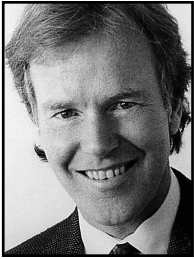




## THE INESCAPABLE NEED TO CHANGE OUR ORGANIZATIONS: AN INTERVIEW WITH PETER SENGE



More than a decade has passed since Peter Senge wrote the groundbreaking book *The Fifth Discipline: The Art and Practice of the Learning Organization* (Currency/Doubleday, 1990), which *Harvard Business*

*Review* named one of the seminal management books of the past 75 years. Through his engagement in countless change initiatives over the years, along with his participation in conversations with thought leaders from around the world, Peter has further developed his thinking about what it will take for organizations and society as a whole to thrive in the 21st century—and the role each of us can play in making that happen. Publications editor Kali Saposnick recently sat down with Peter to learn what he perceives to be the role of organizations in responding to the promise and the challenge of the coming years.

**The Systems Thinker®:** What are the two or three new big ideas for management in the 21st century?

**Peter Senge:** Organizations will have to be much more in tune with and ultimately responsible for their impact on social and environmental well-being. In addition, to remain competitive and successful, they will need to tap the collective intelligence, spirit, and energy of their people. Bill O'Brien used to say that in the 20th century, to be effective, organizations focused on developing manufacturing, financial, and, to some degree, marketing sophistication, but they operated with mediocre people skills. In the 21st century, while manufacturing, financial, and marketing expertise will remain important, organizations that will thrive will have comparably sophisticated people skills.

These two imperatives will increasingly intertwine. As former

Volvo and IKEA CEO Goran Carstedt said, the challenge is to develop organizations “worthy of people’s commitment.” Most of us can see that our current approach to globalization is creating great stress in the world. Organizations, especially businesses, that seek to tap the insight, commitment, and creativity of their people will need to be committed to enhancing social and environmental well-being, not just to making money.

**TST:** What changes are most needed in the next decade? Where is the highest leverage for bringing about the kinds of changes you think would help our world?

**Any enduring change strategy includes building and sustaining networks of collaborators across many boundaries.**

**Senge:** SoL (the Society for Organizational Learning) operates from the assumption that collaboration among organizations is, and will increasingly be, vital to sustaining deep changes in the traditional management culture. When I say *management culture*, I mean the prevailing and often unquestioned assumptions and taken-for-granted practices of management in Industrial Age organizations. One traditional assumption is that, rather than having several performance requirements, the sole purpose of a business is to maximize return on invested capital. Another is that, to enhance performance, managers need to focus everyone on “the bottom line,” what accounting theorist Tom Johnson calls “management by results,” rather than on

enhancing the capacities of people at all levels to understand complexity and to learn.

These narrow assumptions may have led to innovation and success in the past, but today, what any individual organization—whether a business, hospital, governmental agency, or school—can do alone to significantly break from the cultural mainstream is very small. Each one operates as if it were tied to a rubber band. Even if an organization innovates significantly for many years, it eventually gets snapped back to the norm. For example, at any one point in time, you can always find a small number of highly innovative schools in which kids are engaged and teachers love their work. But virtually all return to average within 5 to 10 years.

From my standpoint, any enduring change strategy includes building and sustaining networks of collaborators across many boundaries. For the past several years, SoL has focused on bringing together large multinational companies, prominent nongovernmental organizations, and key governmental agencies to work on significant issues around environmental sustainability. For example, oil companies that establish residency in a country, such as Nigeria, Angola, or Venezuela, to produce oil over 50 or more years, have traditionally justified their efforts by promising that the country would be better off as a result. But there are several reasons to challenge this premise. Many countries that have exported large quantities of oil for years have seen little real economic, social, and environmental progress. Many end up as permanent oil exporters with little modern industry and strained relationships with the oil companies. Much of the profit goes to corrupt regimes that

squander it long before it benefits the society at large. “Rigged rules and double standards” in global trade, as a recent Oxfam report puts it, favor developed countries’ exports over developing countries’ exports, hindering industrial diversification in emerging economies. For oil companies to deliver on their promise for economic and social development in exporting countries, they cannot work alone, and SoL members are looking for ways to foster collaboration within these countries and among different multinational organizations to help this process.

