting and conserving the natural and human resources needed to sustain society. "Social responsibility" is a catchall phrase encompassing a wide variety of management strategies and seems to have become the most popular corporate pseudonym for sustainability.

Bob Willard, a former IBM executive and advocate of corporate sustainability, suggests that the changing public attitudes are creating tremendous business risks for corporations that fail to take the challenges of sustainability seriously.⁹ However, he concludes that social responsibility for most managers is more about managing public perceptions than managing business realities. Most corporations comply with environmental and social regulations because they are forced to, rather than because they choose to, and few do more than they have to. He classifies corporations as pre-compliance, compliance, beyond compliance, integrated strategy, and purpose/passion. He estimates that no more than 20% of all U.S. corporations have reached the two latter categories. The vast majority of those are following integrated strategies: they understand the importance of sustainability, but haven't found effective means of addressing it within the current economic environment. Only a few corporations are pursuing the purpose of sustainability with a passion, and those tend to be family owned businesses or corporations dominated by a founder or strong CEO who is philosophically committed to helping create a sustainable society.

In spite of their rhetoric, most corporate managers still cling to the industrial philosophy of management and thus continue to manage unsustainable organizations. Most managers still see environmental and social responsibility as constraints to corporate profitability, not essentials for corporate sustainability. They strive for productivity and profitability through industrial strategies of specialization, standardization, and consolidation of control because they have been led to believe that this is the way efficient organizations must function. Specialization, standardization, and consolidation are not necessarily extractive or exploitative. These are general concepts that can be used or misused in all types of organizations. Charles Darwin observed that even living organisms evolve in ways that allow them to perform specialized functions within their ecological niches.¹⁰ Organisms are kept alive by standardized chemical and biological processes. Also, hierarchies of influence and control exist among many animal and insect species, including humans, within their “organizations.” Even healthy ecological organizations can gain efficiency through specialization, standardization, and hierarchal control.

A fundamental difference between industrial organizations and living organisms is that living species are sustained by evolving to accommodate the ecosystems within which they exist, rather than by dominating their ecological and social environments. Every species attempts to alter its environment in order to maximize its advantage relative to other species. But when a species succeeds in altering its environment, it then must adapt to the environment it has altered.¹¹ When any particular species becomes dominant within its environment, it begins to encounter natural ecological or social constraints; it runs out of food, develops diseases, or encounters deadly conflicts with other species. These natural constraints reduce its numbers and force the once-dominant species back into harmony with its ever-evolving ecological and social niche. In other words, nature has effective means of limiting specialization, standardization, and consolidation.

Sustainable development ultimately will require that human organizations recognize and respect the laws of nature, including human nature, that determine sustainability. Humans must recognize that nature eventually will limit, or even extinguish, the human species if it attempts to appropriate the total energy resources of the earth for its own purposes. Sustainability requires that we manage both natural and human resources in ways that are in harmony with the basic nature of reality. Other species have no choice in their relationships with nature. But humans have the capacity to make conscious and purposeful choices about how we relate to our natural environment and to each other. We humans must choose to maintain the integrity of the ecological and social environment upon which the future of humanity ultimately depends.

All human organizations – economic, political, social, or philanthropic – are created for a specific purpose. If there is no specific purpose for bringing people, materials, and money together, they will function more effectively as individuals, not as organizations. The purpose of an industrial organization is built into its organizational structure. It is created and structured to ensure that if specific functions, procedures, and responsibilities are carried out as designed, the purpose of the organization will be achieved. Creating an industrial organization is like building a machine. Each part of a machine is designed and assembled to allow the machine to function effectively. The machine may be controlled by an operator, but the operator must work in ways that accommodate the design of the machine. A well-run industrial organization works like a well-oiled machine.

A machine must be continually maintained; otherwise, it breaks down too often and wears out too soon. Even under the best of care, however, individual parts eventually wear out and have to be replaced. Machines built with interchangeable, replaceable parts have a tremendous advantage over machines manufactured as single units because replaceable parts allow machines to be repaired rather than replaced. Eventually, however, all machines become obsolete and must be redesigned or discarded and replaced with newer models.

The people in industrial organizations are replaceable parts of the structural mechanism. Each position in the organizational chart, from chief executive officer to production line worker, performs a specific function in furthering the purpose of the organization. Like machines, industrial organizations require constant maintenance to ensure that each person in the organization performs his or her function in support of the overall organizational purpose. But even in the best of organizations, individuals eventually *wear out*. They become disabled, obsolete, or simply lose their commitment to the organization. They get fired, resign, or retire and have to be replaced. However, a *new* person can always be hired to replace the *old* person. In industrial organizations, people are interchangeable parts.

