D-3651-3

The New Management:
Moving from Invention to Innovation

by

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WP-1754-86

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Moving from Invention to Innovation

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March 1985

FORWARD

The Systems Thinking and The New Management Style Program draws together
leading practitioners of organizational innovation and systems thinking
to examine the transition to more creative, democratic organizations.
The participants include senior managers from diverse organizations, most
of whom are chief executives, and senior members of the MIT System
Dynamics Group. Through general and applied research at MIT and in the
participating organizations, the program is intended to deepen the
foundation of principles and methods underlying the new management style
and to disseminate insights from successful practice.

I.   INTRODUCTION

On a cold, clear morning in December 1903, Wilbur and Orville Wright made history at Kitty Hawk, North Carolina. As their fragile aircraft swept over the sand dunes, mankind entered the age of powered flight. But it was more than 30 years before the first successful commercial airplane, and another decade before the commercial aviation industry began to be a significant economic activity. The history of the airplane during these years is typical of the circuitous path from invention to innovation. The potential evident in a laboratory prototype is but the first step toward developing a new technology to the point where it is replicable, reliable, and economical, especially when the technology is a basic innovation capable of starting a new industry.

The new management style that is much talked-about and written-about today appears to be somewhere along this path from invention to innovation. There are now a small number of daring "experimental prototypes," organizations demonstrating the viability of new corporate designs and management philosophies. Collectively these organizations represent a rich variety of experiments. Some have developed sophisticated, decentralized designs and nonhierarchical incentive systems. Some have evolved carefully thought-out sets of values and precepts to balance autonomy and responsibility. Almost all are guided by a deeply held vision and sense of purposefulness in transforming the traditional work environment.

But much remains to be accomplished in moving from these successful prototypes to a broader assimilation of new management principles and practice. If the history of basic product innovation is any guide, the spread of the new management may depend on a synergy of diverse developments that has yet to occur. The first commercially successful airliner was the famed DC-3, introduced in 1935. It has been said that the DC-3 was the first commercial aircraft to support itself economically as well as aerodynamically. The DC-3 combined five distinct technological developments that had never before been integrated into a single aircraft: the variable-pitch propeller, wing flaps, retractable

landing gear, monocoque body construction, and the radial air-cooled
engine. Each proved critical: the Boeing 247, developed two years
earlier, incorporated all except wing flaps but had to be downgraded in
size and power due to instability in take-off and landing. As important
as the DC-3 proved to be in the evolution of aircraft design, commercial
air travel became a major industry only after two additional innovations
from outside aircraft research—the jet engine and radar.

The story of the aircraft industry illustrates the synergy or
"swarming" of diverse innovations that underlies the birth of a new
industry. This principle may be vital to the emergence of the new
management as well. I do not believe that any of the prototype non-
authoritarian organizations have yet integrated all the "component
technologies" that will ultimately be critical in the wider adoption of
new management practices. I believe that our most innovative
organizations today still represent only the tip of the iceberg, that
there exists a possibility for a type of organization so fundamentally
more creative than the traditional, authoritarian hierarchy that it is
only dimly reflected, even in the most successful current practitioners
of new management principles.

We have come to call this possibility the metanoic organization.
The Greek term "metanoia" means "fundamental shift of mind." The term
has been used traditionally to describe a re-awakening of intuition,
vision, and personal responsibility. Just such a shift of mind occurs in
the metanoic organization. In most organizations, people feel that they
operate in systems that are too big and too complex to possibly
influence. They see their fate as influenced by circumstances beyond
their control. In the metanoic organization, people develop the capacity
to determine their destiny. The organization operates from a
fundamentally creative point of view, incorporating the vision,
alignment, and understanding required to implement that viewpoint.

Three major developments are coming together to make the metanoic
organization a possibility. These three threads are (1) the initial
experiments with vision-oriented, nonauthoritarian organizations, (2) new

insights into the nature of human consciousness and creativity, and (3) deeper understanding of the nature of complex social systems. These three developments arise from radically different fields of endeavor, yet each appears to offer an essential component to the emerging metanoic organization.

