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**The Art and Practice
of the Learning
Organisation**

**THE
FIFTH
DISCIPLINE**

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PETER SENGE

With a new foreword by Amy Edmondson

The Fifth Discipline

Also by Peter Senge

The Triple Focus

The Necessary Revolution

Presence

Schools That Learn

The Dance of Change

The Fifth Discipline Fieldbook

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THE FIFTH DISCIPLINE

With a new foreword by Amy Edmondson

The art and practice of the learning organisation

Second edition

PETER SENGE

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To Diane

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FOREWORD TO THE 35TH ANNIVERSARY EDITION

When I first read *The Fifth Discipline* in 1990, as a young consultant and former engineer, I was captivated. A few years previously, I had worked for the inventor, architect, and futurist Buckminster Fuller on geodesic domes—the very strong and often very large structures, made up of hundreds of triangles, for which he was famous. The experience left me with an intense and enduring interest in systems thinking. Fuller was fascinated by the way the relationships *between* different parts of a system explained its behavior more fully than the most careful investigation of the parts separately. That was true of his domes, which exhibited enormous strength despite their fragile appearance because of the way stress is distributed across the struts. It was also true of molecules, organizations, even societies.

Systems thinking was—and sadly still is—in short supply. But as a consultant, I saw its principles unfolding in companies firsthand. All too often, decisions made in one part of a company (say, announcing a marketing promotion) adversely affected another part (such as by creating a backlog in manufacturing).

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But until I read *The Fifth Discipline*, I had lacked the language and tools to practice systems thinking rigorously. Peter's book offered me that language. It is one of those rare books that is both intellectually provocative and deeply readable, demonstrating how organizations operate as systems in much the same way as Fuller's domes. And it did so by conveying complex, research-backed ideas in an accessible, engaging way.

In particular, Peter's book encouraged me to think more broadly about learning—not as something that happens only in classrooms or training programs, but as something that lives in the daily interactions between people at work. I was especially struck by his idea that the fundamental unit of learning in organizations is the team. That insight would later inspire my own research, helping to establish *team learning* as a vital field within management studies. In my work, I came to explore the conditions that make team learning possible—in particular, stumbling into the concept of psychological safety, a climate in which people feel safe to speak up, take risks, and admit mistakes. In the absence of psychological safety, people hold back, failing to ask questions or challenge assumptions. They don't reveal when they are unsure or need help. And without that openness, it is difficult—if not impossible—to build a truly successful organization. If I hadn't encountered Peter's book, my research on team learning and psychological safety might have taken a different turn.

I was not the only one influenced by Peter's work. His seminal writing has profoundly altered management thinking and practice, inspiring countless individuals to see organizations in a radically different light. Before this book, corporate management was preoccupied with efficiency, competition, and control. Peter offered a transformative vision: that organizations can instead become places where people continually expand their capacity to create results together, where new and expansive patterns of thinking are nurtured, and where collective aspiration is channeled into meaningful accomplishment. He called these places "learning organizations," and in doing so, launched a movement that continues to unfold.

At the heart of Peter's approach is his commitment to viewing organizations as complex systems. His systems perspective profoundly shaped how I came to view leadership—not as directing action from above, but as cultivating the conditions where learning and innovation can thrive. And vitally, Peter understood that this learning is a social, collective process. It happens through relationships and over time. It is shaped by the systems in which we operate—and in turn, it reshapes those systems.

Long before psychological safety was a common term, Peter was writing about the importance of dialogue, about surfacing and testing assumptions, about engaging with one another not just to inform, but to learn and grow as people.

Above all, this book brings a transformative insight: a key part of organizational ineffectiveness is our own thinking. Peter placed a great emphasis on mental models—the deeply ingrained beliefs and assumptions that shape how we see the world. He realized that only by transforming our thinking can we create learning organizations. In the pages ahead, you will discover ways to make these invisible mental models visible—to hold up long-standing cultural norms for reflection, and thereby to shift them.

Thirty-five years since its publication, *The Fifth Discipline* feels not just relevant, but prescient—even urgent. The challenges we face today—geopolitical crises, climate instability, technological disruption, and unprecedented interdependence across sectors and nations—demand new ways of thinking and acting. In 1990, the internet was still in its infancy, and smartphones, large language models, and other drivers of today's complexity were yet to emerge. In the years since, the disciplines Senge described—systems thinking, shared vision, team learning, personal mastery, and the ability to examine and shift our mental models—have moved from being merely helpful to essential.

But the most enduring gift of this book is that it offers not just ideas, but a way of being that invites humility, reflection, and action. Peter showed the fallacy of the quick fix and offered instead a framework for change rooted in rigorous thinking and deep respect for human potential. That framework has had a profound impact across sectors. I've seen schools use systems thinking to redesign curricula and governance. I've spoken with leaders in healthcare who have used Senge's disciplines to reduce harm and improve care through team-based problem solving. I've witnessed organizations shifting from reactive crisis management to systems-oriented strategy grounded in shared vision.

Of course, not every attempt to build a learning organization has succeeded. The work is hard. It asks leaders to give up control and invite challenge. It asks teams to stay in discomfort long enough to see the system, not just attack the symptoms. It asks all of us to be learners, not just experts. But when it works, the results can be transformative—not only for performance, but for the people and communities involved. Today's most successful organizations are those that foster continuous learning, empower people at all levels, and accept that complexity is here to stay.

For those encountering this book for the first time: you are in for an adventure. Do not expect a quick or easy read, but do expect a worthwhile and rewarding one. Peter Senge will stretch your thinking. He invites you to see the world—and your organization—as a living, dynamic system. He challenges you to reflect on your own role in sustaining (or changing) the patterns around you. And he offers you a vision of work that is not just more effective but more fulfilling and meaningful.

To Peter: thank you—for your wisdom, your clarity, and your unwavering belief in our capacity to learn together.

To the reader: welcome. May this book do what it has done for so many—spark insight, ignite curiosity, and plant the seeds of transformation.

Amy C. Edmondson

Novartis Professor of Leadership and Management

Harvard Business School

2025

INTRODUCTION TO THE REVISED EDITION

THE PREVAILING SYSTEM OF MANAGEMENT

In the spring of 1990, shortly after the writing and editing of the original edition of *The Fifth Discipline* was completed and publication was imminent, my editor at Doubleday asked me who I wanted to write a comment for the book jacket. As a first time author, I had never considered this. After thinking for a while I realized that there was no one I would rather have write something than Dr. W. Edwards Deming, revered around the world as a pioneer in the quality management revolution. I knew of no one who had had a greater impact on management practice. But I had never met Deming. I doubted that a letter with such a request from an unknown author, referring to work with which Deming was unfamiliar, would get a favorable response. Fortunately, through mutual friends at Ford, a copy of the manuscript did reach him. A few weeks later, to my surprise, a letter arrived at my home.