Another project within the SoL community is based on German chemist Michael Braungart’s idea of “intelligent materials pooling.” In their new book *Cradle to Cradle: Remaking the Way We Make Things* (North Point Press, 2002), Braungart and U.S. architect William McDonough discuss the adverse environmental and health effects of current industrial products. They propose a business model in which companies collaborate to eliminate toxins from their products and integrate natural systems ideas, such as continuous reuse, into product design. This paradigm has become increasingly attractive to companies, especially in Japan and the European Union, where some governments have started passing legislation that holds private industries responsible for their products after the periods of use are over.

The basic idea is that if you produce something, you own it forever. Ideally, we’ll get to the point where every product we come in contact with can be indefinitely recycled or remanufactured, and nothing ever goes into a landfill. In this way, we start to “close the loops,” as the environmentalists would say, just as nature does. Nature doesn’t generate waste. End products or byproducts of one living system are nutrients to another. What companies can do on their own to support such changes is often very limited. There may be no cost-effective substitute for many widely used chemicals, like PVCs, and the research costs to a company for redesigning its products could be prohibitive. But a group of companies could pool their purchasing power and work collabora-

tively with chemical producers to find substitutes, just as they could pool research efforts.

**TST:** What are some of the challenges organizations face as they collaborate with multiple stakeholders?

**Senge:** Let’s look at the automobile industry. Part of the EU legislation I was just referring to requires companies to give a complete account of all the material components of a car they intend to sell. Why do we need to know this information? Well, probably about 90 percent of a vehicle’s materials, starting with the seat fabric, is toxic to people. For example, in most new cars today, you can see a thin film on the inside of your window in the morning. That is not moisture; rather, it’s outgassing from the dashboard’s components. Braungart and McDonough point out that many of the widely used materials in everyday products are carcinogenic substances that remain in living systems for a long time. In other words, they’re harmful to humans and other life. In the pharmaceutical industry, drugs are regulated to avoid the production of dangerous products. In most other industries from which we buy, use, and discard products, however, up until recently, little such regulation has existed.

But just the task of identifying material components is daunting. In making an automobile, you deal with a complex web of suppliers, few of who know the chemical composition of the products they’re selling. In addition, companies selling vehicles in Europe are now faced with phase-out schedules for particular chemicals, starting with heavy metals such as lead, mercury, hexavalent chromium, and cadmium. In many cases, nobody knows how to remove these elements from vehicles or what material can be used as a substitute.

As SoL member companies collaborate, we are finding connections and possible synergies. For example, we recently discovered that Pratt & Whitney has developed a product that eliminates hexavalent chromium from fasteners. But because this product was developed for the aircraft industry, it was unknown to auto and

motorcycle manufacturers. Another collaborative project involves building common databases so that product designers can quickly determine the chemical constituents of different materials, their potential environmental and health consequences, and preferred alternatives, where they exist.

**TST:** Have any organizations successfully collaborated and designed sustainable product development processes?

**Senge:** About five years ago, Nike, Inc., began to address a serious discrepancy between its mission and its products. Founded on a vision of fitness and vitality, Nike was making products that included potentially harmful chemicals. Several Nike leaders started meeting with external and internal designers for the company to explore more sustainable practices in product design, manufacturing, and distribution. Eventually, this group evolved into a substantial network of designers and producers who are collaborating to figure out how to integrate sustainable product development into the company’s core strategy for success. Nike now sells an entire line of organic clothing made from cottons produced by small farmers around the world. It’s currently trying to figure out how to mass-produce nontoxic organic fibers so they can use these materials in more of their products. To pursue such large-scale collaborations, Nike initiated SoL’s materials pooling project.

**TST:** Who will be the movers and shakers making an impact in society in the next few years?

**Senge:** It depends on how you interpret the phrase “movers and shakers.” In our present society, the media tends to focus on the CEO, who is typically regarded as the key to the company’s success. But the types of leadership truly critical to an organization’s prosperity are not ones you usually read about in the newspapers or *Fortune* magazine. In the change efforts I’ve been engaged in, I’ve found that the local line leaders and what we call “internal networkers” are making the greatest impact on changing how our larger systems work.