UNDERSTANDING
OF COMPLEX
SOCIAL SYSTEMS

INSIGHTS INTO
HUMAN CONSCIOUSNESS
AND CREATIVITY

METANOIC
ORGANIZATION

PROTOTYPE
NONAUTHORITARIAN
ORGANIZATION
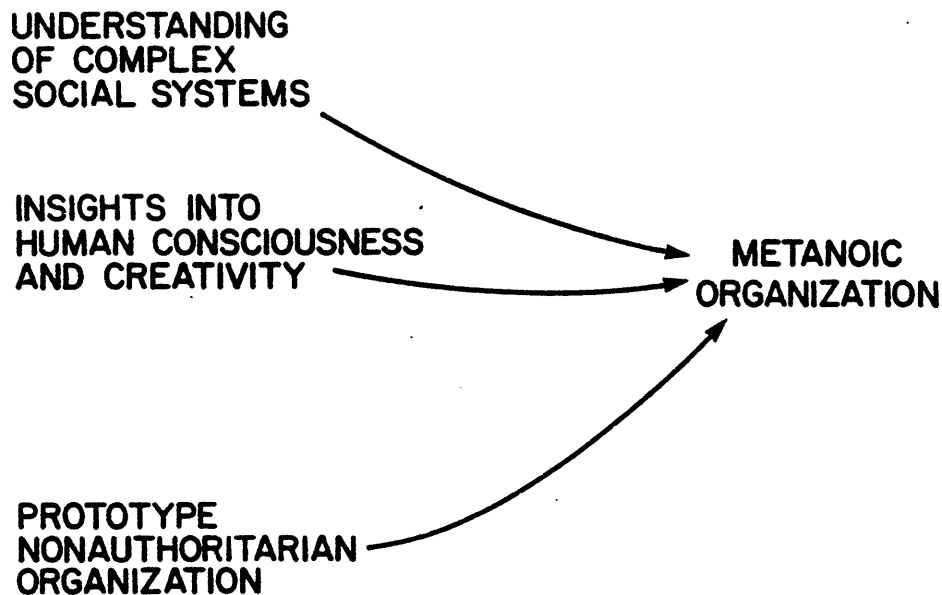
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Three Threads Underlying the Metanoic Organization

II. PROTOTYPE NONAUTHORITARIAN ORGANIZATIONS

Over the past 20 years, a small number of organizations have pioneered significant innovations in organizational design and management philosophy. Some started as more traditional organizations. Others were founded with the intent to pursue a new management style. These organizations are characterized by:

- a deep sense of purpose and clear vision shared by members at all levels,

- a carefully developed set of values to guide daily decisions, and

- innovations in organizational design.

A Community of Common Purpose

At the core of the nonauthoritarian is a deep belief in vision and purposefulness as the fundamental organizing force of an organization. Leaders of these organizations recognize that return on investment and sales growth do not necessarily draw forth the noblest elements of man. They believe that an organization, to be outstandingly successful, must take a stand to contribute something unique to the larger society and to all who participate within it. They see no conflict between striving for a lofty vision and financial success. In fact, they see the two as mutually reinforcing.

In the words of William O'Brien, president of the Hanover Insurance Companies, "We each are influenced by our own mental picture of what we are building with our efforts. I call these mental pictures visions and they play an important role in determining what our company becomes." At Hanover, diligent effort to develop a shared vision embraced by all employees has resulted in transforming a company that was near bankruptcy in 1969 into a leader in property and liability insurance that has grown 50% faster than the industry average over the past six years. John Rollwagen, Chairman and CEO of Cray Research, a pioneer in supercomputers, says even more pointedly, "The vision to build the world's fastest computers creates enormous excitment. If we lost track of our overriding purpose, all the other things we do would not be enough to guarantee our success."

Nowhere is the commitment to a purpose more clearly articulated than in the Kollmorgen Corporation, a diversified high-technology company committed to the idea that:

> freedom and respect for the individual are the best
> motivators of man especially when innovation and growth
> are the objectives.

In Kollmorgen's 1979 Annual Report a statement of management philosophy spelled out the company's commitment to a nonauthoritarian style of management. The statement emphasizes a set of basic beliefs in the intrinsic worth of the individual, from which the company derives its structure. It holds that by creating an internal network of free markets within the organization, individual freedom and responsibility become the basis for organizational effectiveness:

> Trusting people to be creative and constructive when given more freedom does not imply an overly optimistic belief in the perfectability of human nature. It is rather a belief that the inevitable errors and sins of the human condition are far better overcome by individuals working together in an environment of trust, freedom, and mutual respect, than by individuals working under a multitude of rules, regulations and restraints imposed on them by another group of imperfect individuals.

A clear vision and sense of purposefulness is significant in an organization to the extent that it fosters alignment among diverse individuals. Alignment means the extent to which a group of people function as a whole. Alignment is a well-known phenomenon in the performing arts and championship sports teams. Jazz musicians talk about "being in the groove" when a group begins to play at a level where the music flows through them as a unit. Articulating a clear vision can catalyze the process of alignment, but is not synonymous with achieving alignment. People must come to believe in the vision, to identify with it deeply. The psychologist, Abraham Maslow, described the alignment process in a high performing task group where

> the task was no longer separate from the self, something
> ...outside the person and different from him, but rather
> he identified with the task so strongly that you
> couldn't define his real self without including the
> task.

Alignment recontextualizes the task of management, shifting the emphasis from control to commitment. "We don't manage people here," says Bill Gore of W. L. Gore and Associates, the highly successful manufacturer of Gortex and other synthetic fiber materials. "People manage themselves. We organize ourselves around voluntary

commitments. There is a fundamental difference in philosophy between
a commitment and a command." Similarly Max DePree, president of the
Herman Miller Furniture Company (the nation's second-largest manufacturer
of office furniture), emphasizes "covenantal relationships" between
management and employees. DePree uses the term "covenant" to designate
a freely chosen compact in the pursuit of common goals, as contrasted
to a contract intended to keep people from breaking their agreements.

Values: Guidelines for Behavior

A second common element of the nonauthoritarian organization is
careful attention to developing shared values that bring the vision down
to daily reality. In the words of O'Brien, "Our visions paint a picture
of where we want to go. But we need some guidelines of how we get there.
That's why our values are important." The core values that Hanover
emphasizes, localness, openness, and merit, are typical of the
nonauthoritarian organization.