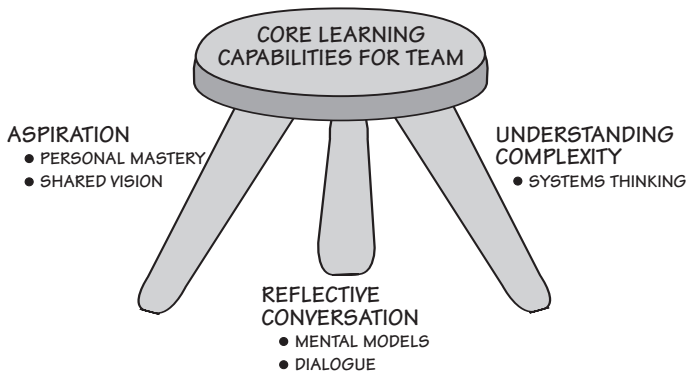
When I opened it I found a short paragraph written by Dr. Deming. Reading the first sentence, I stopped to catch my breath. Somehow he had said in a sentence what I had struggled to put into four hundred pages. It is amazing, I thought, how clear and direct you can be when you reach the end of your years (Deming was then almost 90). As I took in the totality of what he had written, I slowly started to realize he had unveiled a deeper layer of connections, and a bigger task, than I had previously understood:

Our prevailing system of management has destroyed our people. People are born with intrinsic motivation, self-respect, dignity, curiosity to learn, joy in learning. The forces of destruction begin with toddlers—a prize for the best Halloween costume, grades in school, gold stars—and on up through the university. On the job, people, teams, and divisions are ranked, reward for the top, punishment for the bottom. Management by Objectives, quotas, incentive pay, business plans, put together separately, division by division, cause further loss, unknown and unknowable.

As I subsequently learned, Deming had almost completely stopped using the terminology of “Total Quality Management,” “TQM” or “TQ” because he believed it had become a superficial label for tools and techniques. The real work, which he simply called the “transformation of the prevailing system of management,” lay beyond the aims of managers seeking only short-term performance improvements. This transformation, he believed, required “profound knowledge” largely untapped in contemporary institutions. Only one element of this profound knowledge, “theory of variation” (statistical theory and method), was associated with the common understanding of TQM. The other three elements, to my amazement, mapped almost directly onto the five disciplines: “understanding a system,” “theory of knowledge” (the importance of mental models), and “psychology,” especially “intrinsic motivation” (the importance of personal vision and genuine aspiration).

These elements of Deming’s “profound knowledge” led eventually to the simplest and, today, most widely used way to present the five learning disciplines, a way that was not evident when the original book was completed. The five disciplines represent approaches (theories and methods) for developing three core learning capabilities: fostering aspiration, developing reflective conversation, and understanding complexity. Building on an idea from the original

book, that the fundamental learning units in an organization are working teams (people who need one another to produce an outcome), we came to refer to these as the “core learning capabilities of teams” and symbolically represented them as a three-legged stool, to visually convey the importance of each—the stool would not stand if any of the three were missing.



Even more important for me was Deming’s idea that a common “system of management” governed modern institutions, and in particular formed a deep connection between work and school. He would often say, “We will never transform the prevailing system of management without transforming our prevailing system of education. They are the same system.” So far as I know, his insight into this connection between work and school was original.

I believe that Deming came to this realization late in his life, in part as a way to make sense of why so few managers seemed able to actually implement real Quality Management as he conceived it. People failed, he realized, because they had been socialized in ways of thinking and acting that were embedded in their most formative institutional experiences. “The relationship between a boss and subordinate is the same as the relationship between a teacher and student,” he said. The teacher sets the aims, the student responds to those aims. The teacher has the answer, the student works to get the answer. Students know when they have succeeded because the teacher tells them. By the time all children are 10 they know what it takes to get ahead in school and please the teacher—a lesson they carry forward through their careers of “pleasing bosses and failing to improve the system that serves customers.” After Dr. Deming passed away in 1993, I spent many years thinking and talking with

colleagues about what constituted this prevailing system of management as Deming understood it, eventually settling on eight basic elements:¹

- Management by measurement:
 - Focusing on short-term metrics
 - Devaluing intangibles
 - (“You can only measure 3 percent of what matters”
 – W.E. Deming)
- Compliance-based cultures
 - Getting ahead by pleasing the boss
 - Management by fear
- Managing outcomes
 - Management sets targets
 - People are held accountable for meeting management targets (regardless of whether they are possible within existing system and processes)
- “Right answers” vs. “wrong answers”
 - Technical problem solving is emphasized
 - Diverging (systemic) problems are discounted
- Uniformity
 - Diversity is a problem to be solved
 - Conflict is suppressed in favor of superficial agreement
- Predictability and controllability
 - To manage is to control
 - The “holy trinity of management” is planning, organizing, controlling
- Excessive competitiveness and distrust
 - Competition between people is essential to achieve desired performance
 - Without competition among people there is no innovation
 - (“We’ve been sold down the river by competition”
 – W.E. Deming)

- Loss of the whole
 - Fragmentation
 - Local innovations do not spread

Today, most managers probably regard the “Quality Management revolution,” like the organizational learning fad of the early 1990s, as history, far from the frontiers of today’s challenges. But is that because we have achieved or abdicated the transformation Deming advocated? It is hard for me to contemplate a list like this one and not feel that these maladies still afflict most organizations today, and that it will take generations, not years, to change such deeply embedded beliefs and behaviors. Indeed, perhaps the most obvious question for many of us is: “Will this system of management ever change on a large scale?” Answering deep questions like this about the future requires looking carefully at the present.

A TIME OF CROSSCURRENTS

In the decade and a half since *The Fifth Discipline* was first published much has changed in the world. Our economies are more global than ever; consequently, so is business. Among businesses competing globally, cost and performance pressures are relentless. The time available for people to think and reflect is scarcer, if anything, and in many organizations, resources available for developing people are scarcer still. But there is more to think about than just accelerating change. The globalization of business and industrial development is raising the material standards of living for many, but also creating significant side effects in the form of a host of social and environmental sustainability challenges. All too often, the production of financial capital seems to occur at the expense of social and natural capital. Gaps between “haves” and “have-nots” are widening in many countries. Local environmental stresses, always a feature of industrial development, are now matched by problems on a larger scale, like global warming and weather instability. While the advocates for global industrial growth trumpet its benefits, people around the world are reacting, nonviolently and violently, to losses in traditional ways of living—and this shifting context is getting onto the strategic radar screen of many businesses.

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At the same time, the interconnected world creates a greater awareness of others than has ever before existed. It is an unprecedented time of cultures colliding and in many instances learning from one another, and the promise of truly generative “dialogue among civilizations” holds great hope for the future. Young people around the world are creating a web of relationships that has never existed before. The frontiers of Western science, the underpinning of our modern worldview, are revealing a living world of flux and interdependency strangely familiar to aboriginal and native cultures, and one that might, in the words of cosmologist Brian Swimme, once again show us that we have “a meaningful place in the universe.” And, as illustrated below, the organizational learning practices that were limited to a few pioneers fifteen years ago have taken deeper root and spread.

In short, it is a time of dramatically conflicting forces. Things are getting better and things are getting worse. The comments of former Czech president Vaclav Havel’s to the U.S. Congress in the mid-1990s summarize these perilous times aptly:

Today, many things indicate that we are going through a transitional period, when it seems that something is on the way out and something else is painfully being born. It is as if something were crumbling, decaying and exhausting itself, while something else, still indistinct, were arising from the rubble.

The shape of Havel’s “something else” being born and the sorts of management and leadership skills it might require remain as fuzzy today as they were when he made these remarks a decade ago.

These conflicting forces play out within organizations as well, creating environments in which the need and possibility for learning capabilities are greater than ever, but so too are the challenges of building such capabilities. On one hand, building enterprises capable of continually adapting to changing realities clearly demands new ways of thinking and operating. So do the sustainability challenges, in many ways the archetypal organizational learning challenge of this era. In addition, organizations are becoming more networked, which is weakening traditional management hierarchies and potentially opening up new capacity for continual learning, innovation, and adaptation. On the other hand, the dysfunctions of the traditional management system keep many organizations in per-

petual fire-fighting mode, with little time or energy for innovation. This frenzy and chaos also undermines the building of values-based management cultures and opens the door for opportunistic grabs at individual power and wealth.