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They're the ones operating on the ground implementing innovative ideas like materials pooling, turning schools around so students can excel, and creating community leadership organizations that eliminate gang warfare.

Many of us have the mental model that somebody—some senior leader or manager—must be controlling the organization's systems, which we ourselves feel overwhelmed by. But from a systemic perspective, the reality is just the opposite. Most large institutions are so complex that no one person—no “mover or shaker” in a position of authority—can bring about the needed change. Rather, when lots of people at all levels of an organization start to do things differently, they begin to enact new systems.

**TST:** How do we get a critical mass of people doing things differently?

**Senge:** For one, through the sharing of generative ideas, ideas that can change how people think and act. The Industrial Revolution is a perfect example of how a set of ideas can produce wide-scale change without a single plan or group in charge of the process. Over a long period of time, hundreds and thousands and ultimately hundreds of millions of people started doing things a little bit differently than they had before. As a result, factories sprang up, assembly lines were developed, public schools were created, and entrepreneurial activity exploded. As these concepts grew in people's minds, the way work was organized changed dramatically—for better and for worse.

How did these ideas spread? Mostly through stories. Academic books usually have less short-term impact than a compelling story told informally over and over. Even more powerful is a reinforcing pattern of stories that gradually starts to build an idea in people's heads. For example, many of us have begun to internalize the notion that we're inextricably linked with others around the world because we all live on one increasingly smaller planet—a public consciousness that did not exist 50 years ago. Regardless of whether the idea evolved from seeing pictures of the

earth from space or television images from the other side of the planet, or being able to work around the clock with colleagues from Asia and Europe—we've begun to accept the “story” that we are all to a certain degree interdependent. This is a historic change but it's just at its beginning; we still to a large extent identify first with our own tribe or country.

Although we're beginning to realize how interdependent we are, few people know how to transcend the boundaries that still separate people and institutions. Just like the beginning of the Industrial Revolution, where people embraced the idea of reorganizing production for efficiency without knowing how to accomplish it, we're at the early stage of enacting systems that support an interdependent world. The idea has credibility, but we're still not sure how to do things differently. As I mentioned earlier, one way is to build networks of people and organizations who are implementing diverse ideas of interdependency and sustainability. Then, sharing stories of projects such as the materials pooling initiative can inspire more examples.

There's no end to what people can do. I've been particularly impressed with innovative projects in which young people are trying to think globally while doing things locally. Young people today have grown up acutely aware of the stresses in the world, especially those living in poverty or in countries with obvious social divisions. They're beginning to network with each other internationally to initiate changes addressing social and environmental imbalances.

For example, *Pioneers of Change*, an emerging global network of people in their 20s and early 30s, is involved in significant social change projects to produce healthy communities around the world. One of its members is developing a network of villages based on sustainable agriculture in Rwanda. Another is starting the first management school in Croatia. Another group, *Roca*, located in Massachusetts, is composed of former gang members focused on helping teenagers leave their gangs and build

their communities. If you listen carefully to these young people, you'll understand that they're all working on the same basic issue—how can we humans learn to live together in this world.

**TST:** *The Fifth Discipline* has been out for more than 10 years. Has its popularity resulted in the effects you hoped for? How do you view your own purpose now? Has it changed over the last 10 years?

**Senge:** I don't think my sense of purpose has changed very much. But it does get clearer. If you pay close attention, hopefully you learn more each day about what you're here to do in the world.

I have always been concerned with the imbalances in our patterns of development. I think the Industrial Age is a historic bubble, just like the “dot com” financial bubble. I don't think it will continue, because I don't think it *can* continue. The Industrial Age has ignored the reality that human beings are part of nature; instead, it has operated based on the idea that nature is a resource waiting to be used by us. If we go back to the idea of interdependency, human beings depend on nature in many ways for our survival. This is where traditional economics breaks down. Economics says that if the price of a commodity rises, demand for it will go down and a less expensive substitute will replace it. But there are no substitutes for air and water. There is no substitute for a healthy climate. These are common elements shared by everybody. Systems of management that do not value the “commons” cannot continue indefinitely. It's that simple. We don't know when we will hit the wall—we're probably hitting it right now. By some estimates, private soft-drink companies now own rights to more than 10 percent of the drinkable water in the world. If these companies are allowed to continue their current system of management, which focuses on exponential growth of their products, this percentage will grow even further. We have not yet seen the implications of some of our patterns of development.