Localness means trusting local people to make local decisions: "If a
local supervisor can accomplish what another company requires a home
office person to do, we are both more efficient and can provide our local
employees a more stimulating place to work." Localness means limiting
layers of management and corporate staff. In O'Brien's words, corporate
staff "should only do what it alone can effectively accomplish."
Localness also means an attitude toward leadership, an attitude best
expressed by the concept of servant leadership articulated by Robert
Greenleaf, former Director of Management Research at AT&T:

> The servant-leader is servant first...It begins with the
> natural feeling that one wants to serve, to serve first.
> Then conscious choice brings one to aspire to lead.
> That person is sharply different from one who is leader
> first, perhaps of the need to assuage an unusual power
> drive or to acquire material possessions.

A familiar management motto at Kollmorgen, "Each day we stand for
election," concisely states the attitude that management derives its
authority from those it serves.

The second core value at Hanover is openness: "This means each person says candidly what he thinks, and says it in such a way that it invites others to respond with their thoughts rather than shutting off further discussion." Hanover's commitment to openness reflects a refreshing trend toward work environments where honesty and frankness supplant the politics of traditional, hierarchical organizations. In order for local people to share responsibility for a business, they need to know all pertinent information regarding the conduct of the business. Traditionally, selective access to information has been a tool for solidifying political power in organizations. By contrast, Bob Swiggett of Kollmorgen says, "We want to run a completely open organization so that there are no information monopolies--everybody knows everything. In traditional organizations, people feel special by virtue of the fact that they have certain information."

The third key value at Hanover is merit: "A merit environment is one in which conclusions, decisions, and rewards focus on the attainment of the organization's purpose and vision in a way that is consistent with its values." At Hanover, localness, openness, and merit make up the set of values seen as necessary for effective decisionmaking. Localness specifies the locus of decisionmaking. Openness defines the process. Merit summarizes the basic criterion by which decisions must be judged.

Innovations in Design

Vision and values alone are insufficient to transform the functioning of an organization. Appropriate organizational design is also essential. Poorly-designed structures and policies will thwart the best efforts of the most highly-aligned individuals. Just as a group of talented, highly-trained rowers need a well-designed shell to become a championship crew, so too would a group of highly-aligned individuals committed to creating a more democratic organization founder if forced to operate within the confines of the traditional, hierarchical, corporate structure.

The emerging nonauthoritarian organizations embody a variety of design concepts important to sustaining a more democratic work

environment. These include keeping levels of management to a minimum,
limiting the size of individual business units, extensive profit sharing
and employee ownership, and shared accountability for key management
functions such as corporate policymaking.

The goal of maximizing local decisionmaking and employee involvement
and responsibility requires minimizing levels of management and formal
hierarchy. Kollmorgen's organizational philosophy "results in a very
flat organizational structure, rather than the traditional, pyramidal
one. It more nearly approximates the action of a free market, where
ideas or products are tested by the buying decisions of many people." At
Hanover, "a fundamental principle is that the least number of levels (of
management) is best. This pertains to individual departments as well as
to the whole company."

Another excellent example of the nonauthoritarian organization is
the Nucor Corporation, a highly-profitable American steel manufacturer
that has been growing at a compound rate in excess of 20% for the past 15
years, while many traditional American steel corporations have been
steadily on the decline. At Nucor there are only three levels of
management: foremen, department managers, and general managers. There
are no corporate layers of management; the general managers as a group
comprise the corporate management, led by chief executive Ken Iverson.
Formal levels of management have been abandoned altogether at W. L. Gore
and Associates. There are no formal levels of management because there
are no titles. Each employee is simply an "associate." Salary is
determined by peer review groups, and the operating structure of business
units evolves under the guidance of the associates themselves.

Minimizing formal levels of management works best when business
units are kept small and highly informal. Most facilities at Gore
involve 200 people or less. At Nucor, mills and joist plants are limited
to not exceed 500 workers. Likewise at Kollmorgen, few divisions exceed
500 employees, and when market or technological circumstance dictate
larger strategic business units, these units are still composed of small
working divisions. The commitment to small business units in rapid-

growth companies requires a carefully-designed growth policy. At
Kollmorgen, the seeds of new business divisions are almost always grown
within existing divisions. A typical business division of several
hundred may include five to ten individual profit centers, where small
groups are often developing new products with complete profit and loss
responsibility. As the overall division grows, many of these profit
centers will become new divisions. Thus the growth process resembles
cell division in a living organism.

These small <u>business</u> <u>units</u> <u>are</u> <u>highly</u> <u>autonomous</u>, with people
essentially free to grow their own businesses. At Kollmorgen, this
commitment to highly-autonomous business units is formalized in a
network of "internal boards" intended to replicate the function of a
corporate board of directors serving each business division. Bob
Swiggett regards these internal boards as "structural blocks" to keep
local decisions from being referred to higher levels of corporate
authority. Internal boards and small profit teams are necessary, in
Swiggett's view, to counter the fact that most people have been raised
and educated in authoritarian environments, inculcated "with the idea
that they cannot operate without someone telling them what to do.
They have built their lives on authority. They are comfortable with
authority, more comfortable than they are with being turned loose."