VOICES FROM THE FRONT

When I was invited by Doubleday to create this new edition of *The Fifth Discipline*, I was initially ambivalent but then became excited. One of the great joys of the past fifteen years has been getting to know countless gifted practitioners of organizational learning—managers, school principals, community organizers, police chiefs, business and social entrepreneurs, military leaders, teachers—people who have somehow found an infinite array of imaginative ways to work with and utilize the five disciplines, even if they had never heard of or read the original book. A few of these figured prominently in the first book, like Arie de Geus and the recently deceased Bill O'Brien. Since then, the worldwide growth of the Society for Organizational Learning (SoL) has brought me in touch with hundreds more such practitioners. In their own ways, each has created an alternative system of management based on love rather than fear, curiosity rather than an insistence on “right” answers, and learning rather than controlling. Now I could use the excuse of this revised edition to talk with many of them.

Those interviews and conversations led to my making many changes in the text of this book and to a new section, Part IV, “Reflections from Practice.” The interviews provided fresh insights into how master practitioners initiate change and deal creatively with the challenges of sustaining momentum. In addition to many business successes, people revealed a host of new possibilities in applying organizational learning tools and principles in areas few of us could have imagined fifteen years ago: from growing more environmentally sound businesses and industries to addressing societal problems like gang violence, transforming school systems, promoting economic development, undertaking the improvement of global food production, and reducing poverty. In all these settings, openness, reflection, deeper conversations, personal mastery, and shared visions uniquely energize change; and understanding the systemic causes of problems is crucial.

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The interviews also clarified core ideas that implicitly bound together the original work.

- *There are ways of working together that are vastly more satisfying and more productive than the prevailing system of management.* As one senior executive said, reflecting on her first learning experiment—“just getting people to talk to one another” as a way to rethink how their organization was structured—“. . . was the most fun I had ever had in business, and the ideas that emerged are still creating a competitive advantage for the company fifteen years later.”

- *Organizations work the way they do because of how we work, how we think and interact; the changes required ahead are not only in our organizations but in ourselves as well.* “The critical moment comes when people realize that this learning organization work is about each one of us,” commented a twenty-year veteran of corporate organizational learning projects. “Personal mastery is core. If you get the personal mastery element of these changes right, everything else falls into place.”

- *In building learning organizations there is no ultimate destination or end state, only a lifelong journey.* “This work requires great reservoirs of patience,” commented the president of a global NGO (nongovernmental organization), “but I believe the results we achieve are more sustainable because the people involved have really grown. It also prepares people for the ongoing journey. As we learn, grow, and tackle more systemic challenges, things do not get easier.”

I believe that, the prevailing system of management is, at its core, dedicated to mediocrity. It forces people to work harder and harder to compensate for failing to tap the spirit and collective intelligence that characterizes working together at their best. Deming saw this clearly, and I believe that now, so do a growing number of leaders committed to growing organizations capable of thriving in and contributing to the extraordinary challenges and possibilities of the world we are living into.

P A R T I

How Our Actions
Create Our Reality . . .
and How We Can
Change It

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1

“ G I V E M E A L E V E R
L O N G E N O U G H . . . A N D
S I N G L E - H A N D E D I
C A N M O V E T H E
W O R L D ”

From a very early age, we are taught to break apart problems, to fragment the world. This apparently makes complex tasks and subjects more manageable, but we pay a hidden, enormous price. We can no longer see the consequences of our actions; we lose our intrinsic sense of connection to a larger whole. When we then try to “see the big picture,” we try to reassemble the fragments in our minds, to list and organize all the pieces. But, as physicist David Bohm says, the task is futile—similar to trying to reassemble the fragments of a broken mirror to see a true reflection. Thus, after a while we give up trying to see the whole altogether.

The tools and ideas presented in this book are for destroying the illusion that the world is created of separate, unrelated forces. When we give up this illusion—we can then build “learning organizations,” organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together.

As the world becomes more interconnected and business becomes more complex and dynamic, work must become more “learningful.” It is no longer sufficient to have one person learning for the organization, a Ford or a Sloan or a Watson or a Gates. It’s just not possible any longer to figure it out from the top, and have everyone else following the orders of the “grand strategist.” The organizations that will truly excel in the future will be the organizations that discover how to tap people’s commitment and capacity to learn at all levels in an organization.

Learning organizations are possible because, deep down, we are all learners. No one has to teach an infant to learn. In fact, no one has to teach infants anything. They are intrinsically inquisitive, masterful learners who learn to walk, speak, and pretty much run their households all on their own. Learning organizations are possible because not only is it our nature to learn but we love to learn. Most of us at one time or another have been part of a great team, a group of people who functioned together in an extraordinary way—who trusted one another, who complemented one another’s strengths and compensated for one another’s limitations, who had common goals that were larger than individual goals, and who produced extraordinary results. I have met many people who have experienced this sort of profound teamwork—in sports, or in the performing arts, or in business. Many say that they have spent much of their life looking for that experience again. What they experienced was a learning organization. The team that became great didn’t start off great—it *learned* how to produce extraordinary results.

One could argue that the entire global business community is learning to learn together, becoming a learning community. Whereas once many industries were dominated by a single, undisputed leader—one IBM, one Kodak, one Xerox—today industries, especially in manufacturing, have dozens of excellent companies. American, European, or Japanese corporations are pulled forward by innovators in China, Malaysia, or Brazil, and they in turn, are pulled by the Koreans and Indians. Dramatic improvements take place in corporations in Italy, Australia, Singapore—and quickly become influential around the world.

There is also another, in some ways deeper, movement toward learning organizations, part of the evolution of industrial society. Material affluence for the majority has gradually shifted people’s orientation toward work—from what Daniel Yankelovich called an “instrumental” view of work, where work was a means to an end, to

a more "sacred" view, where people seek the "intrinsic" benefits of work.¹ "Our grandfathers worked six days a week to earn what most of us now earn by Tuesday afternoon," says Bill O'Brien, former CEO of Hanover Insurance. "The ferment in management will continue until we build organizations that are more consistent with man's higher aspirations beyond food, shelter and belonging."

Moreover, many who share these values are now in leadership positions. I find a growing number of organizational leaders who, while still a minority, feel they are part of a profound evolution in the nature of work as a social institution. "Why can't we do good works at work?" asked Edward Simon, former president of Herman Miller, a sentiment I often hear repeated today. In founding the "Global Compact," UN Secretary General Kofi Annan invited businesses around the world to build learning communities that elevate global standards for labor rights, and social and environmental responsibility.

Perhaps the most salient reason for building learning organizations is that we are only now starting to understand the capabilities such organizations must possess. For a long time, efforts to build learning organizations were like groping in the dark until the skills, areas of knowledge, and paths for development of such organizations became known. What fundamentally will distinguish learning organizations from traditional authoritarian "controlling organizations" will be the mastery of certain basic disciplines. That is why the "disciplines of the learning organization" are vital.

DISCIPLINES OF THE LEARNING ORGANIZATION

On a cold, clear morning in December 1903, at Kitty Hawk, North Carolina, the fragile aircraft of Wilbur and Orville Wright proved that powered flight was possible. Thus was the airplane invented; but it would take more than thirty years before commercial aviation could serve the general public.