If the industrial organization becomes obsolete – is unable to perform its purpose as effectively as some competitive organization – it must be reorganized, restructured, or redesigned to make it run more effectively. Otherwise, its productive assets will be acquired by another industrial organization that will dismantle it, salvage any valuable pieces, and discard the rest of the organization, including its obsolete people. The industrial organization values only those people and materials that promise a payoff within its limited economic planning horizon. It exploits and extracts but it does not regenerate and renew – it is not sustainable.

The appropriate metaphor for the sustainable organization is that of a living organism rather than an inanimate mechanism. Living plants have the biological capacity to capture solar energy and to offset the energy inevitably lost to entropy. Humans also have the technological capacity to capture solar energy by generating electricity from photocells, wind, and water. Living organisms are naturally self-making, reproductive, and regenerative. All living individuals eventually die, but they have the capacity as well as the natural tendency to reproduce and regenerate their communities and their species. Renewal and regeneration are the only realistic concepts of sustainability we know.

Dee Hock provides an example of an appropriate management paradigm for sustainable organizations, which he refers to as management of *chaordic organizations*.¹² In the chaordic organization, the purpose not only affects the initial structure of the organization but also plays a continuing role in organizational management. The purpose of a living organization must be instilled in the hearts and minds of every person in the organization. In living organizations, the focus is on the people who fill the positions, rather than their position descriptions, and the people must remain personally committed to the purpose of the organization.

The essence of the chaordic organization is embodied in its organizational principles rather than its organizational structure. These principles are the living organization's conceptual DNA. They are expressed as a set of standards for individual and collective conduct, which may include both structural and operational core values. The set of principles chosen must be both

necessary and sufficient to ensure that the organization fulfills its purpose. If a principle is not necessary for the functioning of the organization, the organization's ability to adapt to changes in its environment will be unnecessarily constrained. If the set of principles is not adequate or appropriate, the organization may not function effectively in pursuing its purpose. As with DNA, we need enough but not too much.

The structure of a living organization is dynamic. Positions, departments, divisions, and organizational units, may change over time. They are continually evolving, forming, and dissolving, as the organization transforms and renews itself to meet the ever-changing demands of a dynamic marketplace in an ever-changing economic, social, and natural environment. This is the *chaotic* part of Hock's chaordic organizational model. The *order* part of chaordic is embodied in the principles. The purpose and principles of the organization, like DNA, remain unchanging, allowing the structure to evolve as needed to maintain both the efficiency and capacity of the organization.

Principles are very different from the functions defined in position descriptions. A person in a living organization may still have specific responsibilities, but he or she will be free to meet those responsibilities by any means consistent with the principles of the organization. The person in the position, not the position description, determines the most appropriate means of pursuing the organizational purpose. And the person may change their functional means at any time, to adapt to changing conditions or environments. Thus, management of sustainable organizations focuses on purpose, principles, and people.

The CEO of a sustainable organization has the primary responsibility for interpreting and articulating the organizational purpose. He or she must ensure that the purpose is clearly understood and broadly embraced by all those in the organization. The CEO also has the responsibility of articulating and continually evaluating the principles of the organization. Like the DNA of living organisms, organizational principles must be adequate to maintain the identity and integrity of the organization as it continually renews and regenerates its structure. As with the purpose, everyone in the organization must have a clear understanding and commitment to the principles of the organization.

The transition from industrial to sustainability paradigms of management is not easy. Productivity and sustainability represent different fundamental purposes for creating and managing organizations. Productivity depends on *efficiency*, which is reflected in principles of profits and growth. Sustainability depends on both *efficiency* and *capacity*, specifically, the capacity to sustain productivity over time, indefinitely. The fundamental purpose of the sustainable organization is permanence, to meet the needs of the present without compromising the future. Each sustainable organization will have a unique purpose and a unique set of principles that reflects its unique mission. However, all sustainable organizations will share the common purpose of permanence, and will share the common core principles of ecological, social, and economic integrity.

The principles of sustainability are encoded both in “Natural Law” and in the “Laws of Nature,” which define the *rightness* of relationships among humans and between humans and their natural environment. Laws of nature have been defined in philosophy as “the ‘principles’

which govern the natural phenomena of the world.”¹³ Some philosophers consider the principles of nature to be necessary for nature to fulfill its *purpose*, while others admit only that principles describe how the world works, period, denying any specific purpose for nature. Regardless, the Laws of Nature are inviolable principles, which cannot be changed and have inevitable consequences in all relationships between humans and their natural environment.

Natural Laws, on the other hand, are the principles that govern relationships among humans. Natural Laws include ethical and moral principles, which determine whether human thoughts and actions are right or wrong, or good or bad.¹⁴ The principles of Natural Law have been variously related to the basic nature of being human, to God or some supreme being, or to the nature of the cosmos and the place of humans within it.¹⁵ Regardless, Natural Law exists independently of any given religion, culture, society, or political order – applying to all people of all times. Principles of Natural Law are expressed in such historic documents as the U.S. Declaration of Independence and the Magna Carta, where certain human rights are described as being *inherent* or *self-evident*. Natural Law is the common sense of people regarding rightness in human relationships.