<u>Profit</u> <u>sharing</u> and <u>employee</u> <u>ownership</u> are virtually universal in
these organizations. However, the approach to profit-sharing plans is
different from that found in more traditional companies. The principle
underlying these plans is that each individual should see the connection
between their actions, the effectiveness of their working group, and
their financial reward. Thus, profit-sharing and productivity-sharing
plans tend to be based on the individual's division or work group rather
than on the corporation as a whole. For example, Nucor has a unique
incentive plan whereby production workers are paid by the productivity of
their work team. For highly-prod-uctive work teams, salaries can be as
much as 100% above base, creating a powerful link from individual and
group productivity to financial reward.

Making <u>corporate</u> <u>decisionmaking</u> <u>more</u> <u>open</u> <u>and</u> <u>consensual</u> is also important for dismantling the traditional, authoritarian environment. The essence of the authoritarian hierarchy is a belief that people at the top have unique insight and power. Ray Stata, president of Analog Devices Inc. and founder of the Massachusetts High Technology Council, says that "the greatest limitation in traditional organizations is that people further down the hierarchy somehow consider themselves lesser beings than those above them." This belief is reinforced by corporate decisions made by distant corporate officers accountable only to still more distant boards of directors.

In Kollmorgen, the function of corporate policymaking is vested in a "partners group" comprised of all division presidents and the six corporate officers. Decisions are by consensus, with each partner, including the youngest division president, having a veto on any key decision. Essentially the same structure operates at Nucor, where corporate policymaking is carried out by the general managers as a body under the leadership of the chief executive. The style of corporate decisionmaking at Kollmorgen and Nucor is important for two reasons: (1) it connects each employee to corporate leadership through a representative with whom they can identify, and (2) it establishes a norm of consensual decisionmaking for the rest of the organization. In the words of O'Brien, it is a norm that groups of individuals "who share a common <u>vision</u> of what they want to become, who share common <u>values</u>, and who believe in decisionmaking based on merit will usually come up with the best answer."

However, the commitment to consensual processes must not become a straitjacket that precludes the talented visionary from pursuing his or her idea when that idea cuts against the grain of conventional thinking. In W. L. Gore and Associates, the balance between individual initiative and responsibility is guided by the "Waterline Principle." The individual must be responsible for distinguishing between decisions above and below the 'waterline'. Decisions above the waterline can be taken with a high degree of autonomy because, if they are wrong, it won't "sink the ship." Decisions that might be below the waterline can only be made

after consultation and deliberation with appropriate groups of people.
No individual, regardless of their position in the organization, should
unilaterally take actions that could work to the detriment of the
organization or business unit as a whole.

III. NEW UNDERSTANDINGS OF CONSCIOUSNESS AND CREATIVITY

At the core of any management philosophy are assumptions about the
nature of human beings. The objective of the metanoic organization -- to
develop the full creative potential of the organization -- may require a
very different view of the nature of people and of human creativity than
has been dominant in traditional organizations. Elements of such a view
emerged in one of the first meetings of the New Management Style Program:

> We believe that satisfaction and personal security
> depend ultimately on self-knowledge, self-reliance,
> self-direction, and the pursuit of lofty vision. We
> view people as fundamentally generative beings, whose
> satisfaction ultimately depends on the extent to which
> one is true to one's own unique personal purpose and
> personal standards.

This view of the creative potential of human beings is soundly rooted in
research over the past 30 years into the psychology and physiology of
human consciousness. Beginning with the notion of specialization of the
brain hemispheres for analytic versus intuitive understanding, and
encompassing recent research on the evolution of the brain, intuition,
transpersonal experience, and ancient meditative disciplines, Western
science has begun to extend significantly its knowledge of human
capacities. It is now clear that the greater portion of our total mental
activity goes on outside of conscious awareness. This includes many of
the processes critical to imagination and creativity. It is also clear
that traditional Western education leaves much of our creative potential
untapped. Tapping this individual potential may hold a key to developing
the creative capacity of organizations.

The implications for management of research into consciousness and
creativity are only beginning to be realized. Nonetheless, many
practices of the organizations discussed above are consistent with

emerging understanding of human creativity. Consider the role of vision as a symbolic representation of the organization's mission, as opposed to the more traditional mission statement. In effect, the organization is applying a principle that has become well recognized in studying individual creativity. A common denominator of highly- creative individuals appears to be the ability to vividly "see" a final result well before it has been achieved, perhaps even before one has very clear ideas of how it will be achieved. Picasso said,

> It would be very interesting to record photographically,
> not the stages of a painting, but its metamorphoses.
> One would see perhaps by what course a mind finds its
> way toward the crystallization of its dream. But what
> is really very serious is to see that the picture does
> not change basically, that the initial vision remains
> intact in spite of appearance.

American composer Roger Sessions observed that, as a great composer works on a piece, "The vision of the whole assumes an ever more preponderant role, and appears more and more to be the essential act of creation."