Engineers say that a new idea has been "invented" when it is proven to work in the laboratory. The idea becomes an "innovation" only when it can be replicated reliably on a meaningful scale at practical costs. If the idea is sufficiently important, such as the telephone, the digital computer, or commercial aircraft, it is called a "basic innovation," and it creates a new industry or transforms an

existing industry. In these terms, learning organizations have been invented, but they have not yet been innovated.

In engineering, when an idea moves from an invention to an innovation, diverse “component technologies” come together. Emerging from isolated developments in separate fields of research, these components gradually form an ensemble of technologies that are critical to one another’s success. Until this ensemble forms, the idea, though possible in the laboratory, does not achieve its potential in practice.²

The Wright brothers proved that powered flight was possible, but the McDonnell Douglas DC-3, introduced in 1935, ushered in the era of commercial air travel. The DC-3 was the first plane that supported itself economically as well as aerodynamically. During those intervening thirty years (a typical time period for incubating basic innovations), myriad experiments with commercial flight had failed. Like early experiments with learning organizations, the early planes were not reliable and cost-effective on an appropriate scale.

The DC-3, for the first time, brought together five critical component technologies that formed a successful ensemble. They were: the variable-pitch propeller, retractable landing gear, a type of lightweight molded body construction called “monocque,” a radial air-cooled engine, and wing flaps. To succeed, the DC-3 needed all five; four were not enough. One year earlier, the Boeing 247 was introduced with all of them except wing flaps. Boeing’s engineers found that the plane, lacking wing flaps, was unstable on takeoff and landing, and they had to downsize the engine.

Today, I believe, five new component technologies are gradually converging to innovate learning organizations. Though developed separately, each will, I believe, prove critical to the others’ success, just as occurs with any ensemble. Each provides a vital dimension in building organizations that can truly “learn,” that can continually enhance their capacity to realize their highest aspirations:

Systems Thinking. A cloud masses, the sky darkens, leaves twist upward, and we know that it will rain. We also know the storm runoff will feed into groundwater miles away, and the sky will clear by tomorrow. All these events are distant in time and space, and yet they are all connected within the same pattern. Each has an influence on the rest, an influence that is usually hidden from view. You can only understand the system of a rainstorm by contemplating the whole, not any individual part of the pattern.

Business and other human endeavors are also systems. They,

too, are bound by invisible fabrics of interrelated actions, which often take years to fully play out their effects on each other. Since we are part of that lacework ourselves, it's doubly hard to see the whole pattern of change. Instead, we tend to focus on snapshots of isolated parts of the system, and wonder why our deepest problems never seem to get solved. Systems thinking is a conceptual framework, a body of knowledge and tools that has been developed over the past fifty years, to make the full patterns clearer, and to help us see how to change them effectively.

Though the tools are new, the underlying worldview is extremely intuitive; experiments with young children show that they learn systems thinking very quickly.

Personal Mastery. "Mastery" might suggest gaining dominance over people or things. But mastery can also mean a special level of proficiency. A master craftsman doesn't dominate pottery or weaving. People with a high level of personal mastery are able to consistently realize the results that matter most deeply to them—in effect, they approach their life as an artist would approach a work of art. They do that by becoming committed to their own lifelong learning.

Personal mastery is the discipline of continually clarifying and deepening our personal vision, of focusing our energies, of developing patience, and of seeing reality objectively. As such, it is an essential cornerstone of the learning organization—the learning organization's spiritual foundation. An organization's commitment to and capacity for learning can be no greater than that of its members. The roots of this discipline lie in both Eastern and Western spiritual traditions, and in secular traditions as well.

But few organizations encourage the growth of their people in this manner. This results in vast untapped resources: "People enter business as bright, well-educated, high-energy people, full of energy and desire to make a difference," says Hanover's O'Brien. "By the time they are 30, a few are on the fast track and the rest 'put in their time' to do what matters to them on the weekend. They lose the commitment, the sense of mission, and the excitement with which they started their careers. We get damn little of their energy and almost none of their spirit."

And surprisingly few adults work to rigorously develop their own personal mastery. When you ask most adults what they want from their lives, they often talk first about what they'd like to get rid of: "I'd like my mother-in-law to move out," they say, or "I'd

like my back problems to clear up.” The discipline of personal mastery starts with clarifying the things that really matter to us, of living our lives in the service of our highest aspirations.

Here, I am most interested in the connections between personal learning and organizational learning, in the reciprocal commitments between individual and organization, and in the special spirit of an enterprise made up of learners.

Mental Models. Mental models are deeply ingrained assumptions, generalizations, or even pictures or images that influence how we understand the world and how we take action. Very often, we are not consciously aware of our mental models or the effects they have on our behavior. For example, we may notice that a co-worker dresses elegantly, and say to ourselves, “She’s a country club person.” About someone who dresses shabbily, we may feel, “He doesn’t care about what others think.” Mental models of what can or cannot be done in different management settings are no less deeply entrenched. Many insights into new markets or outmoded organizational practices fail to get put into practice because they conflict with powerful, tacit mental models.

For example, in the early 1970s, Royal Dutch/Shell, became one of the first large organizations to understand how pervasive was the influence of hidden mental models. Shell’s success in the 1970s and 1980s (rising from one of the weakest of the big seven oil companies to one of the strongest along with Exxon) during a period of unprecedented changes in the world oil business—the formation of OPEC, extreme fluctuations in oil prices and availability, and the eventual collapse of the Soviet Union—came in large measure from learning how to surface and challenge managers’ mental models as a discipline for preparing change. Arie de Geus, Shell’s Coordinator of Group Planning during the 80s, said that continuous adaptation and growth in a changing business environment depends on “institutional learning, which is the process whereby management teams change their shared mental models of the company, their markets, and their competitors. For this reason, we think of planning as learning and of corporate planning as institutional learning.”³

The discipline of working with mental models starts with turning the mirror inward; learning to unearth our internal pictures of the world, to bring them to the surface and hold them rigorously to scrutiny. It also includes the ability to carry on “learningful” conversations that balance inquiry and advocacy, where

people expose their own thinking effectively and make that thinking open to the influence of others.

Building Shared Vision. If any one idea about leadership has inspired organizations for thousands of years, it's the capacity to hold a shared picture of the future we seek to create. One is hard-pressed to think of any organization that has sustained some measure of greatness in the absence of goals, values, and missions that become deeply shared throughout the organization. IBM had "service"; Polaroid had instant photography; Ford had public transportation for the masses and Apple had "computers for the rest of us."⁴ Though radically different in content and kind, all these organizations managed to bind people together around a common identity and sense of destiny.

When there is a genuine vision (as opposed to the all-too-familiar "vision statement"), people excel and learn, not because they are told to, but because they want to. But many leaders have personal visions that never get translated into shared visions that galvanize an organization. All too often, a company's shared vision has revolved around the charisma of a leader, or around a crisis that galvanizes everyone temporarily. But, given a choice, most people opt for pursuing a lofty goal, not only in times of crisis but at all times. What has been lacking is a discipline for translating individual vision into shared vision—not a "cook-book" but a set of principles and guiding practices.

The practice of shared vision involves the skills of unearthing shared "pictures of the future" that foster genuine commitment and enrollment rather than compliance. In mastering this discipline, leaders learn the counterproductiveness of trying to dictate a vision, no matter how heartfelt.

Team Learning. How can a team of committed managers with individual IQs above 120 have a collective IQ of 63? The discipline of team learning confronts this paradox. We know that teams can learn; in sports, in the performing arts, in science, and even, occasionally, in business, there are striking examples where the intelligence of the team exceeds the intelligence of the individuals in the team, and where teams develop extraordinary capacities for coordinated action. When teams are truly learning, not only are they producing extraordinary results, but the individual members are growing more rapidly than could have occurred otherwise.

