Peter M. Senge, "The Leader's New Work: Building Learning Organizations," in *Sloan Management Review* (Fall 1990), pp. 7-23.

This article focuses on the kind of leadership needed to build learning organizations --it describes their new roles, skills and tools. But it also addresses the main concepts behind Senge's conceptualization of the *learning organization*. For example, it makes a distinction between *adaptive* learning and *generative* learning, and it highlights the importance of *systems thinking*. It also captures the main thrust behind two of the other four disciplines: *mental models* and *shared vision*. *Team learning* is found implicit in the systems perspective. *Personal mastery*, however, is not addressed. Some additional reasons for reading this article are:

- description of the *creative tension* principle;
- section on *systems thinking* which includes a distinction between "events," "patterns of behavior" and "systemic structure;" distinction between "detail" and "dynamic" complexity; leverage principle; and
- an introduction to seven *systems archetypes* which includes a visual word-and-arrow diagram showing "feedback-loops;"
- an illustration of the "left-hand column" exercise; and
- an introduction to the importance of learning laboratories or *micro-worlds*.

Senge begins the article with a suggestion that human beings are born *learners* (in the *learning organization* sense of the term), but that the social and organizational structure in which we are brought up and socialized into the workplace shifts our "natural" *generative* learning abilities into *adaptive* learning "skills." However, ironically, by focusing on performing for someone else's approval, corporations create the very conditions that predestine them to mediocre performance.

He argues that in a increasingly dynamic, interdependent, and unpredictable world, it is simply no longer possible for anyone to "figure it all out at the top." The old model, "the top thinks and the local acts," must now give way to integrating thinking and acting at all levels. Interestingly, the key to organizational longevity appears to be the ability to run "experiments in the margin," to continually explore new business and organizational opportunities that create potential new sources of growth.

***ADAPTIVE* LEARNING AND *GENERATIVE* LEARNING.** According to *Fortune* magazine, "the most successful corporation ... will be something called a *learning organization*, a consummately *adaptive* enterprise." [emphasis added] But Senge argues that increasing adaptiveness is only the first stage in moving toward learning organizations. **The impulse to learn in children goes deeper than desires to respond and adapt more effectively to environmental change. The impulse to learn, at its heart, is an impulse to be generative, to expand our capability.** This is why leading corporations are focusing on *generative* learning, which is about *creating*, as well as *adaptive* learning, which is about *coping*.

But generative learning, unlike adaptive learning, requires new ways of looking at the world. **Generative learning requires seeing the systems that control *events*.** When we fail to grasp

the systemic source of problems, we are left to "push on" symptoms rather than eliminate underlying causes. Without systemic thinking, the best we can ever do is adaptive learning.

THE LEADER'S NEW WORK. Our traditional view of leaders --as special people who set the direction, make the key decisions, and energize the troops-- is deeply rooted in an individualistic and non-systemic world-view. In a learning organization, leaders' role differ dramatically from that of the charismatic decision maker. **Leaders are designers, teachers, and stewards. These roles require new skills: the ability to build shared vision, to bring to the surface and challenge prevailing mental models, and to foster more systemic patterns of thinking. In short, leaders in learning organizations are responsible for building organizations where people are continually expanding their capabilities to shape their future --that is, leaders are responsible for learning**.

CREATIVE TENSION: THE INTEGRATING PRINCIPLE. The natural energy for changing reality comes from holding a picture of what might be that is more important to people than what is. The principle of creative tension teaches that an accurate picture of current reality is just as important as a guiding picture of a desired future, because the difference between the two is the force driving change. (See article, Figure 1, p. 9.)

NEW ROLES

LEADER AS DESIGNER. According to Senge, it is fruitless to be the leader in an organization that is poorly designed. The first task of organization design concerns designing the governing ideas of **purpose, vision, and core values** by which people will live. Few acts of leadership have more enduring impact on an organization than building a foundation of purpose and core values. The second design task involves the **policies, strategies, and structures** that translate guiding ideas into business decisions. Behind appropriate policies, strategies, and structures are effective **learning processes**; their creation is the third key design responsibility in learning organizations.

LEADER AS TEACHER. Leader as teaches does not mean leader as authoritarian expert whose job is to teach people the "correct" view of reality. Rather, it is about helping everyone in the organization, oneself included, to gain more insightful views of current reality.