The power of vision appears to come from the receptivity of the subconscious mind to symbolic suggestion, especially when the symbols have deep meaning to the individual. When oriented by an appropriate vision, the creative process blends rational and subconscious dimensions, often with the consequence that one does not fully understand how the result is being achieved until well after completion. As Sessions explains, "Often the completed work is incomprehensible to him (the composer) immediately after it is finished." The same can often be said of the creative engineer, or entrepreneur, who imagines original designs or strategies without fully knowing why until they are implemented and tested.

An empowering organizational vision is not an abstract pronouncement of senior management but a living image of the future, continually challenged, defined, and revitalized by the visions of the individuals within the organization. This means that individuals in a metanoic organization must clarify their own vision and core values. A central premise of many ancient meditative and religious disciplines is that each

individual has a unique personal purpose and that personal alignment with
this higher purpose is essential to unlocking creativity. Willis Harman,
Senior Scientist at the Stanford Research Institute and President of The
Institute of Noetic Sciences, views creativity as connected to a "deep
intuition (that) knows the directions of wholesome growth and development
and gently guides me in these directions." An individual pursuing
objectives inconsistent with his or her personal purpose creates an
internal stress that dissipates creative potential. Harman states, "I am
prone to inner conflict unless these various fragments of myself
(including unconscious beliefs, as well as conscious goals and deep
purpose) can be induced to align.... This goal is sometimes termed the
goal of integration."

Echoing this need for personal integration, DePree tells employees
at Herman Miller that what matters is, "What's important to you... For a
person or an organization, defining what's important is defining purpose
and identity. Without such clarity, it's much more difficult to succeed
and grow." Similarly, O'Brien talks about the need for managers to
"develop an integrated 'core' of values, beliefs, and basic behaviors".
For O'Brien, clarity of purpose and personal integration are the true
prerequisites for the "inner motivation" that exists when one "feels
harmony between his business and personal objectives." Companies like
Hanover and Herman Miller recognize that individual effectiveness derives
from development of the full person, and especially from commitment to
one's own vision. By contrast, traditional organizations attempt to
increase productivity through increasing skills and competencies without
dealing with the more fundamental question of personal purpose and
integration.

Last, there is the role of intuition in developing synergy among
diverse activities. In recent years, there has been considerable
research into the role of intuition in dealing with complex,
highly-uncertain, business decisions. Studies have shown that successful
entrepreneurs often score well above average on tests of intuitive
abilities, such as precognition and "remote viewing." But, the role of
intuition in developing alignment may prove still more important in the

metanoic organization. In championship sports teams members may experience "knowing" one another's movements and taking actions that spontaneously serve the team as a whole:

> Every so often a game would heat up so that it became
> more than a physical or even a mental game, and would be
> magical... The game would move so quickly that every
> fake, cut and pass would be surprising, and yet nothing
> could surprise me. It was almost as if we were playing
> in slow motion. During those spells, I could almost
> sense how the next play would develop and where the next
> shot would be taken.
>
>   (Bill Russell, former championship center,
>   Boston Celtics basketball team)

It may be that the very possibility of alignment comes from an interconnectedness of human minds that we are only just beginning to understand. Harman questions the deeply held Western cultural assumption that minds are separate:

> Two persons who have lived much of their lives together
> often find that the same thought appears in both minds
> more or less simultaneously... In numerous ways in
> everyday life, we get hints of what has also been fairly
> well demonstrated in laboratory research, that at some
> deep unconscious level our minds interconnect.

A similar deep rapport appears to develop in highly-aligned work teams over time. O'Brien notes that,

> The qualitative functioning of our senior management
> team appears to have shifted in recent years as we have
> developed a deeper sense of shared vision and shared
> values such as openness. As we have become more
> aligned, our capacity to examine and test ideas has
> improved enormously. Rather than imposing categorial
> solutions that are much too simple for highly-complex
> problems, we work toward shared, intuitive judgements
> that allow flexibility in dealing with specific
> situations. This requires an enormous amount of trust
> and rapport.

IV. UNDERSTANDING COMPLEX SOCIAL SYSTEMS

An integral part of the shift in viewpoint underlying the metanoic organization is a deeper awareness of the systemic nature of

organizations. The development of common purpose and values creates a broader identity that links each individual with the larger whole. People feel a keen sense of responsibility that encompasses not only their own tasks but the success of their business group and perhaps of the organization as a whole. However, this awareness of interconnectedness can be rapidly undermined if people do not have the tools to understand how the organization functions as a system. The spirit of commonality will wither if people quickly begin to blame one another when problems arise. Their sense of empowerment will erode if their fate appears to hinge on external events outside of their control.

One of the major areas of intellectual development in the second half of this century appears to be an emergence of new theory and methods for better understanding complex social systems. This theory and method have grown from diverse threads of pure and applied research: from mathematics and biology, from ecology, and from engineering and the study of complex physical systems. Extensive application of systems thinking principles to corporate and public policy has revealed a fundamental mismatch between the nature of complex systems and our common ways of thinking about and managing those systems. In complex systems, cause and effect are not closely related in time and space. Consequently, management actions based upon obvious, widely-agreed-upon solutions to important problems often exacerbate rather than resolve those problems. Short- and long-term effects of policy changes tend to be in opposite directions, leading to policies that make matters better in the short-term only to worsen problems over the long-term. The relatively small number of high-leverage policies capable of long-term improvement are consistently overlooked because they are not obviously related to the symptoms that motivate action.