The discipline of team learning starts with “dialogue,” the capacity of members of a team to suspend assumptions and enter into a genuine “thinking together.” To the Greeks *dia-logos* meant a free-flowing of meaning through a group, allowing the group to discover insights not attainable individually. Interestingly, the practice of dialogue has been preserved in many “primitive” cultures, such as that of the American Indian, but it has been almost completely lost to modern society. Today, the principles and practices of dialogue are being rediscovered and put into a contemporary context. (Dialogue differs from the more common “discussion,” which has its roots with “percussion” and “concussion,” literally a heaving of ideas back and forth in a winner-takes-all competition.)

The discipline of dialogue also involves learning how to recognize the patterns of interaction in teams that undermine learning. The patterns of defensiveness are often deeply ingrained in how a team operates. If unrecognized, they undermine learning. If recognized and surfaced creatively, they can accelerate learning.

Team learning is vital because teams, not individuals, are the fundamental learning unit in modern organizations. This is where the rubber meets the road; unless teams can learn, the organization cannot learn.

If a learning organization were an engineering innovation, such as the airplane or the personal computer, the components would be called “technologies.” For an innovation in human behavior, the components need to be seen as *disciplines*. By “discipline,” I do not mean an “enforced order” or “means of punishment,” but a body of theory and technique that must be studied and mastered to be put into practice. A discipline (from the Latin *disciplina*, to learn) is a developmental path for acquiring certain skills or competencies. As with any discipline, from playing the piano to electrical engineering, some people have an innate gift, but anyone can develop proficiency through practice.

To practice a discipline is to be a lifelong learner. You never arrive; you spend your life mastering disciplines. You can never say, “We are a learning organization,” any more than you can say, “I am an enlightened person.” The more you learn, the more acutely aware you become of your ignorance. Thus, a corporation cannot be “excellent” in the sense of having arrived at a permanent excellence; it is always in the state of practicing the disciplines of learning, of getting better or worse.

That organizations can benefit from disciplines is not a totally new idea. After all, management disciplines such as accounting have been around for a long time. But the five learning disciplines differ from more familiar management disciplines in that they are personal disciplines. Each has to do with how we think and how we interact and learn with one another. In this sense, they are more like artistic disciplines than traditional management disciplines. Moreover, while accounting is good for "keeping score," we have never approached the subtler tasks of building organizations, of enhancing their capabilities for innovation and creativity, of crafting strategy and designing policy and structure through assimilating new disciplines. Perhaps this is why, all too often, great organizations are fleeting, enjoying their moment in the sun, then passing quietly back to the ranks of the mediocre.

Practicing a discipline is different from emulating a model. All too often, new management innovations are described in terms of the "best practices" of so-called leading firms. I believe benchmarking best practices can open people's eyes as to what is possible, but it can also do more harm than good, leading to piecemeal copying and playing catch-up. As one seasoned Toyota manager commented after hosting over a hundred tours for visiting executives, "They always say 'Oh yes, you have a Kan-Ban system, we do also. You have quality circles, we do also. Your people fill out standard work descriptions, ours do also.' They all see the parts and have copied the parts. What they do not see is the way all the parts work together." I do not believe great organizations have ever been built by trying to emulate another, any more than individual greatness is achieved by trying to copy another "great person."

When the five component technologies converged to create the DC-3 the commercial airline industry began. But the DC-3 was not the end of the process. Rather, it was the precursor of a new industry. Similarly, as the five component learning disciplines converge they will not create *the* learning organization but rather a new wave of experimentation and advancement.

THE FIFTH DISCIPLINE

It is vital that the five disciplines develop as an ensemble. This is challenging because it is much harder to integrate new tools than simply apply them separately. But the payoffs are immense.

This is why systems thinking is the fifth discipline. It is the disci-

pline that integrates the disciplines, fusing them into a coherent body of theory and practice. It keeps them from being separate gimmicks or the latest organization change fads. Without a systemic orientation, there is no motivation to look at how the disciplines interrelate. By enhancing each of the other disciplines, it continually reminds us that the whole can exceed the sum of its parts.

For example, vision without systems thinking ends up painting lovely pictures of the future with no deep understanding of the forces that must be mastered to move from here to there. This is one of the reasons why many firms that have jumped on the “vision bandwagon” in recent years have found that lofty vision alone fails to turn around a firm’s fortunes. Without systems thinking, the seed of vision falls on harsh soil. If nonsystemic thinking predominates, the first condition for nurturing vision is not met: a genuine belief that we can make our vision real in the future. We may say “We can achieve our vision” (most American managers are conditioned to this belief), but our tacit view of current reality as a set of conditions created by somebody else betrays us.

But systems thinking also needs the disciplines of building shared vision, mental models, team learning, and personal mastery to realize its potential. Building shared vision fosters a commitment to the long term. Mental models focus on the openness needed to unearth shortcomings in our present ways of seeing the world. Team learning develops the skills of groups of people to look for the larger picture beyond individual perspectives. And personal mastery fosters the personal motivation to continually learn how our actions affect our world. Without personal mastery, people are so steeped in the reactive mindset (“someone/something else is creating my problems”) that they are deeply threatened by the systems perspective.

Lastly, systems thinking makes understandable the subtlest aspect of the learning organization—the new way individuals perceive themselves and their world. At the heart of a learning organization is a shift of mind—from seeing ourselves as separate from the world to connected to the world, from seeing problems as caused by someone or something “out there” to seeing how our own actions create the problems we experience. A learning organization is a place where people are continually discovering how they create their reality. And how they can change it. As Archimedes said, “Give me a lever long enough . . . and single-handed I can move the world.”

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METANOIA—A SHIFT OF MIND

When you ask people about what it is like being part of a great team, what is most striking is the meaningfulness of the experience. People talk about being part of something larger than themselves, of being connected, of being generative. It becomes quite clear that, for many, their experiences as part of truly great teams stand out as singular periods of life lived to the fullest. Some spend the rest of their lives looking for ways to recapture that spirit.

The most accurate word in Western culture to describe what happens in a learning organization is one that hasn't had much currency for the past several hundred years. It is a word we have used in our work with organizations for some ten years, but we always caution them, and ourselves, to use it sparingly in public. The word is "metanoia" and it means a shift of mind. The word has a rich history. For the Greeks, it meant a fundamental shift or change, or more literally transcendence ("*meta*"—above or beyond, as in "metaphysics") of mind ("*noia*," from the root "*nous*," of mind). In the early (Gnostic) Christian tradition, it took on a special meaning of awakening shared intuition and direct knowing of the highest, of God. "Metanoia" was probably the key term of such early Christians as John the Baptist. In the Catholic corpus the word "metanoia" was eventually translated as "repent."

To grasp the meaning of "metanoia" is to grasp the deeper meaning of "learning," for learning also involves a fundamental shift or movement of mind. The problem with talking about "learning organizations" is that the "learning" has lost its central meaning in contemporary usage. Most people's eyes glaze over if you talk to them about "learning" or "learning organizations." The words tend to immediately evoke images of sitting passively in schoolrooms, listening, following directions, and pleasing the teacher by avoiding making mistakes. In effect, in everyday use, learning has come to be synonymous with "taking in information." "Yes, I learned all about that at the training yesterday." Yet, taking in information is only distantly related to real learning. It would be nonsensical to say, "I just read a great book about bicycle riding—I've now learned that."