The principles sustainable organizations can be derived from the principles of ecological, social, and economic integrity. The sustainability of any business organization is inevitably linked to the natural ecosystems from which it must extract its material resources and within which it must dispose of its wastes. The first principle of ecology is “everything is interconnected,” from which we can derive the guiding principles of ecological integrity: *holism*, *diversity*, and *interdependence*. The natural environment is not simply a collection of physical and biological elements; it is an interconnected whole within which human organizations are integral parts. Anything business organizations take from the environment or dump into the environment affects the environment as a whole and thus ultimately affects the long run viability of the organization. Managers of sustainable organizations must relate to the natural environment holistically.

Diversity, across both space and time, is essential in sustaining all living ecosystems. Diversity is necessary for regeneration and renewal, for resilience and resistance, and for the adaptation and evolution needed to accommodate changing environments. Specialization, standardization, and consolidation, if unchecked, lead to homogenization and loss of diversity, which threaten the ability of living systems to assimilate wastes and to regenerate energy. In fact, the state of *entropy* is characterized by its lack of distinct form, structure, hierarchy, or differentiation. Loss of diversity is one of the clearest signs that a natural ecosystem is being compromised by industrial development. Managers of sustainable organizations must embrace physical and biological diversity.

Interdependent relationships are necessary to transform the potential of holism and diversity into positive ecological reality. Dependence is exploitive, independence is restrictive, but interdependence is mutually supportive. Relationships between organizations and their natural environment must be mutually beneficial to be sustainable. All human endeavors are inherently dependent on the natural environment for their productivity. The health and productivity of the natural environment is also dependent upon those who use it. If these relationships are *not* mutually beneficial, neither the productivity of the environment nor the productivity of the

organization can be sustained. Managers of sustainable organizations must maintain interdependent relationships with nature.

The fundamental principles of sustainable *human* relationships – including those within sustainable organizations – are *trust*, *caring*, and *courage*. These basic principles of “social responsibility” reflect a set of common core values, which transcend religion, philosophy, race, nation, and culture. Different groups of people obviously have different values, but a select group of *core values* is held in common to all groups. The Institute for Global Ethics, for example, has conducted surveys, interviews, and focus groups with diverse groups of people around the world, asking, “What do you think are the core moral and ethical values held in the highest regard in your community?”¹⁶ Responses varied widely, as would be expected, but five values consistently ranked high in virtually every inquiry: honesty, fairness, responsibility, compassion, and respect.

The core values of honesty, fairness, and responsibility together define the principle of trust or trustworthiness. People trust people that they believe to be honest and truthful, fair and impartial, and responsible and dependable. As relationships grow in trust, they grow stronger – they build the social energy or social capital needed to sustain the human resources both within organizations and between organizations and their suppliers, customers, and neighbors. When trust is diminished, the relationships grow weaker and social capital is depleted. Relationships between organizations and their suppliers, customers, and neighbors become more contentious and ultimately more costly and less beneficial. The manager of a sustainable organization must create and maintain an organizational culture of trust and trustworthiness.

The core values of respect and compassion, along with empathy, define the principle of caring. People who care are empathetic; they are able to put themselves in the place of others, and to treat the other like they would want to be treated. Caring is rooted in respect – respecting others as we would like to be respected by them. Caring goes beyond impartiality, dependability, and *brutal* honesty, by showing compassion whenever mercy is more appropriate than justice. If people are to care about their organization, and be committed to the long run well-being of the organization, they must know that that the organization cares for them. Those who manage sustainable organizations must create and maintain an organizational culture of caring.

Trust and caring accomplish little without the courage to take action. The social principle of courage is built upon the core values of self-confidence, discipline, and perseverance. It takes courage to form meaningful relationships with others and persevere through times of inevitable misunderstanding and disappointment. People of courage have self-confidence. They are committed to purpose and have the discipline to live by their principles. Those who manage sustainable organizations must find the courage to reject the deception, inequity, irresponsibility, ruthlessness, and disrespect that characterize many business relationships today. Managers of sustainable organizations must have *moral* courage.¹⁷

The principles of economic sustainability include *value*, *productivity*, and *sovereignty*. Economic value is determined by scarcity, meaning the quantity of something available, relative to how much of something else people are willing and able to give up to get it. Economic value differs from *intrinsic* value in that the economy may place little value on things of great intrinsic

value, such as air and water or ethics and friendships. Some of the best things in life truly are free and others are priceless. But a sustainable business organization must produce things that are not freely available elsewhere; they must produce things that are scarce. The manager of a sustainable organization must be aware of the ecological and social consequences of their decisions, but they also must produce things that have economic value.