The study of complex systems suggests that most major problems in organizations stem not from individual mistakes or unlucky events but from inappropriate design of policies and structure. Yet, more effective policy design is hampered by a lifetime of education in non-systemic ways of thinking. We are taught from grammar school onward to break complex problems into analytically-tractable pieces, to presume that symptom and

cause are closely related, and to assume that when the proper remedy is applied the desired outcome will be forthcoming quickly.

The prototype organizations described above have taken a first step toward creating an environment for systemic thinking by breaking up their organizations into operating units small enough for people to "get their arms around." There is a widespread understanding of the futility of trying to rigidly control a complex organization from on top. Hanover strives for localness. Ray Stata speaks of the need for "organismic control." In a speech to market analysts, Bob Swiggett of Kollmorgen argued that,

> "Organization dynamics theory (explains) the
> inefficiency, inertia and slow response time of large
> organizations. Long decision chains oscillate and get
> out of control easily. In our kind of business,
> economies of scale are usually offset by inefficiencies
> of scale... (we need) autonomous manufacturing teams
> which are as small as possible in order to minimize the
> non-productive use of energy in internal communication
> and control."

But local decisionmaking in small business units may not be sufficient. I believe that the emerging metanoic organization will require a major commitment to the ongoing re-education of managers in more systemic ways of thinking and dealing with organizational problems. Responsibility for such organizational learning may be a prime function of leadership in such an organization. Hanover's O'Brien says:

> As we moved from the horse-and-buggy to the automobile
> to the jet airplane, the skills required of the 'pilot'
> changed dramatically. So likewise will the skills
> required of effective leaders be radically different in
> the vision-oriented value-driven organization, as
> compared to the traditional authoritarian organization.
> More and more, my job is that of a teacher and coach
> rather than a decisionmaker.

In the traditional organization it was sufficient for a very small number of key decisionmakers to understand the strategic dynamics for developing the organization's market and resources. In the emerging metanoic organization, very large numbers of people are involved in making key operational and strategic decisions. The challenge facing leadership in

these corporations is how to create an effective, ongoing, learning environment where deep understanding of organizational dynamics is shared widely throughout the organization. Traditionally, neither the tools nor motivation for this task existed. Now, both are emerging.

V. THE EMERGING METANOIC ORGANIZATION: NEXT STEPS

The program in Systems Thinking and the New Management Style exists to deepen the foundation of principles and tools required to advance the new management style. Consideration of the issues and challenges facing the participating organizations, as well as many others evolving in similar directions, suggests several key challenges and next steps. These are especially relevant for the organizations that have evolved furthest toward the metanoic ideal:

1) Developing an organization's "theory of information"

2) Developing the organization's capacity to learn

3) Enhancing the organization's capacity to develop leaders

A Theory of Information

The field of management information systems has made dramatic advances in gaining management acceptance of computers and information technology. But, many are now discovering that more information is a mixed blessing. The fundamental problem for management is not too little information, but too much information. In particular, effective management requires knowing what types of information are relevant for what types of problems. If there is no theory of information, improved information technology is more likely to overwhelm than to inform.

A critical stage in the development of the metanoic organization may be coalescing insights regarding organizational dynamics into a formal body of theory of the dynamics of business strategy and organization development. This body of theory should be continually refined and extended. It should be the foundation for strategic analysis. And, it should play a central role in the processes whereby future leaders assimilate the insights of their own and others' experience.

The New Management Style Program is attempting establish a foundation for this endeavor through developing a library of "generic structures," simple computer simulation models, suitable for use on personal computers, that replicate generic processes of market- and product development, financial dynamics, and organizational growth and vitality. At the heart of each generic structure is a management principle. For example, one model shows how eroding standards of product quality or product availability can subtly undermine long-term growth and profitability (see Appendix). Such lessons are part of the judgement and intuition traditionally acquired only over years of management experience.

Organizational Learning

The potential payoff of a theory of information lies in its integration into the ongoing education and training of management in the organization. The focus of this learning should be to distill and transmit key insights into organizational dynamics. Experienced managers develop insight and understanding of market development, innovation, and human resource development through practical experience. For most, these insights are recognized only as the instincts or intuitions that guide them in making key decisions. The capacity of most successful leaders to communicate their "mental models" is limited to anecdotes and metaphors. Thus, there is little to shorten the learning time of the successful manager's successor. Either old mistakes must be repeated or old policies followed blindly. The pace of cumulative learning is slow and the results unpredictable. Today's insight can easily become tomorrow's dogma.

The challenge for organizational learning is to create an ongoing education process that integrates practical decisionmaking experience with conceptual tools for distilling the lessons from that experience. This will probably involve a synergy of dynamic models of corporate policy, personal computers, and new technologies of "expert systems." Today the potential exists to create a learning laboratory that is self-paced and discovery-oriented. The potential of the personal

computer to create a unique learning environment for children has been
demonstrated by the work of Papert and others who have integrated
artificial intelligence concepts with modern theories of learning. There
is good reason to believe that these insights can be transferred
effectively into the realm of management education.