Real learning gets to the heart of what it means to be human. Through learning we re-create ourselves. Through learning we become able to do something we never were able to do. Through learning we re-perceive the world and our relationship to it. Through learning we extend our capacity to create, to be part of the genera-

tive process of life. There is within each of us a deep hunger for this type of learning. As anthropologist Edward Hall says, "Humans are the learning organism par excellence. The drive to learn is as strong as the sexual drive—it begins earlier and lasts longer."⁵

This, then, is the basic meaning of a "learning organization"—an organization that is continually expanding its capacity to create its future. For such an organization, it is not enough merely to survive. "Survival learning" or what is more often termed "adaptive learning" is important—indeed it is necessary. But for a learning organization, "adaptive learning" must be joined by "generative learning," learning that enhances our capacity to create.

A few brave organizational pioneers are pointing the way, but the territory of building learning organizations is still largely unexplored. It is my fondest hope that this book can accelerate that exploration.

PUTTING THE IDEAS INTO PRACTICE

I take no credit for inventing the five major disciplines of this book. The five disciplines described below represent the experimentation, research, writing, and invention of hundreds of people. But I have worked with all of the disciplines for years, refining ideas about them, collaborating on research, and introducing them to organizations throughout the world.

When I first entered graduate school at MIT I was already convinced that most of the problems faced by humankind concerned our inability to grasp and manage the increasingly complex systems of our world. Little has happened since to change my view. Today, the environmental crisis, the continuing gap between "haves and have-nots" and consequent social and political instability, the persisting global arms race, the international drug trade, and the explosive U.S. budget, trade deficits, and consequent financial fragility all attest to a world where problems are becoming increasingly complex and interconnected. From the start at MIT I was drawn to the work of Jay Forrester, a computer pioneer who had shifted fields to develop what he called "system dynamics." Jay maintained that the causes of many pressing public issues, from urban decay to global ecological threat, lay in the very well-intentioned policies designed to alleviate them. These problems were "actually systems" that lured policymakers into interventions that focused on obvious

symptoms not underlying causes, which produced short-term benefit but long-term malaise, and fostered the need for still more symptomatic interventions.

As I began my doctoral work, I began to meet business leaders who came to visit our MIT group to learn about systems thinking. These were thoughtful people, deeply aware of the inadequacies of prevailing ways of managing. Unlike most academics, they were engaged, not detached intellectuals, and many were working to build new types of organizations—decentralized, nonhierarchical organizations dedicated to the well-being and growth of employees as well as to success. Some had crafted radical corporate philosophies based on core values of freedom and responsibility. Others had developed innovative organization designs. All shared a commitment and a capacity to innovate that I found lacking in other sectors. Gradually, I came to realize why business is the locus of innovation in an open society. Despite whatever hold past thinking may have on the business mind, business has a freedom to experiment missing in the public and education sectors and, often, in non-profit organizations. It also has a clear bottom line, so that experiments can be evaluated, at least in principle, by objective criteria.

But why were they interested in systems thinking? Too often, the most daring organizational experiments were foundering. Local autonomy produced business decisions that were disastrous for the organization as a whole. "Team building" exercises focused on better relationships among people who often still held radically different mental models of the business system. Companies pulled together during crises, and then lost all their inspiration when business improved. Organizations which started out as booming successes, with the best possible intentions toward customers and employees, found themselves trapped in downward spirals that got worse the harder they tried to fix them.

When I was a student and young professor, we all believed that the tools of systems thinking could make a difference in these companies. As I worked with different companies, I came to see why systems thinking was not enough by itself. It needed a new type of management practitioner to really make the most of it. At that time, in the mid-1970s, there was a nascent sense of what such a management practitioner could be. But it had not yet crystallized. It began to do so with the formation of a "CEO group" that met regularly at MIT starting around 1980 that included William O'Brien of Hanover Insurance, Arie de Geus of Shell, Edward Simon from Herman Miller, and Ray Stata, CEO of Analog Devices. The group

continued for over a decade eventually drawing participants from Apple, Ford, Harley-Davidson, Philips, Polaroid, and Trammell Crow.

For over twenty-five years I have also been involved in developing and conducting leadership workshops, which have introduced people from all walks of life to the fifth discipline ideas that grew out of our work at MIT. These ideas combined initially with Innovation Associates' path-breaking work on building shared vision and personal mastery and the workshops continue today as part of the global Society for Organizational Learning (SoL). When *The Fifth Discipline* was originally published, over four thousand managers had attended these workshops and they were in fact the "target audience" to whom the book was aimed. (When it became apparent that many more people were using the book as an introduction to organizational learning, we created *The Fifth Discipline Fieldbook* in 1994, thinking that a book of practical tools, stories, and tips might in fact be a better introduction.) Over the course of these experiences the initial focus on corporate senior executives broadened, as it became evident that the basic disciplines of systems thinking, personal mastery, mental models, team learning and shared vision were relevant for teachers, public administrators and elected officials, students, and parents. All were in leadership positions of importance. All were in "organizations" that had still untapped potential for creating their future. All felt that to tap that potential required developing their own capacities, that is, learning.

So, this book is for the learners, especially those of us interested in the art and practice of collective learning.

For managers, this book should help in identifying the specific practices, skills, and disciplines that can make building learning organizations less of an occult art (though an art nonetheless).

For parents, this book should help in letting our children be our teachers, as well as we are theirs—for they have much to teach us about learning as a way of life.

For citizens, the dialogue about why contemporary organizations are not especially good learners and about what is required to build learning organizations reveals some of the tools needed by communities and societies if they are to become more adept learners.

2

DOES YOUR ORGANIZATION HAVE A LEARNING DISABILITY?

Few large corporations live even half as long as a person. In 1983, a Royal Dutch/Shell study found that one-third of the firms that had been in the Fortune “500” in 1970 had vanished.¹ Shell estimated that the average lifetime of the largest industrial enterprises is less than forty years, roughly half the lifetime of a human being! Since then this study has been repeated by EDS and several other corporations, and served as a point of reference in James Collins’ *Good to Great*, published in 2001. The chances are fifty-fifty that readers of this book will see their present firm disappear during their working career.

In most companies that fail, there is abundant evidence in advance that the firm is in trouble. This evidence goes unheeded, however, even when individual managers are aware of it. The organization as a whole cannot recognize impending threats, understand the implications of those threats, or come up with alternatives.

Perhaps under the laws of “survival of the fittest,” this continual death of firms is fine for society. Painful though it may be for the

employees and owners, it is simply a turnover of the economic soil, redistributing the resources of production to new companies and new cultures. But what if the high corporate mortality rate is only a symptom of deeper problems that afflict all companies, not just the ones that die? What if even the most successful companies are poor learners—they survive but never live up to their potential? What if, in light of what organizations *could* be, “excellence” is actually “mediocrity”?

It is no accident that most organizations learn poorly. The way they are designed and managed, the way people’s jobs are defined, and, most importantly, the way we have all been taught to think and interact (not only in organizations but more broadly) create fundamental learning disabilities. These disabilities operate despite the best efforts of bright, committed people. Often the harder they try to solve problems, the worse the results. What learning does occur takes place despite these learning disabilities—for they pervade all organizations to some degree.

Learning disabilities are tragic in children, especially when they go undetected. They are no less tragic in organizations, where they also go largely undetected. The first step in curing them is to begin to identify the seven learning disabilities:

1. “I AM MY POSITION”

We are trained to be loyal to our jobs—so much so that we confuse them with our own identities. When a large American steel company began closing plants in the early 1980s, it offered to train the displaced steelworkers for new jobs. But the training never “took”; the workers drifted into unemployment and odd jobs instead. Psychologists came in to find out why, and found the steelworkers suffering from acute identity crises. “How could I do anything else?” asked the workers. “I *am* a lathe operator.”

