

Peter Senge, Bryan Smith, Nina Kruschwitz, Joe Laur, and Sara Schley. *The Necessary Revolution: How Individuals and Corporations are Working Together to Create a Sustainable World*. New York, NY: Doubleday, 2008

Ages do not end abruptly. Everyone does not just wake up one day and say, 'This isn't working. We must change.' Quite the contrary. When faced with challenges of this magnitude, the vast majority of people and institutions try harder to maintain the status quo. . . . Societies are no different. Fortunately, societies are not monolithic. At the same time that many companies resist change to outdated methods and technologies, governments refuse to implement needed regulations, and individuals resist change to their established lifestyles, others wonder instead about what *could* be. . . . Endings are also beginnings. The Industrial Age has brought extraordinary improvements in public education, human rights, and material well-being, but it has also destroyed ecosystems, swallowed up traditional cultures that had thrived for centuries, and created a way of life that cannot continue for much longer. (Senge et al., 2008, 8-9)

Noting that the Industrial Age created a number of systems that were at one time beneficial, Senge et al postulate that these systems cannot continue, that change is global and occurring rapidly. Though they offer a choice between protecting the past or creating a different future, it is clear that they support the need for a different future. Senge et al. postulate three "guiding ideas" that they deem *essential* for creating a sustainable future.

1. There is no viable path forward that does not take into account the needs of future generations. The term *sustainability* is widely used to express the need to live in the present in ways that do not jeopardize the future. When a process is sustainable, it can be carried out over and over again without negative environmental effects or impossibly high costs to everyone involved. The belief that we can attend only to our own needs and goals is tantamount to discounting the value of the children, families, communities, and businesses who will inhabit that future. Businesses can no longer expect to compete in the future without taking into account the larger problems that stand between now and then.

2. Institutions matter. Today's world is shaped not by individuals alone, but by the networks of businesses and governmental and non-governmental institutions that influence the products we make, the food we eat, the energy we use, and our responses to problems that arise from these systems. No one person could destroy a species or warm the planet no matter how hard he or she tried. But that is exactly what we are doing collectively, as our individual actions are mediated through the web of institutions that interconnect the world. It is folly to think that the changes needed in the coming years will not involve fundamental shifts in the way institutions function, individually and collectively. Ironically, despite increasing interdependence, most institutions are more consumed than ever by short-term thinking, frenzy, and opportunism. The gap between the need to think and act interdependently and our abilities to do so sits at the heart of all the most difficult problems we face today. Still, as you will see from the stories below, the leadership needed to close that gap is now emerging from business and non-business organizations alike, and often in partnership.

3. All real change is grounded in new ways of thinking and perceiving. As Einstein said: "We can't solve problems by using the same kind of thinking we used when we created them." While institutions matter, how they operate arises from how we operate, how people think and interact.

In short, to shape a sustainable future, we all need to work together differently than we have in the past. And that is what we will be describing in the pages ahead. In *The Necessary Revolution*, we will talk about the challenges we face in three interconnected areas-energy and transportation, food and water, material waste and toxicity (what we make and discard)-and the consequent imbalances that result when too many resources are concentrated in too few hands.

We will look at how these problems have arisen, and how they are all symptoms of a way of living that we have come to take for granted, which has produced great progress but also growing side effects. Seeing the deeper pattern that connects many different problems is crucial if we are to move beyond piecemeal reactions and create lasting change.

But we are most interested in exploring the extraordinary opportunities these problems represent and how business and social entrepreneurs are stepping forward to create flourishing new businesses, networks, and organizations of all kinds based on these opportunities.

No one has *the* answer to the question of how 6 (soon to be 8 or 9) billion people can live together sustainably. But an ultimate solution is exactly what is *not* needed. No one had a plan for the Industrial Revolution. No ministry was put in charge. No single business led the way. Instead, countless acts of initiative and daring created a critical mass of unstoppable changes. The Industrial Age was not planned but innovated. The next age will be no different.

The difference between many random initiatives that add up to little and a revolution that can transform society itself boils down to a shift in thinking. The Industrial Age has often been called the "machine age" because the rise of machines and the way they operated transformed the way people thought and worked. It wasn't long before people were expected to work like machines and the assembly line became the icon of efficiency and standardization for all organizations. Gradually, machine thinking shaped much more than manufacturing: Economic progress became synonymous with increases in efficiency and productivity; cultural advance became equated with dazzling new technologies; and nature, including the other creatures with whom we share the earth, was reduced to "natural resources," inputs to the economic machine.

A sustainable world, too, will only be possible by thinking differently. With nature and not machines as their inspiration, today's innovators are showing how to create a different future by learning how to see the larger systems of which they are a part and to foster collaboration across every imaginable boundary. These core capabilities—seeing systems, collaborating across boundaries, and creating versus problem solving—form the underpinnings, and ultimately the tools and methods, for this shift in thinking. (Senge et al. 2008, 9-10)

1. Thoughtful people see arising problems earlier than the rest of us.
2. They begin to understand how severe those problems are.
3. The combination of deep concern and sense of possibility for a better future causes them to think differently about the problems and how they are interconnected.
4. Different ways of thinking lead to different ways of acting. By focusing on long-term strategies, groups and organizations begin to take into account the larger systems in which they operate, instead of simply fixing isolated problems. (Senge et al. 2008, 43)