Leadership Development

The design and style of the nonauthoritarian organization results in
much more rapid growth of leadership opportunities than occurs in more
traditional organizations. If the organization is unable to develop
leaders at a rate commensurate with these opportunities, the resulting
imbalance may become the primary limit to its growth and success.

In November 1984, participants in the New Management Style Program
met to discuss the challenge of leadership development. What emerged was
an elaboration of the traits for successful leadership in a metanoic
organization. These can be summarized in terms of two fundamental
personal qualities: (1) a passion for making a particular type of
contribution in the world, and (2) a deep commitment to personal
development and integration. While leaders in traditional organizations
are typically driven by the pursuit of status and power, effective
leaders in a metanoic organization seek primarily to serve.

What also emerged was a broad range of questions regarding how to
create an environment where such leadership can emerge. Clearly, the
organization's values and structure must be consistent with servant
leadership. But, localizing decisionmaking does not guarantee future
leaders emerge as efficiently as possible. At least one of the
organizations in the New Management Style program invests significantly
in teaching mentoring skills to senior managers. Such mentoring aids
future leaders in developing personal vision and values and in testing
and assimilating insights from the organization's "library of generic
structures".

VI. IS THE NEW MANAGEMENT STYLE REALLY NEW?

Undoubtedly there have always been a small number of companies embodying elements of today's nonauthoritarian organizations. What appears to be unique about the present time is the potential for these principles and methods to enter the mainstream of management. The tools and knowledge emerging from new insights into human consciousness, and creativity, and the nature of complex social systems offer resources previously unavailable. Moreover, deep and pervasive shifts toward societal attitudes and values conducive to this type organization are occurring. In his book, New Rules, the pollster Daniel Yankelovich cites grass roots shifts in American values over the past 30 years, from "instrumentalism," which views work as solely an instrument for generating material well-being, to a "sacred" outlook that seeks the intrinsic value of work that is both meaningful and remunerative. When combined with an economic environment forcing many organizations to reduce management overhead and adapt to new markets and technologies, the present societal situation appears to offer unique opportunities for the new management style.

However, at a deeper level, the new management style can be seen as merely another stage in the evolution of the democratic concept. The metanoic organization represents a striving toward a more "natural" form of organization—a type of organization more consistent with the true nature of people and the nature of complex social systems. Two hundred years ago Thomas Paine stirred a nation with the appeal that it was only "common sense" that men should rule themselves. Just a few months later, the Declaration of Independence, set forth to align the diverse interests of the American colonies, proclaimed "We hold these truths to be self-evident...." The emerging metanoic organizations derive their inspiration and orientation from this same vision of democracy as a more natural social order. In advancing this vision toward the fuller realization of man's creative potential, they may yet add a new chapter to its history:

> We have frequently printed the word Democracy. Yet I
> cannot too often repeat that it is a word the real gist

of which still sleeps, quite unawaken'd... It is a great
word, whose history, I suppose, remains unwritten,
because that history has yet to be enacted. It is, in
some sort, younger brother of another great and often
used word, Nature, whose history also awaits unwritten.

--Walt Whitman

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APPENDIX
AN AGENDA FOR RESEARCH AND ACTION

The Systems Thinking and New Management Style Program is developing a coordinated program of research and experimentation intended to deepen the foundation of principles and methods underlying the new management. The specific focus of current activity is developing systems thinking as a practical management tool. This involves research at MIT and within the participating organizations.

Generic Organizational Dynamics

At MIT we are endeavoring to clarify the generic dynamics of business and organizational development. The key to this endeavor lies in a discovery from 25 years of system dynamics studies--namely, that certain generic dynamics tend to recur in diverse organizational settings. These "generic structures" can be expressed in the form of relatively simple system dynamics models that can be simulated on a personal computer. By interacting with such a model, a manager or student can discover the dynamics underlying important management principles. Once understood deeply in general terms, one is able to recognize much more readily these processes at work in specific organizations.

Figure A-1 helps to illustrate how generic structures can illuminate management principles. Shown are two different simulated sales curves generated by a relatively-simple, system dynamics model of corporate growth. One curve shows a long-term pattern of continuing sales growth interrupted by brief plateaus: the other shows a pattern of growth followed by stagnation. The only difference in the two simulations lies in the process of goal setting. In the growth case, the company's goal for product availability stays fixed. In the stagnation case, the company's goal for availability erodes slightly during times when product availability is below target. The generic structure that produced the two simulations illustrates the subtle dynamics of goal erosion. In the stagnation case, a set of reinforcing internal pressures are generated that thwart capacity expansion and market growth, even though the