When asked what they do for a living, most people describe the tasks they perform every day, not the *purpose* of the greater enterprise in which they take part. Most see themselves within a system over which they have little or no influence. They do their job, put in their time, and try to cope with the forces outside of their control. Consequently, they tend to see their responsibilities as limited to the boundaries of their position.

Many years ago, managers from a Detroit auto maker told me of

stripping down a Japanese import to understand why the Japanese were able to achieve extraordinary precision and reliability at lower cost on a particular assembly process. They found the same standard type of bolt used three times on the engine block. Each time it mounted a different type of component. On the American car, the same assembly required three different bolts, which required three different wrenches and three different inventories of bolts—making the car much slower and more costly to assemble. Why did the Americans use three separate bolts? Because the design organization in Detroit had three groups of engineers, each responsible for “their” component only. The Japanese had one designer responsible for the entire engine mounting, and probably much more. The irony is that each of the three groups of American engineers considered their work successful because their bolt and assembly worked just fine.

When people in organizations focus only on their position, they have little sense of responsibility for the results produced when all positions interact. Moreover, when results are disappointing, it can be very difficult to know why. All you can do is assume that “someone screwed up.”

2. “THE ENEMY IS OUT THERE”

A friend once told the story of a boy he coached in Little League, who after dropping three fly balls in right field, threw down his glove and marched into the dugout. “No one can catch a ball in that darn field,” he said.

There is in each of us a propensity to find someone or something outside ourselves to blame when things go wrong. Some organizations elevate this propensity to a commandment: “Thou shalt always find an external agent to blame.” Marketing blames manufacturing: “The reason we keep missing sales targets is that our quality is not competitive.” Manufacturing blames engineering. Engineering blames marketing: “If they’d only quit screwing up our designs and let us design the products we are capable of, we’d be an industry leader.”

The “enemy is out there” syndrome is actually a by-product of “I am my position,” and the nonsystemic ways of looking at the world that it fosters. When we focus only on our position, we do not see how our own actions extend beyond the boundary of that position.

When those actions have consequences that come back to hurt us, we misperceive these new problems as externally caused. Like the person being chased by his own shadow, we cannot seem to shake them.

The “Enemy Is Out There” syndrome is not limited to assigning blame within the organization. During its last years of operation, the once highly successful People Express Airlines slashed prices, boosted marketing, and bought Frontier Airlines—all in a frantic attempt to fight back against the perceived cause of its demise: increasingly aggressive competitors. Yet, none of these moves arrested the company’s mounting losses or corrected its core problem, service quality that had declined so far that low fares were its only remaining pull on customers.

For years American companies who had lost market share to foreign competitors blamed cheap foreign wages, labor unions, government regulators, or customers who “betrayed us” by buying products from someone else. “The enemy is out there,” however, is almost always an incomplete story. “Out there” and “in here” are usually part of a single system. This learning disability makes it almost impossible to detect the leverage we can use “in here” on problems that straddle the boundary between us and “out there.”

3. THE ILLUSION OF TAKING CHARGE

Being “proactive” is in vogue. Managers frequently proclaim the need for taking charge in facing difficult problems. What is typically meant by this is that we should face up to difficult issues, stop waiting for someone else to do something, and solve problems before they grow into crises. In particular, being proactive is frequently seen as an antidote to being “reactive”—waiting until a situation gets out of hand before taking a step. But is taking aggressive action against an external enemy really synonymous with being proactive?

Once, a management team in a leading property and liability insurance company with whom we were working got bitten by the proactiveness bug. The head of the team, a talented vice president for claims, was about to give a speech proclaiming that the company wasn’t going to get pushed around anymore by lawyers litigating more and more claims settlements. The firm would beef up its own legal staff so that it could take more cases through to trial by verdict, instead of settling them out of court.

Then we and some members of the team began to look more systematically at the probable effects of the idea: the likely fraction of cases that might be won in court, the likely size of cases lost, the monthly direct and overhead costs regardless of who won or lost, and how long cases would probably stay in litigation. Interestingly, the team's scenarios pointed to increasing total costs because, given the quality of investigation done initially on most claims, the firm simply could not win enough of its cases to offset the costs of increased litigation. The vice president tore up his speech.

All too often, proactiveness is reactiveness in disguise. Whether in business or politics, if we simply become more aggressive fighting the "enemy out there," we are reacting—regardless of what we call it. *True proactiveness comes from seeing how we contribute to our own problems.* It is a product of our way of thinking, not our emotional state.

4. THE FIXATION ON EVENTS

Two children get into a scrap on the playground and you come over to untangle them. Lucy says, "I hit him because he took my ball." Tommy says, "I took her ball because she won't let me play with her airplane." Lucy says, "He can't play with my airplane because he broke the propeller." Wise adults that we are, we say, "Now, now, children—just get along with each other." But are we really any different in the way we explain the entanglements we find ourselves caught in? We are conditioned to see life as a series of events, and for every event, we think there is one obvious cause.

Conversations in organizations are dominated by concern with events: last month's sales, the new budget cuts, last quarter's earnings, who just got promoted or fired, the new product our competitors just announced, the delay that just was announced in our new product, and so on. The media reinforces an emphasis on short-term events—after all, if it's more than two days old it's no longer "news." Focusing on events leads to "event" explanations: "The Dow Jones average dropped sixteen points today," announces the newspaper, "because low fourth-quarter profits were announced yesterday." Such explanations may be true, but they distract us from seeing the longer-term patterns of change that lie behind the events and from understanding the causes of those patterns.

Our fixation on events is actually part of our evolutionary pro-

gramming. If you wanted to design a cave person for survival, ability to contemplate the cosmos would not be a high-ranking design criterion. What is important is the ability to see the saber-toothed tiger over your left shoulder and react quickly. The irony is that, today, the primary threats to our survival, both of our organizations and of our societies, come not from sudden events but from slow, gradual processes: the arms race, environmental decay, the erosion of a society's public education system, and decline in a firm's design or product quality (relative to competitors' quality) are all slow, gradual processes.

Generative learning cannot be sustained in an organization if people's thinking is dominated by short-term events. If we focus on events, the best we can ever do is predict an event before it happens so that we can react optimally. But we cannot learn to create.

5. THE PARABLE OF THE BOILED FROG

Maladaptation to gradually building threats to survival is so pervasive in systems studies of corporate failure that it has given rise to the parable of the "boiled frog." If you place a frog in a pot of boiling water, it will immediately try to scramble out. But if you place the frog in room temperature water, and don't scare him, he'll stay put. Now, if the pot sits on a heat source, and if you gradually turn up the temperature, something very interesting happens. As the temperature rises from 70 to 80 degrees F., the frog will do nothing. In fact, he will show every sign of enjoying himself. As the temperature gradually increases, the frog will become groggier and groggier, until he is unable to climb out of the pot. Though there is nothing restraining him, the frog will sit there and boil. Why? Because the frog's internal apparatus for sensing threats to survival is geared to sudden changes in his environment, not to slow, gradual changes.