I never expected *The Fifth Discipline* to have as much impact as it did.

Partly, I attribute its success to a pervasive awareness of these sorts of problems. As the old adage goes, “There’s nothing more powerful than an idea whose time has come.” No one knows what is needed, but we sense that we face immense learning challenges, which are not just individual but collective and which concern how our institutions shape our collective actions. For example, if you live in China, where economic development is happening so rapidly, everyone can clearly see the social and environmental consequences in the pollution, congestion, and social stresses that have sprung up almost over night. Unlike past industrialization in North America and Europe, which unfolded over four or five generations, or longer, China’s industrialization is taking place within one generation.

Interestingly, *The Fifth Discipline* and the fieldbooks (*The Fifth Discipline* and *The Dance of Change*) have become quite popular in China. *Schools That Learn* is about to be translated, even though it contains nothing about Chinese schools. I have found that the ideas about rethinking our systems of management and leadership on a personal level hold a particular appeal in China. In the recent past, the Chinese education system has followed Western models—urban Chinese schools look pretty much identical to urban schools in the West, in terms of what they teach and how they teach. Yet, deep down, I feel the Chinese, like all people, long for a system of management and education that reflects their own distinctive culture. Personal and institutional learning offers an integrating thread that speaks to the diverse problems we all face.

**TST:** Can we really make the world better by making our organizations better, or is this a naïve hope?

**Senge:** I don’t think it’s naïve, I think it’s inescapable.

Turn the statement around: How are you going to change the world without changing organizations, since organizations are what shape how the world works today? For example, it’s impossible for one individual, or even

a local community, to destroy an entire species, yet species around the world are becoming extinct at an alarming rate. Who is responsible for this critical situation? It’s clear that the destruction of Earth’s ecosystem is a result of millions and millions of individual actions mediated by the activities of our current global network of institutions. Governments are important but not adequate to meet the depth and breadth of the changes we face. To begin to shift our course, I believe, requires deep personal change in all of us, in the sense that

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we must “expand our circle of compassion,” as Einstein said, beyond tribalism. These personal changes, in turn, will shift how institutions such as businesses and schools function.

So if organizations don’t change, how can the world change? What is naïve is to believe that any one person has the answer for how to do it, that there’s a single strategy or way to do it, or that change can happen quickly. Going back to our earlier conversation, ultimately, large-scale transformation occurs when new ideas take root in people’s minds and inspire them to do things differently—many things by many people.

For example, today’s business leaders are recognizing that, in order for their companies to remain competitive, they must consider the health of their employees—not just medical issues but also personal well-being. They’re beginning to understand that having a group of committed, imaginative, patient people, who can work well together based on a strong sense of purpose, will make a bigger difference in whether the company is successful

than any amount of money spent on technology and marketing. As this idea of employee well-being gradually grows in people’s minds, we’ll start to see changes in organization design and management practices. But it will not happen quickly. Promising innovations will come and go. Nevertheless, even as individual innovative firms struggle, the larger trend—the collective learning across many organizations and many cultures—will continue.

For example, Plug Power is a small manufacturer of fuel cells. It is struggling, as are all the firms in this critical but nascent industry. Its CEO comes from Ford and its senior technical officer from Xerox. Both accomplished remarkable results in those two companies, but they innovated faster than the overall company cultures could absorb. Together they, along with a few hundred other folks, are now doing something that stands to be much more important than either cars or copiers for our future—creating commercially viable steps toward an environmentally sustainable energy system. They are now together because of a larger network of innovators that connected not only Ford and Xerox but several other firms, and eventually resulted in pathways for innovators coming together that otherwise would not have existed. This is exactly how change occurs in nature—the new grows up in the presence of what already exists and eventually becomes viable collectively, not as isolated individuals.

The idea that real change occurs in large networks of innovators has been one of the biggest surprises to me. I had originally thought that individual organizations could initiate and sustain significant innovation in management and culture. But I’ve discovered that, while an individual firm may run into difficulties with this process, once people cross the line into working in a way that touches who they are as human beings, and they know that this way of working together is *possible*, they do not go back. They may go elsewhere, but they do not go back. ■