organization faces a potentially unlimited market. This same dynamic can
occur with eroding standards for product quality, quality of customer
service, or any key competitive variable that is jeopardized when
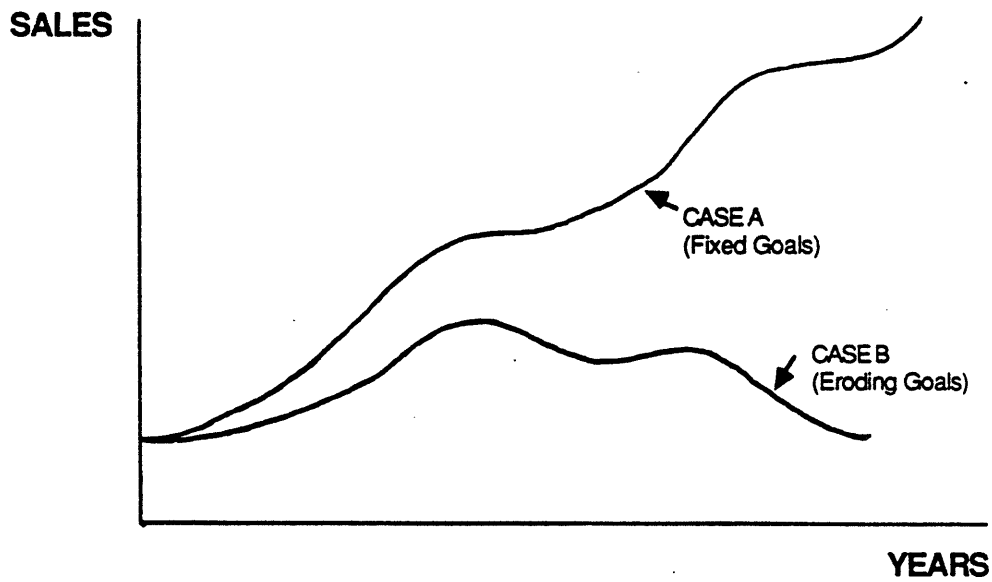manufacturing or service capacity is inadequate.

Figure A-1   Alternative Sales Curves from Generic Structure of Growth and
             Goal Erosion

The power of generic structures lies in creating a depth of understanding of management principles that is rarely achieved except through years of experience. The management principle embodied in the generic structure of eroding goals is often understood intellectually within organizations: that it is important to maintain performance standards in times of stress. However, the dynamic processes that make this principle important are rarely appreciated and consequently the principle is often neglected.

One of the primary objectives of the New Management Style Program is to develop a library of generic structures dealing with key business strategy and organization development dynamics. Collectively, the participants in the New Management Style Program carry in their heads a wealth of penetrating insights into organizational dynamics. Identifying the generic structures underlying these insights could create powerful new tools for management education, for use both within organizations and within educational institutions. Progress to date has resulted in formal models dealing with eroding goal dynamics, effects of overemphasis on profitability, price setting, the growth of hierarchy and authoritarian management mentality, and the effects of local decisionmaking on organizational learning (Senge 1984 contains a more detailed description of these models). Of particular interest has been the initial models of hierarchy and organizational learning, since these represent among the first formal simulation models of the subtle processes that determine organizational vitality. Although considerable experimentation and testing remain to be done on these models, they have considerable potential to add to our understanding of why limiting the size of business units, promoting local decisionmaking, and developing effective, nonhierarchical, reward systems may be vital over the long-term for innovativeness and adaptability of organizations.

Table 1
Initial Generic Structures Developed in New Management Style Program

STRUCTURES	MANAGEMENT PRINCIPLES
Strategy Dynamics	
Growth and goal setting	Eroding goals can subtly undermine long-term success of organization
Effects of profitability on growth and stability	Deemphasizing current profitability in marketing and capacity expansion decisions can lead to stronger growth and higher profits
	Deemphasizing profitability in capacity expansion can lead to increased stability
Price setting and growth	Using the "demand curve" to set price can limit growth and reduce profitability
Organization Development Dynamics	
Hierarchy and growth	If hierarchical reward systems predominate, growth tends to eventually create both management and employee biases toward hierarchy
Management and local understanding	Over the long term, local decisionmaking may be essential to local and management understanding
Growth, hierarchy, and understanding	Organizational policies, style, and circumstances can distinguish between three generic life cycles:
Growth, hierarchy, and understanding con't.	1) increasing hierarchy and diminishing local and management understanding
	2) increasing hierarchy and management understanding while local understanding erodes
	3) limited hierarchy and increasing management and employee understanding

Through the New Management Style Program, a network of organizations committed to advancing systems thinking as a practical management tool is emerging. Professional training for key managers is being undertaken so that they will be able to design and implement modeling projects dealing with key policy issues. Currently, such projects are the sole province of external consultants. Management education programs are being initiated to establish fluency in systems principles among a much larger segment of managers. Over time, a carefully designed program of policy projects, management education, and information technology could transform the learning environment within the organization. The core of this learning environment would be a continually-improving body of substantive knowledge into organizational dynamics. This would take the form of a library of simulation models similar to the generic structures developed at MIT, but tailored to fit the circumstances of the organization and its industry. Some of the models would be simple enough for the beginner. Others would be for more sophisticated policy analysis and design. All would be available through self-paced learning packages for personal computers.

Undoubtedly, there is as much, or more, to learn in the task of developing systems thinking within organizations as in the generic structure research. As the two advance, they should become mutually beneficial: the organizations should be able to integrate results of the generic structure research directly into their management education, and they should contribute to the identification of further generic structures through study of their own policy dynamics.