The American automobile industry has had a long-standing case of boiled frog. In the 1960s, it dominated North American sales. That began to change very gradually. Certainly, Detroit's Big Three did not see Japan as a threat to their survival in 1962, when the Japanese share of the U.S. market was below 4 percent. Nor in 1967, when it was less than 10 percent. Nor in 1974, when it was under 15 percent. By the time the Big Three began to look critically

at their own practices and core assumptions, it was the early 1980s, and the Japanese share of the American market had risen to 21.3 percent. By 1990, the Japanese share was approaching 25 percent, and by 2005 it was closer to 40 percent.² Given the financial health of the U.S. car companies it is unclear whether this particular frog will ever regain the strength to pull itself out of the hot water.

Learning to see slow, gradual processes requires slowing down our frenetic pace and paying attention to the subtle as well as the dramatic. If you sit and look into a tidepool, initially you won't see much of anything going on. However, if you watch long enough, after about ten minutes the tidepool will suddenly come to life. The world of beautiful creatures is always there, but moving a bit too slowly to be seen at first. The problem is our minds are so locked in one frequency, it's as if we can only see at 78 rpm; we can't see anything at 33-1/3. We will not avoid the fate of the frog until we learn to slow down and see the gradual processes that often pose the greatest threats.

6. THE DELUSION OF LEARNING FROM EXPERIENCE

The most powerful learning comes from direct experience. Indeed, we learn eating, crawling, walking, and communicating through direct trial and error—through taking an action and seeing the consequences of that action; then taking a new and different action. But what happens when we can no longer observe the consequences of our actions? What happens if the primary consequences of our actions are in the distant future or in a distant part of the larger system within which we operate? We each have a “learning horizon,” a breadth of vision in time and space within which we assess our effectiveness. When our actions have consequences beyond our learning horizon, it becomes impossible to learn from direct experience.

Herein lies the core learning dilemma that confronts organizations: *we learn best from experience but we never directly experience the consequences of many of our most important decisions.* The most critical decisions made in organizations have systemwide consequences that stretch over years or decades. Decisions in R&D have first-order consequences in marketing and manufacturing. Investing in new manufacturing facilities and processes influences quality and delivery reliability for a decade or more. Promoting the right people

into leadership positions shapes strategy and organizational climate for years. These are exactly the types of decisions where there is the least opportunity for trial and error learning.

Cycles are particularly hard to see, and thus learn from, if they last longer than a year or two. As systems-thinking writer Draper Kauffman, Jr., points out, most people have short memories. "When a temporary oversupply of workers develops in a particular field," he writes, "everyone talks about the big surplus and young people are steered away from the field. Within a few years, this creates a shortage, jobs go begging, and young people are frantically urged into the field—which creates a surplus. Obviously, the best time to start training for a job is when people have been talking about a surplus for several years and few others are entering it. That way, you finish your training just as the shortage develops."³

Traditionally, organizations attempt to surmount the difficulty of coping with the breadth of impact from decisions by breaking themselves up into components. They institute functional hierarchies that are easier for people to "get their hands around." But, functional divisions grow into fiefdoms, and what was once a convenient division of labor mutates into the "stovepipes" that all but cut off contact between functions. The result: analysis of the most important problems in a company, the complex issues that cross functional lines, becomes a perilous or nonexistent exercise.

7. THE MYTH OF THE MANAGEMENT TEAM

Striding forward to do battle with these dilemmas and disabilities is "the management team," the collection of savvy, experienced managers who represent the organization's different functions and areas of expertise. Together, they are supposed to sort out the complex cross-functional issues that are critical to the organization. What confidence do we have, really, that typical management teams can surmount these learning disabilities?

All too often, teams in business tend to spend their time fighting for turf, avoiding anything that will make them look bad personally, and pretending that everyone is behind the team's collective strategy—maintaining the appearance of a cohesive team. To keep up the image, they seek to squelch disagreement; people with serious reservations avoid stating them publicly, and joint decisions are watered-down compromises reflecting what everyone can live with,

or else reflecting one person's view foisted on the group. If there is disagreement, it's usually expressed in a manner that lays blame, polarizes opinion, and fails to reveal the underlying differences in assumptions and experience in a way that the team as a whole could learn from.

"Most management teams break down under pressure," writes Harvard's Chris Argyris—a longtime student of learning in management teams. "The team may function quite well with routine issues. But when they confront complex issues that may be embarrassing or threatening, the 'teamness' seems to go to pot."⁴

Argyris argues that most managers find collective inquiry inherently threatening. School trains us never to admit that we do not know the answer, and most corporations reinforce that lesson by rewarding the people who excel in advocating their views, not inquiring into complex issues. (When was the last time someone was rewarded in your organization for raising difficult questions about the company's current policies rather than solving urgent problems?) Even if we feel uncertain or ignorant, we learn to protect ourselves from the pain of appearing uncertain or ignorant. That very process blocks out any new understandings which might threaten us. The consequence is what Argyris calls "skilled incompetence"—teams full of people who are incredibly proficient at keeping themselves from learning.

DISABILITIES AND DISCIPLINES

These learning disabilities have been with us for a long time. In *The March of Folly*, Barbara Tuchman traces the history of devastating large-scale policies "pursued contrary to ultimate self-interest,"⁵ from the fall of the Trojans through the U.S. involvement in Vietnam. In story after story, leaders could not see the consequences of their own policies, even when they were warned in advance that their own survival was at stake. Reading between the lines of Tuchman's writing, you can see that the fourteenth-century Valois monarchs of France suffered from "I am my position" disabilities—when they devalued currency, they literally didn't realize they were driving the new French middle class toward insurrection.

In the mid-1700s Britain had a bad case of boiled frog. The British went through "a full decade," wrote Tuchman, "of mounting conflict with the [American] colonies without any [British official]

sending a representative, much less a minister, across the Atlantic . . . to find out what was endangering the relationship . . .”⁶ By 1776, the start of the American Revolution, the relationship was irrevocably endangered. Elsewhere, Tuchman describes the Roman Catholic cardinals of the fifteenth and sixteenth centuries, a tragic management “team” in which piety demanded that they present an appearance of agreement. However, behind-the-scenes backstabbing (in some cases, literal backstabbing) brought in opportunistic popes whose abuses of office provoked the Protestant Reformation.

More recently, historian Jared Diamond tells similar stories of arrogance and blindness leading to demise, only this time the victims are entire civilizations. From the Mayas to the Easter Islanders, Diamond shows how powerful dominant empires collapse, often in remarkably short periods of time. Like failing organizations, most of those inside the empire sense that all is not quite right, but their instincts are to more strongly defend their traditional ways of doing things rather than to question them—let alone develop the capacity to change those ways.⁷

We live in no less perilous times today, and the same learning disabilities persist, along with their consequences. The five disciplines of the learning organization can, I believe, act as antidotes to these learning disabilities. But first, we must see the disabilities more clearly—for they are often lost amid the bluster of day-to-day events.

3

PRISONERS OF THE SYSTEM, OR PRISONERS OF OUR OWN THINKING?

In order to see the learning disabilities in action, it helps to start with a laboratory experiment—a microcosm of how real organizations function, where you can see the consequences of your decisions play out more clearly than is possible in real organizations. For this reason, we often invite people to take part in a simulation called the “beer game,” first developed in the 1960s at MIT’s Sloan School of Management. Because it is a laboratory replica of a real setting, rather than reality itself, we can isolate the disabilities and their causes more sharply than is possible in real organizations. This reveals that the problems originate in basic ways of thinking and interacting, more than in peculiarities of organization structure and policy.

The beer game does this by immersing us in a type of organization which is rarely noticed but widely prevalent: a production/distribution system, the kind responsible for producing and shipping consumer and commercial goods in all industrial countries. In this case, it’s a system for producing and distributing a single brand of