Productivity is the creation of economic value. Production results from the combination of different productive resources, the most basic of which are land, labor, capital, and management. So productivity, like value, is a matter of choices – choosing how much of which resources to allocate to various production processes. The more effective the allocation of resources, the more productive will be the process. The sustainable organization must make efficient use of their resources -- their people, intellect, energy, money, and natural resources. They must effectively allocate scarce resources among competing alternative uses. The managers of sustainable organizations must consider the impacts of today's decisions on resources of the future, but they must also make productive use of their resources today.

The economic principle of sovereignty receives less attention than value and productivity, but is no less important. Without sovereignty – the freedom to choose – neither a market economy nor a democratic society can function effectively. Sovereign decision makers must have adequate information about alternative choices, and must be free of coercion, persuasion, or unnecessary restrictions. When people are not free to choose, neither business organizations nor societies can function effectively. The people in a sustainable organization, as well as their suppliers and customers, must be free to choose an ecologically and socially responsible path to economic sustainability. Those who manage sustainable organizations must maintain their sovereignty and must respect the sovereignty of others.

The integrity of an organization, meaning its wholeness, completeness, strength, and soundness, depends on the extent to which the principles of sustainability permeate all aspects of the organization. The sustainable organization must be more than a collection of individuals or cogs in a machine. The relationships among individuals within and among organizations must be holistic, diverse, and interdependent. The organization's human resources must be allocated efficiently, not only to create economic value but also to create a caring organizational culture. Social integrity depends on ecological and economic integrity.

Sustainable relationships between the organization and the natural environment can be derived directly from the principles of social relationships. In using the resources of nature and the natural environment, the managers of sustainable organizations must reflect a sense of caring and trust in their relationships with other people, including not only their employees and neighbors but also those of future generations. And natural resources must be used efficiently, not just to maintain economic value but also to maintain the intrinsic value of living in a clean and healthy natural environment. Ecological integrity depends on social and economic integrity.

The economic relationships within sustainable organizations also must be holistic, diverse, and interdependent. A degree of specialization and standardization may be necessary for efficiency, but a sustainable organization must maintain a measure of diversity and its economic relationships must be mutually beneficial, rather than extractive or exploitative. Relationships

must be based on trust and trustworthiness, not just contracts and laws, and must reflect a sense of caring about the well-being of others, including those of the future. Economic integrity is inseparable from ecological and social integrity.

As mentioned previously, organizations will have different purposes reflecting their different missions, whether economic, political, or social. But all sustainable organizations will share the common purpose of permanence. Different principles will also be necessary to guide different organizations in providing their unique combinations of products and services, whether for profit, nonprofit, or public service. But all sustainable organizations will share the common principles of ecological, social, and economic integrity.

Managing a sustainable organization is analogous to nurturing life rather than manipulating mechanisms. If the organization is cared for, it will be productive as well as self-renewing, and regenerative. It will evolve to accommodate its economic, social, and ecological environment. It will be able to meet the needs of the present without compromising the future.

Even in the absence of economic incentives to do so, a sustainable organization must continually renew its natural and social capital in order to sustain its economic capital. They must choose “sustainable capitalism.”¹⁸ The social and ecological bottom lines must be given as high priority as the economic bottom line. To sustain profitability in a hostile economic environment, sustainable organizations must target those customers who are willing to pay the full costs of production, including the ecological and social costs. Sustainable corporations must target those investors who share their commitment to social and ecological integrity. Various studies indicate that 25%-30% of Americans value the social and ecological integrity of products and services at least as highly as quality and price.¹⁹ Globscan, an international business monitoring organization, estimates that investment decisions of 20%- 30% of investors in wealthy nations are influenced by “social responsibility.”²⁰ More than enough customers and investors already exist to allow the “socially concerned” managers of today to take meaningful steps toward creating and managing sustainable organizations.

However, sustainable organizations will not become commonplace in American business until Americans in general are willing to accept the short-run economic consequences of public policies designed to protect sustainable organizations from competitors who rely on economic extraction and exploitation. An ethical commitment to ecological and social integrity eventually must become encoded in the U.S. Constitution and in the laws of the land. To encourage authentic social responsibility, the managers of corporate organizations must be provided with an economic environment within which their corporations can be managed for sustainability.

In the meantime, those who create and manage sustainable organizations will be pioneers, blazing the trail and leading the way through the great ecological, social, and economic transition. These pioneers understand that the old paradigms of science and economics are obsolete and new paradigms must be developed if we are to sustain a desirable quality of human life. They have little to guide them through this uncharted territory except their common sense – their shared sense of what is true, right, and good.²¹ Those who are creating and managing sustainable organizations today are those who have found the courage to return to common sense.

End Notes

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