The role of leader as teacher starts with bringing to the surface people's mental models of important issues. These mental pictures of how the world works have a significant influence on how we perceive problems and opportunities, identify courses of action, and make choices.

In learning organizations, this teaching role is developed further by virtue of explicit attention to people's mental models and by the influence of the systems perspective. Leaders as teachers help people restructure their views of reality to see beyond the superficial conditions and events into the underlying causes of problems --and therefore to see new possibilities for shaping the future. Specifically, leaders can influence people to view reality at three distinct levels: *events*, *patterns of behavior*, and *systemic structure*.

According to Senge, contemporary society focuses predominantly on events, less so in patterns of behavior, and very rarely on systemic structure. Leaders in learning organizations must

reverse this trend, and focus their organization's attention on systemic structure. This is because *event* explanations --who did what to whom-- doom their holders to a reactive stance toward change; *pattern-of-behavior* explanations are limited to identifying long-term trends and assessing their implications --they suggest how, over time, we can respond to shifting conditions (adaptive learning); *structural* explanations are the most powerful --only they address the underlying causes of behavior at a level such that patterns of behavior can be changed (generative learning).

LEADER AS STEWARD. "The *servant* leader is servant first ... it begins with the natural feeling that one wants to serve first. This conscious choice brings one to aspire to lead. That person is sharply different from one who is leader first, perhaps because of the need to assuage an unusual power drive or to acquire material possessions."

Leaders' sense of stewardship operates at two levels: stewardship for the people they lead and stewardship for the larger purpose or mission that underlies the enterprise.

Leaders engaged in building learning organizations naturally feel part of a larger purpose that goes beyond their organization. They are part of changing the way businesses operate, not from a vague philanthropic urge, but from a conviction that their efforts will produce more productive organizations, capable of achieving higher levels of organizational success and personal satisfaction than more traditional organizations.

NEW SKILLS

BUILDING *SHARED* VISION. The concept of creative tension previously discussed introduced the importance of *visioning*. When more people come to share a vision, the vision becomes more real in the sense of a mental reality that people can truly imagine achieving. They now have partners, co-creators; the vision no longer rests on their shoulders alone. Some of the ideas involved in building shared vision are:

- **encouraging personal vision**, since shared visions emerge from personal visions
- **communicating and asking for support** --leaders must be willing to continually share their own vision, rather than being the official representative of the corporate vision; they also must be prepared to ask, "Is my vision worthy of your commitment?"
- building **visioning is an on-going**, never-ending **process**
- *extrinsic* visions focus on achieving something relative to an outsider, such as a competitor; *intrinsic* visions focus on creating a new type of product, taking an established product to a new level, etc., *i.e.,* they call forth a new level of creativity and innovation; **intrinsic and extrinsic visions need to coexist** --a vision solely predicated on defeating an adversary will eventually weaken an organization
- two fundamental sources of energy can motivate organizations: fear and aspiration --fear, the energy source behind *negative* visions, can produce extraordinary changes in short periods, but **aspiration, the energy source behind *positive* visions, endures as a continuing source of learning and growth**

SURFACING AND TESTING MENTAL MODELS. The leadership task of challenging assumptions without invoking defensiveness requires reflection and inquiry skills possessed by few leaders in controlling organizations, such as:

- **seeing leaps of abstraction** --thus, avoiding over-generalizing from data
- **balancing inquiry and advocacy** --to explain the *reasoning* and *data* that led to a point-of-view; to encourage others to *challenge* that point-of-view; to encourage others to provide *other points-of-view*; to actively seek to *understand* other points-of-view (instead of simply rejecting them); make attributions explicitly and to the point; and, in case of impasse, search for alternative data or logic which might resolve the impasse, or run an experiment
- **distinguishing espoused theory from theory in use** --recognizing gaps between what we say we believe (espoused theory) and what our actions reflect about our beliefs (theory in use)
- **recognizing and defusing *defensive routines*** --entrenched habits used to protect ourselves from the embarrassment and threat that come with exposing our thinking-- in order to expose our personal mental models

SYSTEMS THINKING. Successful leaders often are "systems thinkers" to a considerable extent. They focus less on day-to-day events and more on underlying trends and forces of change. But they do this almost completely intuitively. One of the significant developments in management science is the gradual coalescence of systems thinking as a field of study and practice. This field suggests some skills:

- **seeing interrelationships, not things, and processes, not snapshots**
- **moving beyond blame** --systems thinking shows us that there is no outside, that you and the cause of your problems are part of a single system, and that poorly designed systems, not incompetent or unmotivated individuals, cause most organizational problems
- **distinguishing *detail* complexity from *dynamic* complexity** --detail complexity arises when there are many variables; dynamic complexity arises when cause and effect are distant in time and space, and when the consequences over time of interventions are subtle and not obvious to many participants in the system
- **focusing on areas of high leverage** --where a change, with minimum effort, leads to lasting, significant improvement
- **avoiding symptomatic solutions** which do not address underlying causes --sometimes the most difficult leadership acts are to refrain from intervening through popular quick fixes and to keep the pressure on everyone to identify more enduring solutions

Many talented leaders have rich, highly systemic intuitions but cannot explain those intuitions to others. Ironically, they often end up being authoritarian leaders, even if they don't want to, because only they see the decisions that need to be made. They are unable to conceptualize their strategic insights so that these can become public knowledge, open to challenge and further improvement.

According to Senge, these skills can only be developed through lifelong commitment. Moreover, it is not enough for one or two individuals to develop them. They must be

distributed widely throughout the organization. (In *The Fifth Discipline*, Senge addresses two additional areas of skills which are not treated here: personal mastery and team learning.)

NEW TOOLS
Developing the new skills described above requires new tools that enhance leaders' conceptual abilities and foster communication and collaborative inquiry, such as:

SYSTEMS ARCHETYPES. These are types of systemic structures that recur again and again. Their knowledge helps us to identify and understand the underlying causes of problems, possible leverage points, and so forth. Some examples of systems archetypes are: (see pages 16 and 27 for brief explanations)

- balancing process with delay *(used in "Beer Game" & "Boom-and-bust")*
- limits to growth
- shifting the burden
- eroding goals
- escalation
- tragedy of the commons *(used in "Fish-banks")*
- growth and under-investment *(used in "People Express")*

The archetype template is a specific tool that is helping managers identify archetypes operating in their own strategic areas. The template shows the basic structural form of the archetype but lets managers fill in the variables of their own situation. (See article, Figure 2, p. 17.)

CHARTING STRATEGIC DILEMMAS. The article suggests an approach presented by Charles Hampden-Turner to deal with core dilemmas typically confronted by organizations, such as the low cost *or* high quality choice. A seven step exercise may help introduce some creativity in dealing with dilemmas. The steps are:

- eliciting the dilemmas
- mapping
- processing
- framing/contextualization
- sequencing
- waving/cycling
- synergizing

This tool can help surface win-win solutions, such as ways to achieving *both* low cost *and* high quality.

THE "LEFT-HAND COLUMN" EXERCISE. The purpose behind the "left-hand column" exercise, developed by Chris Argyris & colleagues, is to help surface our mental models. The exercise not only brings hidden assumptions to the surface, but it also shows how they influence behavior. This tool is specially helpful in showing how we tend to lead from data to generalization without ever testing the validity of our generalizations.

Senge argues that avoidance to bring up and discuss assumptions often leads to lack of resolution or action on problems. Instead, a productive strategy revolves around a high level of self-disclosure and willingness to have our views challenged. (See article, box on p. 19.)

LEARNING LABORATORIES. The vision guiding research in management learning laboratories (or "micro-worlds") is to design and construct effective *practice* fields for management teams --constructed microcosms of real-life settings in which management teams can learn how to learn together. This concept can best be explained by analogy. In many domains, such as sports and performing arts, team learning is the norm, rather than the exception. For example, a great symphony orchestra performs well only after extensive practice. In organizations, this continual movement between practice and performance does not exist and must be created to help organizational teams learn.

Most managers try to force-fit simplistic solutions [to problems] and undermine the potential for learning when divergent problems arise [--problems that have no simple answer.] ***Since everyone handles linear issues fairly well, companies that learn how to handle divergent issues will have a great advantage*** ... In the locally controlled organization, you have the fundamental challenge of learning how to help people make good decisions without coercing them into making particular decisions. ***By managing mental models, we create "self-concluding" decisions -- decisions that people come to themselves--*** which will result in deeper conviction, better implementation, and the ability to make better adjustments when the situation changes.